

DOCUMENTATIE

TEMA 2



UNIVERSITATEA TEHNICĂ
DIN CLUJ-NAPOCA

NUME STUDENT: Toader Eric-Stefan
GRUPA: 302210



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1. Obiectivul temei

Obiectivul principal al temei este implementarea, folosind limbajul de programare Java, a unei aplicatii desktop de management a cozilor cu o interfata grafica dedicata, in care utilizatorul poate introduce date legate de numarul de clienti si cozi, timpul maxim de simulare si date referitoare la clienti.

Obiectivele secundare ale temei sunt:

1. Definirea claselor Client si Queue: se va crea clasa Client ce va contine informatii precum ID-ul (unic), timpi de procesare si momentul de timp cand acesta a terminat de facut cumparaturi si se indreapta catre casa (Queue), ce contine un ID unic, o lista de clienti, si timpul de asteptare la un moment dat
2. Implementarea operatiei de asignare a unei cozi pentru un client: dezvoltarea unui algoritm ce ia ca input un client si va incerca sa gaseasca coada cu timpul minim de asteptare pentru a-l adauga acolo
3. Implementarea unui sistem de intretinere si curatare pentru fiecare lista din proiect, pentru a spori lizibilitatea operatiilor automate de asignare in cozi
4. Realizarea unei interfete grafice prietenoase: dezvoltarea unei interfete grafice intuitive care sa faca posibila introducerea parametrilor simularii si vizualizarea procesului automat de asignare a clientilor

2. Analiza problemei, modelare, scenarii, cazuri de utilizare

Pentru a rezolva cerintele problemei, va trebui sa realizam o interfata grafica prietenoasa si intuitiva ca utilizatorul sa poata introduce parametrii de simulare si sa obtina o demonstratie automata in care clientii ce termina cumparaturile sunt asignati unei case cu timp de asteptare cat mai mic.

Asadar, ne putem imagina problema ca un black box cu 7 intrari (numarul de clienti, numarul de cozi, timpul maxim de simulare, timpul minim si maxim de sosire a clientului la case, timpul minim si maxim de procesare a clientului) si o iesire (simularea). In acest sens, vom avea sapte campuri de text unde utilizatorul poate introduce date care sa fie validate si procesate in obiecte de tip Integer. Daca toate campurile au continut valid, atunci utilizatorul poate sa apase pe un buton ce porneste simularea, primind astfel rezultatul intr-o zona de text ce descrie starea clientilor si a cozilor in permanenta. De asemenea, trebuie ca aplicatia sa includa un buton de curatare a input-ului, care reseteaza toate campurile de text.

Scenariul in care utilizatorul introduce date valide si selecteaza o operatie este unul de la sine inteles: simularea va incepe cu succes si se va afisa fiecare asignare in zona de text.

In cazul in care un camp sau mai multe sunt invalide, utilizatorului ii va fi afisat un mesaj de eroare pentru a semnaliza lucrul acesta, simularea nu va incepe, si mai mult de atat, ii va fi semnalizat exact care camp de text nu contine un numar intreg valid, prin incercuirea campului de text cu o culoare rosie (iar celui valid cu o culoare verde).

In cazul in care toate campurile contin numere intregi valide, dar timpii minimi sunt mai mari decat timpii maximi, simularea nu va putea incepe deoarece timpii minimi trebuie neaparat sa fie mai mici decat cei maximi pentru o buna functionare a aplicatiei.

3. Proiectare

In cadrul proiectarii claselor, variabilele instantia din fiecare clasa au fost declarate cu modificadorul de acces "private", pentru a respecta paradigma incapsularii OOP. Astfel, datele stocate intr-un obiect pot fi citite si/sau modificate doar prin intermediul metodelor de tip getter si setter, iar unele metode au fost declarate private, fiind foarte importante in comportamentul aplicatiei si nefiind folosite de alta clasa decat cea ce le contine.

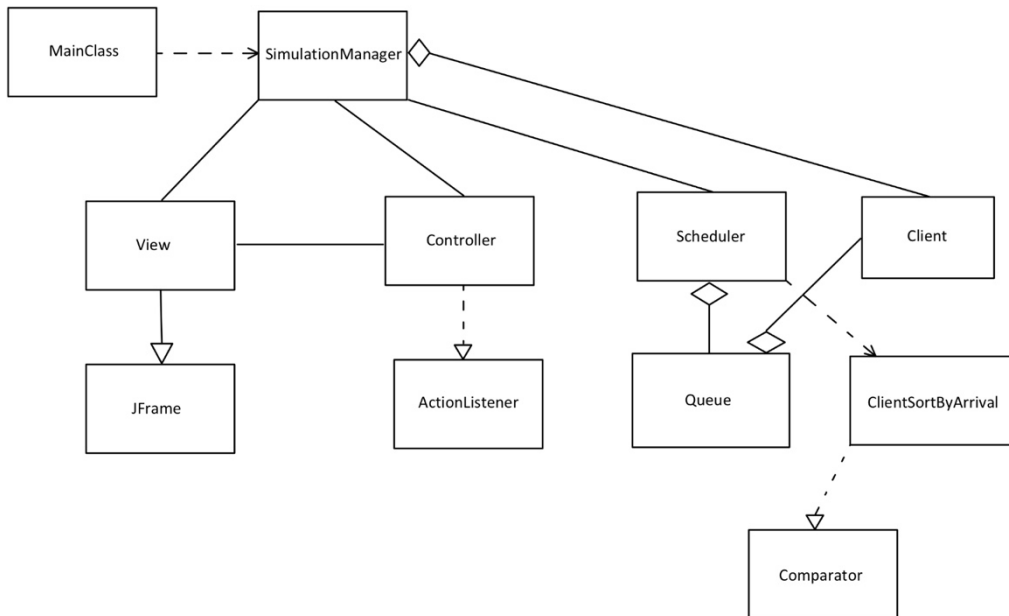
De asemenea, am folosit mostenirea in definirea clasei View si am implementat atat interfata ActionListener, in contextul fiecarui buton si camp de text ce se regaseste pe interfata grafica, cat si interfata Comparator, pentru a putea sorta totii clientii in functie de timpul lor de sosire.



Queue Management

In cadrul tuturor claselor, am definit variabile locale si de tip instanta care sunt de tipul Double sau Integer. Asadar, am folosit paradigma impachetarii OOP pentru a reprezenta tipuri de date primitive in clase invelitoare ce stocheaza valori de tip double si int, pentru a ma putea folosi de metode statice implementate pentru aceste clase, in implementarea ulterioara a parsarii si a operatiilor matematice.

In cadrul proiectarii aplicatiei de calculator de polinoame, clasele definite sunt definite si relationeaza in modul prezentat in diagrama UML de mai jos.



In cadrul temei am folosit liste de tip ArrayList pentru a stoca succesiunea de Queues in obiectul de tip Scheduler si pe tot parcursul operatiilor am iterat prin aceste liste folosind for each-ul specific OOP.

De asemenea, am folosit liste de tip LinkedListQueue pentru a stoca Clients in obiecte de tip Queue, deoarece sunt thread-safe si sunt recomandate a fi folosite ca sa ne asiguram ca o singura operatie se efectueaza asupra lor la orice moment in timp.

Pe tot parcursul temei m-am folosit de o metoda foarte importanta din clasa Queue, si anume computeWaitTime(), pentru a determina corect timpul de asteptare a fiecarei cozi, atat la fiecare adaugare sau scoatere din coada, cat si in timpul procesarii unui client.

4. Implementare

In cadrul implementarii temei am definit clasele prezentate mai jos, ale caror cele mai importante metode au fost si detaliate.

1. Clasa MainClass
 - Fara variabile instante sau de clasa
 - Metoda *main*
2. Clasa Client
 - Variabilele instanta: Integer ID, tArrival, tService, assignedQueue; fara variabile de clasa
 - Metoda *decreaseTService*



Queue Management

- Folosita ca sa decrementam timpul de procesare a unui client in momentul cand acesta se afla primul in coada. Astfel, putem actualiza live timpul ramas din procesarea lui, obtinand astfel o interfata grafica foarte explicita si responsive
- Metoda *toString*
 - Folosita la afisarea clientilor din toate listele programului
- 3. Clasa Queue
 - Variabila instantia: Integer ID, BlockingQueue<Client> inQueue, AtomicInteger waitTime; fara variabile de clasa
 - Metoda *run*
 - Metoda ce este executata concurrent de fiecare queue in continuu pana la terminarea programului pentru a procesa urmatorul client, a-l scoate din coada si a noul calcula timpul de asteptare
 - Metoda *addClient*
 - Folosita pentru a adauga noi clienti in coada si a calcula noul timp de asteptare al cozii
 - Metoda *finishClient*
 - Folosita pentru a scoate clienti procesati din coada si a calcula noul timp de asteptare al cozii
 - Metoda *computeWaitTime*
 - Folosita pentru a calcula timpul de asteptare al cozii; este apelata la finalul tuturor metodelor care modifica coada sau timpul de procesare al clientilor din interiorul ei
 - Metoda *getAvgWaitTime*
 - Folosita pentru a calcula timpul mediu statistic de asteptare a unui client in coada respectiva
 - Metoda *toString*
 - Folosita la afisarea sugestiva si prietenoasa a cozilor si a continutului lor
- 4. Clasa SimulationManager
 - Variabile instantia: Integer nrClients, nrQueues, tMaxSimulation, tMinArrival, tMaxArrival, tMinService, tMaxService, currentTime, mostClients, peakTime, Double averageWaitingTime, averageServiceTime, boolean started, List<Client> clients, Scheduler scheduler, View v, Controller c; fara variabile de clasa
 - Metoda *run* si *doAction*
 - Metoda responsabila cu asignarea clientilor in cozi, inregistrarea noilor actiuni si modificari suferite de cozi, calcularea unei posibile ore de varf si alte operatii de mentinut pe cozile programului
 - Metodele *log*
 - Folosita pentru a afisa starea actuala a cozilor si a listei clientilor ce nu au sosit inca in interfata grafica
 - Metoda *newPeakTime*
 - Metoda ce calculeaza daca in cozi se afla cel mai mare numar de clienti de pana acum. Daca da, va seta variabilele mostClients si peakTime la noile valori maxime
 - Metoda *detAvgWaitTime*
 - Metoda ce centralizeaza toti timpii medii statistici de asteptare de pe fiecare coada si genereaza un timp mediu statistic de asteptare valabil pentru toate casele/ pentru magazin
- 5. Clasa Scheduler
 - Variabile instantia: List<Queue> queues, Integer noQueues; fara variabile de clasa
 - Metoda *assignClient*
 - Metoda ce se ocupa efectiv cu stabilirea celei mai bune cozi care sa ii fie asignate unui oarecare client la un moment in timp. Se va lua intotdeauna in considerare coada cu timpul minim de asteptare (format din timpul de procesare al tuturor clientilor din coada)
- 6. Clasa ClientSortByArrival
 - Implementeaza interfata *Comparator<Client>*
 - Metoda *compare*
 - Folosita pentru a putea ordona lista de clienti ce nu au ajuns inca la case in ordinea crescatoare a timpului de sosire, pentru o foarte buna lizibilitate



Queue Management

7. Clasa Controller

- Variabila instantata: View v; fara variabile de clasa
- Subclasele asociate butonului de pornire a simularii, butonului de clear si campurilor de text pentru afisarea corectitudinii datelor inserate (*StartSimListener*, *ClearListener*, etc) ce implementeaza interfata *ActionListener*
- Metoda *displayCorectness*
 - o Folosita de fiecare data cand se intercepteaza o exceptie in interiorul metodelor *actionPerformed* ale subclaselor

8. Clasa View

- Variabile instantate: butoane, campuri de text si combo-box-ul de selectare a polinomului pentru operatiile de integrare/ derivare; fara variabile de clasa
- Metoda constructor *View()* care constituie frame-ul de afisat pe ecran, in cadrul caruia sunt amplasate butoanele si celelalte elemente interactive, impreuna cu *JLabel*-uri, dispuse intr-un *GridBagLayout*, toate stilizate folosind metoda *stylize()*, care confera aplicatiei un aspect modern si asemanator unui "Dark Mode".
- La pornirea simularii, se schimba fereastra de afisat intr-una care acomodeaza un *JTextArea* pentru a putea fi printate cozile si clientii intr-un mod lizibil.

Campuri de text pentru introducere a parametrilor simularii

Buton ce porneste simularea daca datele introduse sunt valide

Buton ce sterge continutul tuturor campurilor de text



Queue Management

Maximum simulation time: 200

Number of clients: 20

Number of queues: 4

Arrival time interval: [4, 20]

Service time interval: [2, 8]

Time: 7

Clients that haven't arrived yet: (7, 9, 5), (18, 10, 2), (11, 11, 4), (12, 12, 6), (19, 12, 4), (8, 13, 2), (1, 15, 4), (4, 15, 4), (15, 15, 6), (6, 17, 7), (14, 17, 2), (3, 19, 6), (5, 19, 4), (17, 19, 2)

Queue #1: (2, 5, 2)(20, 7, 3)

Queue #2: (9, 5, 3)

Queue #3: (10, 6, 1)(16, 7, 6)

Queue #4: (13, 6, 2)



5. Rezultate

```
TEST 1

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 0
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 1
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 2
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
```




Queue Management

```
Service time interval: [2, 4]

Time: 3
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 4
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 5
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 6
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
```



Queue Management

```
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 7
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 8
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 9
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 10
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE
```



Queue Management

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 11
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 12
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 13
Clients that haven't arrived yet: (4, 14, 3), (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE
Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 14
Clients that haven't arrived yet: (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: (4, 14, 3)
```



Queue Management

Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 15

Clients that haven't arrived yet: (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: (4, 14, 2)

Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 16

Clients that haven't arrived yet: (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: (4, 14, 1)

Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 17

Clients that haven't arrived yet: (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE

Queue #2: FREE

Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 18

Clients that haven't arrived yet: (3, 19, 2), (1, 21, 3), (2, 24, 2)

Queue #1: FREE

Queue #2: FREE



Queue Management

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]
```

```
Time: 19
Clients that haven't arrived yet: (1, 21, 3), (2, 24, 2)
```

```
Queue #1: (3, 19, 2)
Queue #2: FREE
```

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]
```

```
Time: 20
Clients that haven't arrived yet: (1, 21, 3), (2, 24, 2)
```

```
Queue #1: (3, 19, 1)
Queue #2: FREE
```

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]
```

```
Time: 21
Clients that haven't arrived yet: (2, 24, 2)
```

```
Queue #1: (1, 21, 3)
Queue #2: FREE
```

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]
```

```
Time: 22
Clients that haven't arrived yet: (2, 24, 2)
```

```
Queue #1: (1, 21, 2)
Queue #2: FREE
```



Queue Management

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 23
Clients that haven't arrived yet: (2, 24, 2)
```

```
Queue #1: (1, 21, 1)
Queue #2: FREE
```

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 24
All of the clients have already arrived.
```

```
Queue #1: (2, 24, 2)
Queue #2: FREE
```

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 25
All of the clients have already arrived.
```

```
Queue #1: (2, 24, 1)
Queue #2: FREE
```

```
Maximum simulation time: 60
Number of clients: 4
Number of queues: 2
Arrival time interval: [2, 30]
Service time interval: [2, 4]

Time: 26
All of the clients have already arrived.
```

```
Queue #1: FREE
Queue #2: FREE
```



Queue Management

```
No more clients to assign, all queues are empty
No reason to keep the app running, ending simulation..
```

```
Average wait time: 0.0
Average service time: 2.5
Peak time at: 14 (1 clients)
```

```
TEST 2
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 0
```

```
Clients that haven't arrived yet: (2, 2, 5), (39, 2, 2), (16, 3, 5), (1,
4, 6), (38, 4, 1), (17, 5, 6), (11, 6, 1), (30, 6, 3), (46, 6, 5), (18, 7,
2), (23, 7, 1), (26, 8, 1), (34, 8, 5), (44, 8, 6), (7, 9, 6), (42, 9, 2),
(4, 11, 1), (27, 11, 5), (6, 12, 5), (36, 12, 5), (20, 16, 3), (31, 16,
3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15,
23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5),
(12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30,
5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41,
36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 1
```

```
Clients that haven't arrived yet: (2, 2, 5), (39, 2, 2), (16, 3, 5), (1,
4, 6), (38, 4, 1), (17, 5, 6), (11, 6, 1), (30, 6, 3), (46, 6, 5), (18, 7,
2), (23, 7, 1), (26, 8, 1), (34, 8, 5), (44, 8, 6), (7, 9, 6), (42, 9, 2),
(4, 11, 1), (27, 11, 5), (6, 12, 5), (36, 12, 5), (20, 16, 3), (31, 16,
3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15,
23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5),
(12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30,
5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41,
36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
```



Queue Management

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 2

```
Clients that haven't arrived yet: (16, 3, 5), (1, 4, 6), (38, 4, 1), (17,
5, 6), (11, 6, 1), (30, 6, 3), (46, 6, 5), (18, 7, 2), (23, 7, 1), (26, 8,
1), (34, 8, 5), (44, 8, 6), (7, 9, 6), (42, 9, 2), (4, 11, 1), (27, 11,
5), (6, 12, 5), (36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5,
18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4),
(14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25,
6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43,
31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5),
(48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (2, 2, 5)
Queue #2: (39, 2, 2)
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 3

```
Clients that haven't arrived yet: (1, 4, 6), (38, 4, 1), (17, 5, 6), (11,
6, 1), (30, 6, 3), (46, 6, 5), (18, 7, 2), (23, 7, 1), (26, 8, 1), (34, 8,
5), (44, 8, 6), (7, 9, 6), (42, 9, 2), (4, 11, 1), (27, 11, 5), (6, 12,
5), (36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25,
21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1),
(22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27,
3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13,
33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6),
(49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (2, 2, 4)
Queue #2: (39, 2, 1) (16, 3, 5)
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
```




Queue Management

```
Service time interval: [1, 7]

Time: 4
Clients that haven't arrived yet: (17, 5, 6), (11, 6, 1), (30, 6, 3), (46,
6, 5), (18, 7, 2), (23, 7, 1), (26, 8, 1), (34, 8, 5), (44, 8, 6), (7, 9,
6), (42, 9, 2), (4, 11, 1), (27, 11, 5), (6, 12, 5), (36, 12, 5), (20, 16,
3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40,
22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6),
(47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30,
5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19,
34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2),
(35, 39, 4)

Queue #1: (2, 2, 3)
Queue #2: (16, 3, 5)
Queue #3: (1, 4, 6)
Queue #4: (38, 4, 1)
Queue #5: FREE

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 5
Clients that haven't arrived yet: (11, 6, 1), (30, 6, 3), (46, 6, 5), (18,
7, 2), (23, 7, 1), (26, 8, 1), (34, 8, 5), (44, 8, 6), (7, 9, 6), (42, 9,
2), (4, 11, 1), (27, 11, 5), (6, 12, 5), (36, 12, 5), (20, 16, 3), (31,
16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5),
(15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24,
5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21,
30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1),
(41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39,
4)

Queue #1: (2, 2, 2)
Queue #2: (16, 3, 4)
Queue #3: (1, 4, 5)
Queue #4: (17, 5, 6)
Queue #5: FREE

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 6
Clients that haven't arrived yet: (18, 7, 2), (23, 7, 1), (26, 8, 1), (34,
8, 5), (44, 8, 6), (7, 9, 6), (42, 9, 2), (4, 11, 1), (27, 11, 5), (6, 12,
5), (36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25,
21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1),
```



Queue Management

```
(22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (2, 2, 1) (30, 6, 3)
Queue #2: (16, 3, 3)
Queue #3: (1, 4, 4)
Queue #4: (17, 5, 5)
Queue #5: (11, 6, 1) (46, 6, 5)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 7

```
Clients that haven't arrived yet: (26, 8, 1), (34, 8, 5), (44, 8, 6), (7, 9, 6), (42, 9, 2), (4, 11, 1), (27, 11, 5), (6, 12, 5), (36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (30, 6, 3) (23, 7, 1)
Queue #2: (16, 3, 2) (18, 7, 2)
Queue #3: (1, 4, 3)
Queue #4: (17, 5, 4)
Queue #5: (11, 6, 1) (46, 6, 5)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 8

```
Clients that haven't arrived yet: (7, 9, 6), (42, 9, 2), (4, 11, 1), (27, 11, 5), (6, 12, 5), (36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (30, 6, 2) (23, 7, 1) (34, 8, 5)
Queue #2: (16, 3, 1) (18, 7, 2) (44, 8, 6)
Queue #3: (1, 4, 2) (26, 8, 1)
Queue #4: (17, 5, 4)
Queue #5: (46, 6, 5)
```



Queue Management

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 9
Clients that haven't arrived yet: (4, 11, 1), (27, 11, 5), (6, 12, 5),
(36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21,
4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22,
24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3),
(10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33,
6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49,
38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (30, 6, 1) (23, 7, 1) (34, 8, 5)
Queue #2: (18, 7, 2) (44, 8, 6)
Queue #3: (1, 4, 1) (26, 8, 1) (7, 9, 6)
Queue #4: (17, 5, 2) (42, 9, 2)
Queue #5: (46, 6, 4)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 10
Clients that haven't arrived yet: (4, 11, 1), (27, 11, 5), (6, 12, 5),
(36, 12, 5), (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21,
4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22,
24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3),
(10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33,
6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49,
38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (23, 7, 1) (34, 8, 5)
Queue #2: (18, 7, 1) (44, 8, 6)
Queue #3: (26, 8, 1) (7, 9, 6)
Queue #4: (17, 5, 1) (42, 9, 2)
Queue #5: (46, 6, 3)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 11
Clients that haven't arrived yet: (6, 12, 5), (36, 12, 5), (20, 16, 3),
```



Queue Management

```
(31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (34, 8, 5)
Queue #2: (44, 8, 6)
Queue #3: (7, 9, 6)
Queue #4: (42, 9, 2) (27, 11, 5)
Queue #5: (46, 6, 1) (4, 11, 1)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 12
Clients that haven't arrived yet: (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (34, 8, 4) (36, 12, 5)
Queue #2: (44, 8, 5)
Queue #3: (7, 9, 5)
Queue #4: (42, 9, 1) (27, 11, 5)
Queue #5: (4, 11, 1) (6, 12, 5)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 13
Clients that haven't arrived yet: (20, 16, 3), (31, 16, 3), (45, 16, 4), (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (34, 8, 3) (36, 12, 5)
Queue #2: (44, 8, 4)
Queue #3: (7, 9, 4)
Queue #4: (27, 11, 5)
Queue #5: (6, 12, 5)
```



Queue Management

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 14

```
Clients that haven't arrived yet: (20, 16, 3), (31, 16, 3), (45, 16, 4),
(5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24,
4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24,
25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1),
(43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37,
5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (34, 8, 2) (36, 12, 5)
Queue #2: (44, 8, 3)
Queue #3: (7, 9, 3)
Queue #4: (27, 11, 4)
Queue #5: (6, 12, 4)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 15

```
Clients that haven't arrived yet: (20, 16, 3), (31, 16, 3), (45, 16, 4),
(5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24,
4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24,
25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1),
(43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37,
5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (34, 8, 1) (36, 12, 5)
Queue #2: (44, 8, 2)
Queue #3: (7, 9, 2)
Queue #4: (27, 11, 3)
Queue #5: (6, 12, 3)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

Time: 16

```
Clients that haven't arrived yet: (5, 18, 2), (25, 21, 4), (32, 21, 4),
(40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24,
6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9,
30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4),
```



Queue Management

```
(19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (36, 12, 5)
Queue #2: (44, 8, 1) (20, 16, 3)
Queue #3: (7, 9, 1) (31, 16, 3)
Queue #4: (27, 11, 2) (45, 16, 4)
Queue #5: (6, 12, 2)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 17
```

```
Clients that haven't arrived yet: (5, 18, 2), (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (36, 12, 4)
Queue #2: (20, 16, 3)
Queue #3: (31, 16, 3)
Queue #4: (27, 11, 1) (45, 16, 4)
Queue #5: (6, 12, 1)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 18
```

```
Clients that haven't arrived yet: (25, 21, 4), (32, 21, 4), (40, 22, 5), (15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (36, 12, 3)
Queue #2: (20, 16, 2)
Queue #3: (31, 16, 2)
Queue #4: (45, 16, 4)
Queue #5: (5, 18, 2)
```

```
Maximum simulation time: 60
Number of clients: 50
```



Queue Management

```
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 19
Clients that haven't arrived yet: (25, 21, 4), (32, 21, 4), (40, 22, 5),
(15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24,
5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21,
30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1),
(41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39,
4)

Queue #1: (36, 12, 2)
Queue #2: (20, 16, 1)
Queue #3: (31, 16, 1)
Queue #4: (45, 16, 3)
Queue #5: (5, 18, 1)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 20
Clients that haven't arrived yet: (25, 21, 4), (32, 21, 4), (40, 22, 5),
(15, 23, 6), (3, 24, 4), (14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24,
5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21,
30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1),
(41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39,
4)

Queue #1: (36, 12, 1)
Queue #2: FREE
Queue #3: FREE
Queue #4: (45, 16, 2)
Queue #5: FREE

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 21
Clients that haven't arrived yet: (40, 22, 5), (15, 23, 6), (3, 24, 4),
(14, 24, 1), (22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25,
6), (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43,
31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5),
(48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (25, 21, 4)
Queue #2: (32, 21, 4)
```



Queue Management

```
Queue #3: FREE
Queue #4: (45, 16, 1)
Queue #5: FREE

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 22
Clients that haven't arrived yet: (15, 23, 6), (3, 24, 4), (14, 24, 1),
(22, 24, 6), (29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27,
3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13,
33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6),
(49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (25, 21, 3)
Queue #2: (32, 21, 3)
Queue #3: (40, 22, 5)
Queue #4: FREE
Queue #5: FREE

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 23
Clients that haven't arrived yet: (3, 24, 4), (14, 24, 1), (22, 24, 6),
(29, 24, 6), (47, 24, 5), (12, 25, 3), (24, 25, 6), (28, 27, 3), (10, 28,
6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50,
33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2),
(8, 39, 2), (35, 39, 4)

Queue #1: (25, 21, 2)
Queue #2: (32, 21, 2)
Queue #3: (40, 22, 4)
Queue #4: (15, 23, 6)
Queue #5: FREE

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 24
Clients that haven't arrived yet: (12, 25, 3), (24, 25, 6), (28, 27, 3),
(10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33,
```




Queue Management

```
6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (25, 21, 1) (14, 24, 1) (29, 24, 6)
```

```
Queue #2: (32, 21, 1) (22, 24, 6)
```

```
Queue #3: (40, 22, 3) (47, 24, 5)
```

```
Queue #4: (15, 23, 5)
```

```
Queue #5: (3, 24, 4)
```

```
Maximum simulation time: 60
```

```
Number of clients: 50
```

```
Number of queues: 5
```

```
Arrival time interval: [2, 40]
```

```
Service time interval: [1, 7]
```

```
Time: 25
```

```
Clients that haven't arrived yet: (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (14, 24, 1) (29, 24, 6)
```

```
Queue #2: (22, 24, 6)
```

```
Queue #3: (40, 22, 2) (47, 24, 5)
```

```
Queue #4: (15, 23, 4) (12, 25, 3)
```

```
Queue #5: (3, 24, 4) (24, 25, 6)
```

```
Maximum simulation time: 60
```

```
Number of clients: 50
```

```
Number of queues: 5
```

```
Arrival time interval: [2, 40]
```

```
Service time interval: [1, 7]
```

```
Time: 26
```

```
Clients that haven't arrived yet: (28, 27, 3), (10, 28, 6), (9, 30, 5), (21, 30, 5), (37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)
```

```
Queue #1: (29, 24, 6)
```

```
Queue #2: (22, 24, 5)
```

```
Queue #3: (40, 22, 1) (47, 24, 5)
```

```
Queue #4: (15, 23, 3) (12, 25, 3)
```

```
Queue #5: (3, 24, 2) (24, 25, 6)
```

```
Maximum simulation time: 60
```

```
Number of clients: 50
```

```
Number of queues: 5
```

```
Arrival time interval: [2, 40]
```

```
Service time interval: [1, 7]
```



Queue Management

```
Time: 27
Clients that haven't arrived yet: (10, 28, 6), (9, 30, 5), (21, 30, 5),
(37, 30, 1), (43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36,
5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (29, 24, 5)
Queue #2: (22, 24, 4) (28, 27, 3)
Queue #3: (47, 24, 5)
Queue #4: (15, 23, 2) (12, 25, 3)
Queue #5: (3, 24, 1) (24, 25, 6)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 28
Clients that haven't arrived yet: (9, 30, 5), (21, 30, 5), (37, 30, 1),
(43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37,
5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (29, 24, 4) (10, 28, 6)
Queue #2: (22, 24, 3) (28, 27, 3)
Queue #3: (47, 24, 4)
Queue #4: (15, 23, 1) (12, 25, 3)
Queue #5: (24, 25, 6)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 29
Clients that haven't arrived yet: (9, 30, 5), (21, 30, 5), (37, 30, 1),
(43, 31, 3), (13, 33, 6), (50, 33, 4), (19, 34, 1), (41, 36, 5), (33, 37,
5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (29, 24, 3) (10, 28, 6)
Queue #2: (22, 24, 2) (28, 27, 3)
Queue #3: (47, 24, 3)
Queue #4: (12, 25, 3)
Queue #5: (24, 25, 5)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```



Queue Management

```
Time: 30
Clients that haven't arrived yet: (43, 31, 3), (13, 33, 6), (50, 33, 4),
(19, 34, 1), (41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39,
2), (35, 39, 4)

Queue #1: (29, 24, 2) (10, 28, 6)
Queue #2: (22, 24, 1) (28, 27, 3) (37, 30, 1)
Queue #3: (47, 24, 2) (9, 30, 5)
Queue #4: (12, 25, 2) (21, 30, 5)
Queue #5: (24, 25, 4)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 31
Clients that haven't arrived yet: (13, 33, 6), (50, 33, 4), (19, 34, 1),
(41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39,
4)

Queue #1: (29, 24, 1) (10, 28, 6)
Queue #2: (28, 27, 3) (37, 30, 1)
Queue #3: (47, 24, 1) (9, 30, 5)
Queue #4: (12, 25, 1) (21, 30, 5)
Queue #5: (24, 25, 3) (43, 31, 3)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 32
Clients that haven't arrived yet: (13, 33, 6), (50, 33, 4), (19, 34, 1),
(41, 36, 5), (33, 37, 5), (48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39,
4)

Queue #1: (10, 28, 6)
Queue #2: (28, 27, 2) (37, 30, 1)
Queue #3: (9, 30, 5)
Queue #4: (21, 30, 5)
Queue #5: (24, 25, 2) (43, 31, 3)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```



Queue Management

```
Time: 33
Clients that haven't arrived yet: (19, 34, 1), (41, 36, 5), (33, 37, 5),
(48, 38, 6), (49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (10, 28, 5)
Queue #2: (28, 27, 1) (37, 30, 1) (13, 33, 6)
Queue #3: (9, 30, 4) (50, 33, 4)
Queue #4: (21, 30, 4)
Queue #5: (24, 25, 1) (43, 31, 3)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 34
Clients that haven't arrived yet: (41, 36, 5), (33, 37, 5), (48, 38, 6),
(49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (10, 28, 4)
Queue #2: (37, 30, 1) (13, 33, 6)
Queue #3: (9, 30, 3) (50, 33, 4)
Queue #4: (21, 30, 3) (19, 34, 1)
Queue #5: (43, 31, 3)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 35
Clients that haven't arrived yet: (41, 36, 5), (33, 37, 5), (48, 38, 6),
(49, 38, 2), (8, 39, 2), (35, 39, 4)

Queue #1: (10, 28, 3)
Queue #2: (13, 33, 6)
Queue #3: (9, 30, 2) (50, 33, 4)
Queue #4: (21, 30, 2) (19, 34, 1)
Queue #5: (43, 31, 2)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 36
Clients that haven't arrived yet: (33, 37, 5), (48, 38, 6), (49, 38, 2),
(8, 39, 2), (35, 39, 4)
```



Queue Management

```
Queue #1: (10, 28, 2)
Queue #2: (13, 33, 5)
Queue #3: (9, 30, 1) (50, 33, 4)
Queue #4: (21, 30, 1) (19, 34, 1)
Queue #5: (43, 31, 1) (41, 36, 5)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 37
Clients that haven't arrived yet: (48, 38, 6), (49, 38, 2), (8, 39, 2),
(35, 39, 4)

Queue #1: (10, 28, 1) (33, 37, 5)
Queue #2: (13, 33, 4)
Queue #3: (50, 33, 4)
Queue #4: (19, 34, 1)
Queue #5: (41, 36, 5)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 38
Clients that haven't arrived yet: (8, 39, 2), (35, 39, 4)

Queue #1: (33, 37, 5)
Queue #2: (13, 33, 3) (49, 38, 2)
Queue #3: (50, 33, 3)
Queue #4: (48, 38, 6)
Queue #5: (41, 36, 4)

Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]

Time: 39
All of the clients have already arrived.

Queue #1: (33, 37, 4)
Queue #2: (13, 33, 2) (49, 38, 2)
Queue #3: (50, 33, 2) (8, 39, 2)
Queue #4: (48, 38, 5)
```



Queue Management

Queue #5: (41, 36, 3) (35, 39, 4)

Maximum simulation time: 60

Number of clients: 50

Number of queues: 5

Arrival time interval: [2, 40]

Service time interval: [1, 7]

Time: 40

All of the clients have already arrived.

Queue #1: (33, 37, 3)

Queue #2: (13, 33, 1) (49, 38, 2)

Queue #3: (50, 33, 1) (8, 39, 2)

Queue #4: (48, 38, 4)

Queue #5: (41, 36, 2) (35, 39, 4)

Maximum simulation time: 60

Number of clients: 50

Number of queues: 5

Arrival time interval: [2, 40]

Service time interval: [1, 7]

Time: 41

All of the clients have already arrived.

Queue #1: (33, 37, 2)

Queue #2: (49, 38, 2)

Queue #3: (8, 39, 2)

Queue #4: (48, 38, 3)

Queue #5: (41, 36, 1) (35, 39, 4)

Maximum simulation time: 60

Number of clients: 50

Number of queues: 5

Arrival time interval: [2, 40]

Service time interval: [1, 7]

Time: 42

All of the clients have already arrived.

Queue #1: (33, 37, 1)

Queue #2: (49, 38, 1)

Queue #3: (8, 39, 1)

Queue #4: (48, 38, 2)

Queue #5: (35, 39, 4)

Maximum simulation time: 60

Number of clients: 50



Queue Management

```
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 43
All of the clients have already arrived.
```

```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: (48, 38, 1)
Queue #5: (35, 39, 3)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 44
All of the clients have already arrived.
```

```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: (35, 39, 2)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 45
All of the clients have already arrived.
```

```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: (35, 39, 1)
```

```
Maximum simulation time: 60
Number of clients: 50
Number of queues: 5
Arrival time interval: [2, 40]
Service time interval: [1, 7]
```

```
Time: 46
All of the clients have already arrived.
```



Queue Management

```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
```

```
No more clients to assign, all queues are empty
No reason to keep the app running, ending simulation..
```

```
Average wait time: 3.41
Average service time: 3.86
Peak time at: 9 (11 clients)
```

TEST 3

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 0

```
Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3),
```




Queue Management

(724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3),



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(157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8),
(695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170,
48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48,
5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4),
(360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8),
(797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136,
50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50,
8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6),
(536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24,
52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52,
6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6),
(182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8),
(528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5),
(965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331,
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Queue Management

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```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
```



Queue Management

```
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 1
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Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6),
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Queue Management

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Queue Management

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Queue Management

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Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
```



Queue Management

```
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 2
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Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4),
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Queue Management

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Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
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Queue Management

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Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 3
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Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47,
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Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
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Queue Management

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Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 4
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Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5),
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Queue Management

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Queue Management

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Queue Management

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```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
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Queue Management

Queue #20: FREE

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 5

Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4),



Queue Management

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Queue Management

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Queue Management

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Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
```



Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

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Time: 6
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Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29,
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Queue Management

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Queue Management

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(847, 99, 3)
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```
Queue #1: FREE  
Queue #2: FREE  
Queue #3: FREE  
Queue #4: FREE  
Queue #5: FREE  
Queue #6: FREE  
Queue #7: FREE  
Queue #8: FREE  
Queue #9: FREE  
Queue #10: FREE  
Queue #11: FREE  
Queue #12: FREE  
Queue #13: FREE  
Queue #14: FREE  
Queue #15: FREE  
Queue #16: FREE  
Queue #17: FREE  
Queue #18: FREE  
Queue #19: FREE  
Queue #20: FREE
```

```
Maximum simulation time: 200  
Number of clients: 1000
```



Queue Management

```
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 7
```

```
Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30,
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Queue Management

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4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86,



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(847, 99, 3)
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Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Queue Management

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Time: 8
Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10, 4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7), (823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6), (174, 11, 5), (178, 11, 5), (200, 11, 6), (322, 11, 7), (419, 11, 6), (441, 11, 5), (515, 11, 4), (725, 11, 3), (832, 11, 8), (866, 11, 5), (901, 11, 4), (9, 12, 7), (23, 12, 8), (31, 12, 8), (319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5), (646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248,
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Queue Management

32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61,



Queue Management

6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5),
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(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
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(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418,
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6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3),
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(772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105,
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6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8),
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(854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284,
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8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5),



Queue Management

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```
Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

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Time: 9
Clients that haven't arrived yet: (146, 10, 3), (272, 10, 6), (291, 10,
```



Queue Management

4), (326, 10, 4), (424, 10, 6), (576, 10, 3), (762, 10, 6), (784, 10, 7),
(823, 10, 8), (883, 10, 5), (966, 10, 3), (983, 10, 4), (126, 11, 6),
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Queue Management

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Queue Management

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Queue Management

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Queue #1: FREE
Queue #2: FREE
Queue #3: FREE
Queue #4: FREE
Queue #5: FREE
Queue #6: FREE
Queue #7: FREE
Queue #8: FREE
Queue #9: FREE
Queue #10: FREE
Queue #11: FREE
Queue #12: FREE
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 10
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Clients that haven't arrived yet: (126, 11, 6), (174, 11, 5), (178, 11,
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Queue Management

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6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5),
(204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3),
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8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8),
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8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6),
(70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264,
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8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5),
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6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6),
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8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3),
(897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580,
52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5),
(160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4),
(422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4),
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3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3),
(865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324,
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6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7),
(722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6),
(997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8),
(564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4),
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5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4),



Queue Management

(137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3),
(681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6),
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3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6),
(95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333,
68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68,
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(114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3),
(582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3),
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71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71,
3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
(989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3),
(444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5),
(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,
73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73,
5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6),
(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730,
74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75,
3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8),
(718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436,
76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76,
8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3),
(142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7),
(472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38,
78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78,
8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6),
(177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8),
(446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8),
(805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,
80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80,
7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3),
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(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
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82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
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7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),



Queue Management

```
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (146, 10, 3)
Queue #2: (272, 10, 6)
Queue #3: (291, 10, 4)
Queue #4: (326, 10, 4)
Queue #5: (424, 10, 6)
Queue #6: (576, 10, 3)
Queue #7: (762, 10, 6)
Queue #8: (784, 10, 7)
Queue #9: (823, 10, 8)
Queue #10: (883, 10, 5)
Queue #11: (966, 10, 3)
Queue #12: (983, 10, 4)
Queue #13: FREE
Queue #14: FREE
Queue #15: FREE
Queue #16: FREE
Queue #17: FREE
Queue #18: FREE
Queue #19: FREE
Queue #20: FREE
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 11
```

```
Clients that haven't arrived yet: (9, 12, 7), (23, 12, 8), (31, 12, 8),
(319, 12, 3), (426, 12, 3), (512, 12, 3), (529, 12, 4), (622, 12, 5),
(646, 12, 3), (998, 12, 8), (90, 13, 3), (166, 13, 4), (186, 13, 7), (374,
13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7), (782, 13,
3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141, 14, 5),
(144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4),
(701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128,
15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15,
3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7),
(274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8),
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Queue Management

(811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7),
(373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3),
(516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7),
(783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7),
(181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6),
(344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7),
(963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4),
(269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4),
(707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8),
(164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7),
(506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3),
(920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4),
(503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8),
(810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6),
(11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255,
22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22,
6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8),
(39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297,
23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24,
4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6),
(395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7),
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8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5),
(416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3),
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6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8),
(750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206,
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4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3),
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(941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388,
32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32,
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39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39,



Queue Management

7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8),
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6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4),



Queue Management

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(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730,
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8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3),
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(177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8),
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(954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),
(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
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(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
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(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
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(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),



Queue Management

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(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (146, 10, 2) (725, 11, 3)
Queue #2: (272, 10, 5)
Queue #3: (291, 10, 3) (901, 11, 4)
Queue #4: (326, 10, 3)
Queue #5: (424, 10, 5)
Queue #6: (576, 10, 2) (832, 11, 8)
Queue #7: (762, 10, 5)
Queue #8: (784, 10, 6)
Queue #9: (823, 10, 7)
Queue #10: (883, 10, 4)
Queue #11: (966, 10, 2) (866, 11, 5)
Queue #12: (983, 10, 3)
Queue #13: (126, 11, 6)
Queue #14: (174, 11, 5)
Queue #15: (178, 11, 5)
Queue #16: (200, 11, 6)
Queue #17: (322, 11, 7)
Queue #18: (419, 11, 6)
Queue #19: (441, 11, 5)
Queue #20: (515, 11, 4)
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```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 12

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Clients that haven't arrived yet: (90, 13, 3), (166, 13, 4), (186, 13,
7), (374, 13, 8), (396, 13, 5), (502, 13, 4), (680, 13, 6), (749, 13, 7),
(782, 13, 3), (887, 13, 8), (942, 13, 7), (84, 14, 6), (85, 14, 6), (141,
14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14,
4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3),
(128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6),
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16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16,
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(373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3),
(516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7),
(783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7),
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(344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7),
(963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4),
(269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4),
(707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8),
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Queue Management

(506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3),
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6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8),
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4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6),
(395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7),
(791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4),
(975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3),
(260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8),
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Queue Management

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(997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8),
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(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,



Queue Management

73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (146, 10, 1) (725, 11, 3) (426, 12, 3)



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```
Queue #2: (272, 10, 4) (512, 12, 3)
Queue #3: (291, 10, 2) (901, 11, 4)
Queue #4: (326, 10, 2) (9, 12, 7)
Queue #5: (424, 10, 4) (529, 12, 4)
Queue #6: (576, 10, 1) (832, 11, 8)
Queue #7: (762, 10, 4) (622, 12, 5)
Queue #8: (784, 10, 5)
Queue #9: (823, 10, 6)
Queue #10: (883, 10, 3) (31, 12, 8)
Queue #11: (966, 10, 1) (866, 11, 5)
Queue #12: (983, 10, 2) (23, 12, 8)
Queue #13: (126, 11, 5)
Queue #14: (174, 11, 4) (646, 12, 3)
Queue #15: (178, 11, 4) (998, 12, 8)
Queue #16: (200, 11, 5)
Queue #17: (322, 11, 6)
Queue #18: (419, 11, 5)
Queue #19: (441, 11, 4)
Queue #20: (515, 11, 3) (319, 12, 3)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 13

Clients that haven't arrived yet: (84, 14, 6), (85, 14, 6), (141, 14, 5), (144, 14, 5), (159, 14, 3), (162, 14, 6), (398, 14, 6), (609, 14, 4), (701, 14, 7), (760, 14, 6), (821, 14, 4), (81, 15, 7), (122, 15, 3), (128, 15, 3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3), (969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4),



Queue Management

(975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3),
(260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8),
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(416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3),
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(750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206,
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Queue Management

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6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (725, 11, 3) (426, 12, 3) (942, 13, 7)

Queue #2: (272, 10, 3) (512, 12, 3)

Queue #3: (291, 10, 1) (901, 11, 4) (502, 13, 4)

Queue #4: (326, 10, 1) (9, 12, 7)

Queue #5: (424, 10, 3) (529, 12, 4)

Queue #6: (832, 11, 8)

Queue #7: (762, 10, 3) (622, 12, 5)

Queue #8: (784, 10, 4) (166, 13, 4)

Queue #9: (823, 10, 5) (680, 13, 6)

Queue #10: (883, 10, 2) (31, 12, 8)

Queue #11: (866, 11, 5) (749, 13, 7)

Queue #12: (983, 10, 1) (23, 12, 8)

Queue #13: (126, 11, 4) (186, 13, 7)



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Queue #14: (174, 11, 3) (646, 12, 3)
Queue #15: (178, 11, 3) (998, 12, 8)
Queue #16: (200, 11, 4) (374, 13, 8)
Queue #17: (322, 11, 5) (782, 13, 3)
Queue #18: (419, 11, 4) (396, 13, 5)
Queue #19: (441, 11, 3) (90, 13, 3)
Queue #20: (515, 11, 2) (319, 12, 3) (887, 13, 8)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 14
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Clients that haven't arrived yet: (81, 15, 7), (122, 15, 3), (128, 15,
3), (140, 15, 5), (327, 15, 7), (583, 15, 3), (802, 15, 6), (931, 15, 3),
(969, 15, 4), (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274,
16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16,
4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6),
(377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5),
(575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5),
(828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7),
(253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7),
(389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4),
(972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6),
(381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8),
(776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4),
(234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8),
(603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3),
(968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8),
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8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6),
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(993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3),
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Queue #1: (725, 11, 2) (426, 12, 3) (942, 13, 7)

Queue #2: (272, 10, 2) (512, 12, 3) (84, 14, 6)

Queue #3: (901, 11, 4) (502, 13, 4) (760, 14, 6)

Queue #4: (9, 12, 7) (159, 14, 3)

Queue #5: (424, 10, 2) (529, 12, 4) (144, 14, 5)

Queue #6: (832, 11, 7) (162, 14, 6)

Queue #7: (762, 10, 2) (622, 12, 5) (398, 14, 6)

Queue #8: (784, 10, 3) (166, 13, 4) (609, 14, 4)

Queue #9: (823, 10, 4) (680, 13, 6)

Queue #10: (883, 10, 1) (31, 12, 8)

Queue #11: (866, 11, 4) (749, 13, 7)

Queue #12: (23, 12, 8) (821, 14, 4)

Queue #13: (126, 11, 3) (186, 13, 7)

Queue #14: (174, 11, 2) (646, 12, 3) (85, 14, 6)

Queue #15: (178, 11, 2) (998, 12, 8)

Queue #16: (200, 11, 3) (374, 13, 8)

Queue #17: (322, 11, 4) (782, 13, 3) (701, 14, 7)

Queue #18: (419, 11, 3) (396, 13, 5)

Queue #19: (441, 11, 2) (90, 13, 3) (141, 14, 5)

Queue #20: (515, 11, 1) (319, 12, 3) (887, 13, 8)

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]



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Service time interval: [3, 9]

Time: 15

Clients that haven't arrived yet: (1, 16, 5), (60, 16, 6), (203, 16, 7), (268, 16, 7), (274, 16, 4), (378, 16, 8), (402, 16, 7), (728, 16, 6), (735, 16, 8), (811, 16, 4), (837, 16, 3), (127, 17, 5), (220, 17, 4), (246, 17, 7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3), (516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7), (783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5),



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(589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76,



Queue Management

67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),



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(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (725, 11, 1) (426, 12, 3) (942, 13, 7)
Queue #2: (272, 10, 1) (512, 12, 3) (84, 14, 6) (931, 15, 3)
Queue #3: (901, 11, 3) (502, 13, 4) (760, 14, 6)
Queue #4: (9, 12, 6) (159, 14, 3) (128, 15, 3)
Queue #5: (424, 10, 1) (529, 12, 4) (144, 14, 5) (969, 15, 4)
Queue #6: (832, 11, 6) (162, 14, 6)
Queue #7: (762, 10, 1) (622, 12, 5) (398, 14, 6)
Queue #8: (784, 10, 2) (166, 13, 4) (609, 14, 4)
Queue #9: (823, 10, 3) (680, 13, 6) (140, 15, 5)
Queue #10: (31, 12, 8) (122, 15, 3)
Queue #11: (866, 11, 3) (749, 13, 7)
Queue #12: (23, 12, 7) (821, 14, 4)
Queue #13: (126, 11, 2) (186, 13, 7) (327, 15, 7)
Queue #14: (174, 11, 1) (646, 12, 3) (85, 14, 6)
Queue #15: (178, 11, 1) (998, 12, 8) (583, 15, 3)
Queue #16: (200, 11, 2) (374, 13, 8)
Queue #17: (322, 11, 3) (782, 13, 3) (701, 14, 7)
Queue #18: (419, 11, 2) (396, 13, 5) (81, 15, 7)
Queue #19: (441, 11, 1) (90, 13, 3) (141, 14, 5) (802, 15, 6)
Queue #20: (319, 12, 3) (887, 13, 8)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 16

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Clients that haven't arrived yet: (127, 17, 5), (220, 17, 4), (246, 17,
7), (373, 17, 6), (377, 17, 4), (382, 17, 8), (452, 17, 3), (469, 17, 3),
(516, 17, 5), (575, 17, 3), (615, 17, 3), (670, 17, 7), (773, 17, 7),
(783, 17, 5), (828, 17, 7), (872, 17, 7), (886, 17, 5), (131, 18, 7),
(181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6),
(344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7),
(963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4),
(269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4),
(707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8),
(164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7),
(506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3),
(920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4),
(503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8),
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(810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6),
(11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255,
22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22,
6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8),
(39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297,
23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24,
4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6),
(395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7),
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(975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3),
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Queue Management

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Queue Management

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Queue #1: (426, 12, 3) (942, 13, 7) (274, 16, 4)

Queue #2: (512, 12, 3) (84, 14, 6) (931, 15, 3)

Queue #3: (901, 11, 2) (502, 13, 4) (760, 14, 6)

Queue #4: (9, 12, 5) (159, 14, 3) (128, 15, 3) (735, 16, 8)



Queue Management

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Queue #5: (529, 12, 4) (144, 14, 5) (969, 15, 4)
Queue #6: (832, 11, 5) (162, 14, 6) (811, 16, 4)
Queue #7: (622, 12, 5) (398, 14, 6) (837, 16, 3)
Queue #8: (784, 10, 1) (166, 13, 4) (609, 14, 4) (1, 16, 5)
Queue #9: (823, 10, 2) (680, 13, 6) (140, 15, 5)
Queue #10: (31, 12, 7) (122, 15, 3) (378, 16, 8)
Queue #11: (866, 11, 2) (749, 13, 7) (60, 16, 6)
Queue #12: (23, 12, 6) (821, 14, 4) (402, 16, 7)
Queue #13: (126, 11, 1) (186, 13, 7) (327, 15, 7)
Queue #14: (646, 12, 3) (85, 14, 6) (203, 16, 7)
Queue #15: (998, 12, 8) (583, 15, 3)
Queue #16: (200, 11, 1) (374, 13, 8) (268, 16, 7)
Queue #17: (322, 11, 2) (782, 13, 3) (701, 14, 7)
Queue #18: (419, 11, 1) (396, 13, 5) (81, 15, 7)
Queue #19: (90, 13, 3) (141, 14, 5) (802, 15, 6)
Queue #20: (319, 12, 2) (887, 13, 8) (728, 16, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 17
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Clients that haven't arrived yet: (131, 18, 7), (181, 18, 7), (253, 18, 6), (273, 18, 4), (315, 18, 3), (340, 18, 6), (344, 18, 7), (389, 18, 3), (434, 18, 7), (753, 18, 3), (927, 18, 7), (963, 18, 4), (972, 18, 3), (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29,
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Queue Management

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Queue Management

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Queue Management

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Queue #1: (426, 12, 2) (942, 13, 7) (274, 16, 4) (469, 17, 3)
Queue #2: (512, 12, 2) (84, 14, 6) (931, 15, 3) (220, 17, 4) (828, 17, 7)
Queue #3: (901, 11, 1) (502, 13, 4) (760, 14, 6) (246, 17, 7)
Queue #4: (9, 12, 4) (159, 14, 3) (128, 15, 3) (735, 16, 8)
Queue #5: (529, 12, 3) (144, 14, 5) (969, 15, 4) (377, 17, 4)
Queue #6: (832, 11, 4) (162, 14, 6) (811, 16, 4) (670, 17, 7)
Queue #7: (622, 12, 4) (398, 14, 6) (837, 16, 3) (516, 17, 5)
Queue #8: (166, 13, 4) (609, 14, 4) (1, 16, 5) (575, 17, 3)
Queue #9: (823, 10, 1) (680, 13, 6) (140, 15, 5) (382, 17, 8)
Queue #10: (31, 12, 6) (122, 15, 3) (378, 16, 8)
Queue #11: (866, 11, 1) (749, 13, 7) (60, 16, 6) (773, 17, 7)
Queue #12: (23, 12, 5) (821, 14, 4) (402, 16, 7)
Queue #13: (186, 13, 7) (327, 15, 7) (783, 17, 5)
Queue #14: (646, 12, 2) (85, 14, 6) (203, 16, 7) (872, 17, 7)
Queue #15: (998, 12, 7) (583, 15, 3) (127, 17, 5) (886, 17, 5)
Queue #16: (374, 13, 8) (268, 16, 7)
Queue #17: (322, 11, 1) (782, 13, 3) (701, 14, 7) (373, 17, 6)
Queue #18: (396, 13, 5) (81, 15, 7) (452, 17, 3)
Queue #19: (90, 13, 2) (141, 14, 5) (802, 15, 6) (615, 17, 3)
Queue #20: (319, 12, 1) (887, 13, 8) (728, 16, 6)
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Maximum simulation time: 200
Number of clients: 1000
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Queue Management

Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 18

Clients that haven't arrived yet: (135, 19, 4), (138, 19, 6), (216, 19, 4), (269, 19, 6), (381, 19, 4), (539, 19, 7), (675, 19, 6), (692, 19, 4), (707, 19, 8), (776, 19, 7), (871, 19, 8), (916, 19, 6), (961, 19, 8), (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8),



Queue Management

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Queue Management

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Queue Management

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Queue #2: (512, 12, 1) (84, 14, 6) (931, 15, 3) (220, 17, 4) (828, 17, 7)
Queue #3: (502, 13, 4) (760, 14, 6) (246, 17, 7) (927, 18, 7)
Queue #4: (9, 12, 3) (159, 14, 3) (128, 15, 3) (735, 16, 8) (963, 18, 4)
Queue #5: (529, 12, 2) (144, 14, 5) (969, 15, 4) (377, 17, 4) (315, 18, 3)
Queue #6: (832, 11, 3) (162, 14, 6) (811, 16, 4) (670, 17, 7)
Queue #7: (622, 12, 3) (398, 14, 6) (837, 16, 3) (516, 17, 5) (972, 18, 3)
Queue #8: (166, 13, 3) (609, 14, 4) (1, 16, 5) (575, 17, 3) (340, 18, 6)
Queue #9: (680, 13, 6) (140, 15, 5) (382, 17, 8)
Queue #10: (31, 12, 5) (122, 15, 3) (378, 16, 8) (434, 18, 7)
Queue #11: (749, 13, 7) (60, 16, 6) (773, 17, 7)
Queue #12: (23, 12, 4) (821, 14, 4) (402, 16, 7) (344, 18, 7)
Queue #13: (186, 13, 6) (327, 15, 7) (783, 17, 5)
Queue #14: (646, 12, 1) (85, 14, 6) (203, 16, 7) (872, 17, 7)
Queue #15: (998, 12, 6) (583, 15, 3) (127, 17, 5) (886, 17, 5)
Queue #16: (374, 13, 7) (268, 16, 7) (131, 18, 7)
Queue #17: (782, 13, 3) (701, 14, 7) (373, 17, 6) (753, 18, 3)
Queue #18: (396, 13, 4) (81, 15, 7) (452, 17, 3) (181, 18, 7)
Queue #19: (90, 13, 1) (141, 14, 5) (802, 15, 6) (615, 17, 3) (389, 18, 3)
Queue #20: (887, 13, 8) (728, 16, 6) (253, 18, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 19

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Clients that haven't arrived yet: (164, 20, 4), (234, 20, 8), (237, 20, 5), (429, 20, 3), (442, 20, 7), (506, 20, 8), (603, 20, 6), (627, 20, 7), (882, 20, 8), (888, 20, 3), (920, 20, 3), (968, 20, 5), (107, 21, 5), (147, 21, 5), (461, 21, 4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8), (810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6), (11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6), (460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3), (724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5),
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Queue Management

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3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5),



Queue Management

(270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5),
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(805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,
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(954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),



Queue Management

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(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
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(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
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(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
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(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
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(586, 99, 7), (751, 99, 6), (847, 99, 3)
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```
Queue #1: (942, 13, 7) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19, 6)
Queue #2: (84, 14, 6) (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19, 6)
Queue #3: (502, 13, 3) (760, 14, 6) (246, 17, 7) (927, 18, 7)
Queue #4: (9, 12, 2) (159, 14, 3) (128, 15, 3) (735, 16, 8) (963, 18,
4) (961, 19, 8)
Queue #5: (529, 12, 1) (144, 14, 5) (969, 15, 4) (377, 17, 4) (315, 18,
3) (135, 19, 4)
Queue #6: (832, 11, 2) (162, 14, 6) (811, 16, 4) (670, 17, 7) (692, 19, 4)
Queue #7: (622, 12, 2) (398, 14, 6) (837, 16, 3) (516, 17, 5) (972, 18,
3) (707, 19, 8)
Queue #8: (166, 13, 2) (609, 14, 4) (1, 16, 5) (575, 17, 3) (340, 18, 6)
Queue #9: (680, 13, 5) (140, 15, 5) (382, 17, 8) (381, 19, 4)
Queue #10: (31, 12, 4) (122, 15, 3) (378, 16, 8) (434, 18, 7)
Queue #11: (749, 13, 6) (60, 16, 6) (773, 17, 7) (776, 19, 7)
Queue #12: (23, 12, 3) (821, 14, 4) (402, 16, 7) (344, 18, 7)
Queue #13: (186, 13, 5) (327, 15, 7) (783, 17, 5) (138, 19, 6)
Queue #14: (85, 14, 6) (203, 16, 7) (872, 17, 7)
Queue #15: (998, 12, 5) (583, 15, 3) (127, 17, 5) (886, 17, 5) (539, 19, 7)
Queue #16: (374, 13, 6) (268, 16, 7) (131, 18, 7)
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Queue Management

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Queue #17: (782, 13, 2) (701, 14, 7) (373, 17, 6) (753, 18, 3) (675, 19, 6)
Queue #18: (396, 13, 3) (81, 15, 7) (452, 17, 3) (181, 18, 7)
Queue #19: (141, 14, 5) (802, 15, 6) (615, 17, 3) (389, 18, 3) (216, 19, 4)
Queue #20: (887, 13, 7) (728, 16, 6) (253, 18, 6) (871, 19, 8)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 20
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Clients that haven't arrived yet: (107, 21, 5), (147, 21, 5), (461, 21,
4), (503, 21, 8), (614, 21, 3), (638, 21, 6), (703, 21, 3), (709, 21, 8),
(810, 21, 7), (895, 21, 3), (962, 21, 3), (973, 21, 6), (1000, 21, 6),
(11, 22, 3), (34, 22, 3), (73, 22, 6), (151, 22, 4), (236, 22, 6), (255,
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38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38,
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Queue Management

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(722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6),
(997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8),
(564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4),
(936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5),
(682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175,
65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65,
5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4),
(137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3),
(681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6),
(930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76,
67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67,
3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6),



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(95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),



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```
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),  
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),  
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),  
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),  
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,  
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,  
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),  
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),  
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),  
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),  
(586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (942, 13, 6) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19, 6)  
Queue #2: (84, 14, 5) (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19, 6)  
Queue #3: (502, 13, 2) (760, 14, 6) (246, 17, 7) (927, 18, 7) (888, 20, 3)  
Queue #4: (9, 12, 1) (159, 14, 3) (128, 15, 3) (735, 16, 8) (963, 18,  
4) (961, 19, 8)  
Queue #5: (144, 14, 5) (969, 15, 4) (377, 17, 4) (315, 18, 3) (135, 19,  
4) (442, 20, 7)  
Queue #6: (832, 11, 1) (162, 14, 6) (811, 16, 4) (670, 17, 7) (692, 19,  
4) (920, 20, 3)  
Queue #7: (622, 12, 1) (398, 14, 6) (837, 16, 3) (516, 17, 5) (972, 18,  
3) (707, 19, 8)  
Queue #8: (166, 13, 1) (609, 14, 4) (1, 16, 5) (575, 17, 3) (340, 18,  
6) (164, 20, 4)  
Queue #9: (680, 13, 4) (140, 15, 5) (382, 17, 8) (381, 19, 4) (627, 20, 7)  
Queue #10: (31, 12, 3) (122, 15, 3) (378, 16, 8) (434, 18, 7) (882, 20, 8)  
Queue #11: (749, 13, 5) (60, 16, 6) (773, 17, 7) (776, 19, 7)  
Queue #12: (23, 12, 2) (821, 14, 4) (402, 16, 7) (344, 18, 7) (506, 20, 8)  
Queue #13: (186, 13, 4) (327, 15, 7) (783, 17, 5) (138, 19, 6) (968, 20, 5)  
Queue #14: (85, 14, 5) (203, 16, 7) (872, 17, 7) (234, 20, 8)  
Queue #15: (998, 12, 4) (583, 15, 3) (127, 17, 5) (886, 17, 5) (539, 19, 7)  
Queue #16: (374, 13, 5) (268, 16, 7) (131, 18, 7) (237, 20, 5)  
Queue #17: (782, 13, 1) (701, 14, 7) (373, 17, 6) (753, 18, 3) (675, 19, 6)  
Queue #18: (396, 13, 2) (81, 15, 7) (452, 17, 3) (181, 18, 7) (429, 20, 3)  
Queue #19: (141, 14, 4) (802, 15, 6) (615, 17, 3) (389, 18, 3) (216, 19,  
4) (603, 20, 6)  
Queue #20: (887, 13, 6) (728, 16, 6) (253, 18, 6) (871, 19, 8)
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Maximum simulation time: 200  
Number of clients: 1000  
Number of queues: 20  
Arrival time interval: [10, 100]  
Service time interval: [3, 9]
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Time: 21

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Clients that haven't arrived yet: (11, 22, 3), (34, 22, 3), (73, 22, 6),  
(151, 22, 4), (236, 22, 6), (255, 22, 7), (293, 22, 5), (325, 22, 6),  
(460, 22, 3), (501, 22, 7), (521, 22, 6), (579, 22, 5), (630, 22, 3),  
(724, 22, 5), (850, 22, 4), (30, 23, 8), (39, 23, 8), (53, 23, 4), (59,  
23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23,  
6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6),  
(213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7),  
(592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3),  
(906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4),
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(115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8),
(368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3),
(481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47,
26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26,
4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7),
(188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5),
(490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7,
28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28,
3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4),
(537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8),
(923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406,
29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29,
5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5),
(909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435,
30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30,
5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5),
(343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8),
(738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248,
32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32,
7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5),
(48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361,
33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34,
8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7),
(256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5),
(717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8),
(947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6),
(581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4),
(196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5),
(868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7),
(551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4),
(846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63,
38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38,
5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4),
(267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5),
(572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7),
(914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8),
(555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8),
(357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4),
(736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74,
42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42,
5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7),
(981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337,
43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43,
8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3),
(183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4),
(477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4),
(301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5),
(523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8),
(676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411,
46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46,
7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3),
(157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8),
(695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170,
48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48,
5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4),
(360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8),
(797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136,



Queue Management

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Queue Management

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(847, 99, 3)
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Queue #1: (942, 13, 5) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19,
6) (147, 21, 5)
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Queue #2: (84, 14, 4) (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19,
6) (703, 21, 3)
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Queue #3: (502, 13, 1) (760, 14, 6) (246, 17, 7) (927, 18, 7) (888, 20,
3) (709, 21, 8)
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Queue #4: (159, 14, 3) (128, 15, 3) (735, 16, 8) (963, 18, 4) (961, 19, 8)
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Queue #5: (144, 14, 4) (969, 15, 4) (377, 17, 4) (315, 18, 3) (135, 19,
4) (442, 20, 7)
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Queue #6: (162, 14, 6) (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20,
3) (810, 21, 7)
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Queue #7: (398, 14, 6) (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19,
8) (962, 21, 3)
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Queue Management

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Queue #8: (609, 14, 4) (1, 16, 5) (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4)
Queue #9: (680, 13, 3) (140, 15, 5) (382, 17, 8) (381, 19, 4) (627, 20, 7)
Queue #10: (31, 12, 2) (122, 15, 3) (378, 16, 8) (434, 18, 7) (882, 20, 8)
Queue #11: (749, 13, 4) (60, 16, 6) (773, 17, 7) (776, 19, 7) (895, 21, 3)
Queue #12: (23, 12, 1) (821, 14, 4) (402, 16, 7) (344, 18, 7) (506, 20, 8)
Queue #13: (186, 13, 3) (327, 15, 7) (783, 17, 5) (138, 19, 6) (968, 20, 5)
Queue #14: (85, 14, 4) (203, 16, 7) (872, 17, 7) (234, 20, 8)
Queue #15: (998, 12, 3) (583, 15, 3) (127, 17, 5) (886, 17, 5) (539, 19, 7) (614, 21, 3)
Queue #16: (374, 13, 4) (268, 16, 7) (131, 18, 7) (237, 20, 5) (638, 21, 6)
Queue #17: (701, 14, 7) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21, 8)
Queue #18: (396, 13, 1) (81, 15, 7) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21, 5)
Queue #19: (141, 14, 3) (802, 15, 6) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21, 6)
Queue #20: (887, 13, 5) (728, 16, 6) (253, 18, 6) (871, 19, 8) (1000, 21, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 22
Clients that haven't arrived yet: (30, 23, 8), (39, 23, 8), (53, 23, 4), (59, 23, 4), (180, 23, 6), (224, 23, 6), (297, 23, 4), (298, 23, 8), (585, 23, 6), (668, 23, 6), (836, 23, 5), (5, 24, 4), (19, 24, 6), (193, 24, 6), (213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7), (592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3), (906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4), (115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5),
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Queue Management

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Queue Management

(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7),



Queue Management

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(657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6),
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(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (942, 13, 4) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19,
6) (147, 21, 5) (325, 22, 6)
Queue #2: (84, 14, 3) (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19,
6) (703, 21, 3) (460, 22, 3)
Queue #3: (760, 14, 6) (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21, 8)
Queue #4: (159, 14, 2) (128, 15, 3) (735, 16, 8) (963, 18, 4) (961, 19,
8) (11, 22, 3) (850, 22, 4)
Queue #5: (144, 14, 3) (969, 15, 4) (377, 17, 4) (315, 18, 3) (135, 19,
4) (442, 20, 7) (34, 22, 3)
Queue #6: (162, 14, 5) (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20,
3) (810, 21, 7)
Queue #7: (398, 14, 5) (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19,
8) (962, 21, 3) (630, 22, 3)
Queue #8: (609, 14, 3) (1, 16, 5) (575, 17, 3) (340, 18, 6) (164, 20,
4) (461, 21, 4) (73, 22, 6)
Queue #9: (680, 13, 2) (140, 15, 5) (382, 17, 8) (381, 19, 4) (627, 20,
7) (501, 22, 7)
Queue #10: (31, 12, 1) (122, 15, 3) (378, 16, 8) (434, 18, 7) (882, 20,
8) (724, 22, 5)
Queue #11: (749, 13, 3) (60, 16, 6) (773, 17, 7) (776, 19, 7) (895, 21,
3) (521, 22, 6)
Queue #12: (821, 14, 4) (402, 16, 7) (344, 18, 7) (506, 20, 8) (579, 22, 5)
Queue #13: (186, 13, 2) (327, 15, 7) (783, 17, 5) (138, 19, 6) (968, 20,
5) (151, 22, 4)
Queue #14: (85, 14, 3) (203, 16, 7) (872, 17, 7) (234, 20, 8) (236, 22, 6)
Queue #15: (998, 12, 2) (583, 15, 3) (127, 17, 5) (886, 17, 5) (539, 19,
7) (614, 21, 3) (255, 22, 7)
Queue #16: (374, 13, 3) (268, 16, 7) (131, 18, 7) (237, 20, 5) (638, 21, 6)
Queue #17: (701, 14, 6) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21, 8)
Queue #18: (81, 15, 7) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21,
5) (293, 22, 5)
Queue #19: (141, 14, 2) (802, 15, 6) (615, 17, 3) (389, 18, 3) (216, 19,
4) (603, 20, 6) (973, 21, 6)
Queue #20: (887, 13, 4) (728, 16, 6) (253, 18, 6) (871, 19, 8) (1000, 21, 6)
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Queue Management

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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 23
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Clients that haven't arrived yet: (5, 24, 4), (19, 24, 6), (193, 24, 6),
(213, 24, 5), (310, 24, 6), (359, 24, 6), (395, 24, 3), (553, 24, 7),
(592, 24, 7), (600, 24, 3), (656, 24, 7), (791, 24, 6), (875, 24, 3),
(906, 24, 4), (915, 24, 4), (953, 24, 4), (975, 24, 4), (993, 24, 4),
(115, 25, 3), (190, 25, 4), (228, 25, 3), (260, 25, 3), (304, 25, 8),
(368, 25, 4), (390, 25, 4), (415, 25, 8), (448, 25, 6), (463, 25, 3),
(481, 25, 7), (655, 25, 5), (684, 25, 7), (740, 25, 4), (937, 25, 3), (47,
26, 4), (165, 26, 4), (348, 26, 7), (427, 26, 3), (428, 26, 3), (440, 26,
4), (488, 26, 8), (641, 26, 6), (708, 26, 8), (788, 26, 5), (911, 26, 7),
(188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5),
(490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7,
28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28,
3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4),
(537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8),
(923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406,
29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29,
5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5),
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33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34,
8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7),
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(947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6),
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(196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5),
(868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7),
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(846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63,
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Queue Management

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73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73,



Queue Management

3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (942, 13, 3) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6)



Queue Management

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Queue #2: (84, 14, 2) (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19,
6) (703, 21, 3) (460, 22, 3) (53, 23, 4)
Queue #3: (760, 14, 5) (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21,
8) (836, 23, 5)
Queue #4: (159, 14, 1) (128, 15, 3) (735, 16, 8) (963, 18, 4) (961, 19,
8) (11, 22, 3) (850, 22, 4)
Queue #5: (144, 14, 2) (969, 15, 4) (377, 17, 4) (315, 18, 3) (135, 19,
4) (442, 20, 7) (34, 22, 3) (30, 23, 8)
Queue #6: (162, 14, 4) (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20,
3) (810, 21, 7) (224, 23, 6)
Queue #7: (398, 14, 4) (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19,
8) (962, 21, 3) (630, 22, 3) (297, 23, 4)
Queue #8: (609, 14, 2) (1, 16, 5) (575, 17, 3) (340, 18, 6) (164, 20,
4) (461, 21, 4) (73, 22, 6)
Queue #9: (680, 13, 1) (140, 15, 5) (382, 17, 8) (381, 19, 4) (627, 20,
7) (501, 22, 7)
Queue #10: (122, 15, 3) (378, 16, 8) (434, 18, 7) (882, 20, 8) (724, 22, 5)
Queue #11: (749, 13, 2) (60, 16, 6) (773, 17, 7) (776, 19, 7) (895, 21,
3) (521, 22, 6)
Queue #12: (821, 14, 3) (402, 16, 7) (344, 18, 7) (506, 20, 8) (579, 22, 5)
Queue #13: (186, 13, 1) (327, 15, 7) (783, 17, 5) (138, 19, 6) (968, 20,
5) (151, 22, 4) (59, 23, 4)
Queue #14: (85, 14, 2) (203, 16, 7) (872, 17, 7) (234, 20, 8) (236, 22, 6)
Queue #15: (998, 12, 1) (583, 15, 3) (127, 17, 5) (886, 17, 5) (539, 19,
7) (614, 21, 3) (255, 22, 7)
Queue #16: (374, 13, 2) (268, 16, 7) (131, 18, 7) (237, 20, 5) (638, 21,
6) (39, 23, 8)
Queue #17: (701, 14, 5) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21,
8) (180, 23, 6)
Queue #18: (81, 15, 6) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21,
5) (293, 22, 5) (298, 23, 8)
Queue #19: (141, 14, 1) (802, 15, 6) (615, 17, 3) (389, 18, 3) (216, 19,
4) (603, 20, 6) (973, 21, 6) (585, 23, 6)
Queue #20: (887, 13, 3) (728, 16, 6) (253, 18, 6) (871, 19, 8) (1000, 21,
6) (668, 23, 6)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 24

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Clients that haven't arrived yet: (115, 25, 3), (190, 25, 4), (228, 25,
3), (260, 25, 3), (304, 25, 8), (368, 25, 4), (390, 25, 4), (415, 25, 8),
(448, 25, 6), (463, 25, 3), (481, 25, 7), (655, 25, 5), (684, 25, 7),
(740, 25, 4), (937, 25, 3), (47, 26, 4), (165, 26, 4), (348, 26, 7), (427,
26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6), (708, 26,
8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3), (392, 27, 5),
(416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3),
(817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212,
28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28,
6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8),
(750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206,
29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29,
```



Queue Management

5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6),
(841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55,
30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30,
4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3),
(250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7),
(608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3),
(941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388,
32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32,
6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5),
(281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4),
(559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82,
34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34,
3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5),
(839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3),
(538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3),
(980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7),
(697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6),
(152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4),
(653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40,
38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38,
4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5),
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7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8),
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4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3),
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4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7),
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Queue Management

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Queue Management

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(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
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7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
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87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
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6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
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(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (942, 13, 2) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19,
6) (147, 21, 5) (325, 22, 6) (213, 24, 5)
```

```
Queue #2: (84, 14, 1) (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19,
6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7)
```

```
Queue #3: (760, 14, 4) (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21,
8) (836, 23, 5) (953, 24, 4)
```

```
Queue #4: (128, 15, 3) (735, 16, 8) (963, 18, 4) (961, 19, 8) (11, 22,
3) (850, 22, 4) (310, 24, 6)
```

```
Queue #5: (144, 14, 1) (969, 15, 4) (377, 17, 4) (315, 18, 3) (135, 19,
4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4)
```

```
Queue #6: (162, 14, 3) (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20,
3) (810, 21, 7) (224, 23, 6) (993, 24, 4)
```

```
Queue #7: (398, 14, 3) (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19,
8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6)
```

```
Queue #8: (609, 14, 1) (1, 16, 5) (575, 17, 3) (340, 18, 6) (164, 20,
4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3)
```

```
Queue #9: (140, 15, 5) (382, 17, 8) (381, 19, 4) (627, 20, 7) (501, 22,
7) (600, 24, 3)
```

```
Queue #10: (122, 15, 2) (378, 16, 8) (434, 18, 7) (882, 20, 8) (724, 22,
5) (359, 24, 6)
```

```
Queue #11: (749, 13, 1) (60, 16, 6) (773, 17, 7) (776, 19, 7) (895, 21,
3) (521, 22, 6) (395, 24, 3) (906, 24, 4)
```

```
Queue #12: (821, 14, 2) (402, 16, 7) (344, 18, 7) (506, 20, 8) (579, 22,
5) (19, 24, 6)
```

```
Queue #13: (327, 15, 7) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22,
```



Queue Management

```
4) (59, 23, 4) (656, 24, 7)
  Queue #14: (85, 14, 1) (203, 16, 7) (872, 17, 7) (234, 20, 8) (236, 22,
6) (193, 24, 6)
  Queue #15: (583, 15, 3) (127, 17, 5) (886, 17, 5) (539, 19, 7) (614, 21,
3) (255, 22, 7) (553, 24, 7)
  Queue #16: (374, 13, 1) (268, 16, 7) (131, 18, 7) (237, 20, 5) (638, 21,
6) (39, 23, 8)
  Queue #17: (701, 14, 4) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21,
8) (180, 23, 6) (915, 24, 4)
  Queue #18: (81, 15, 5) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21,
5) (293, 22, 5) (298, 23, 8)
  Queue #19: (802, 15, 6) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20,
6) (973, 21, 6) (585, 23, 6)
  Queue #20: (887, 13, 2) (728, 16, 6) (253, 18, 6) (871, 19, 8) (1000, 21,
6) (668, 23, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 25
```

```
Clients that haven't arrived yet: (47, 26, 4), (165, 26, 4), (348, 26,
7), (427, 26, 3), (428, 26, 3), (440, 26, 4), (488, 26, 8), (641, 26, 6),
(708, 26, 8), (788, 26, 5), (911, 26, 7), (188, 27, 5), (217, 27, 3),
(392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8),
(669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148,
28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28,
7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3),
(747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121,
29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29,
7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5),
(807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6),
(948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482,
30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30,
8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6),
(577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4),
(774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329,
32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32,
3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5),
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7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3),
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(134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5),
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38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8),
(439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4),
(853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350,
39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39,
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Queue Management

5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4),



Queue Management

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(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),



Queue Management

```
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (942, 13, 1) (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19,
6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8)
Queue #2: (931, 15, 3) (220, 17, 4) (828, 17, 7) (916, 19, 6) (703, 21,
3) (460, 22, 3) (53, 23, 4) (592, 24, 7)
Queue #3: (760, 14, 3) (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21,
8) (836, 23, 5) (953, 24, 4)
Queue #4: (128, 15, 2) (735, 16, 8) (963, 18, 4) (961, 19, 8) (11, 22,
3) (850, 22, 4) (310, 24, 6) (415, 25, 8)
Queue #5: (969, 15, 4) (377, 17, 4) (315, 18, 3) (135, 19, 4) (442, 20,
7) (34, 22, 3) (30, 23, 8) (975, 24, 4)
Queue #6: (162, 14, 2) (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20,
3) (810, 21, 7) (224, 23, 6) (993, 24, 4)
Queue #7: (398, 14, 2) (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19,
8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6)
Queue #8: (1, 16, 5) (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73,
22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6)
Queue #9: (140, 15, 4) (382, 17, 8) (381, 19, 4) (627, 20, 7) (501, 22,
7) (600, 24, 3) (115, 25, 3) (655, 25, 5)
Queue #10: (122, 15, 1) (378, 16, 8) (434, 18, 7) (882, 20, 8) (724, 22,
5) (359, 24, 6) (463, 25, 3)
Queue #11: (60, 16, 6) (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22,
6) (395, 24, 3) (906, 24, 4) (684, 25, 7)
Queue #12: (821, 14, 1) (402, 16, 7) (344, 18, 7) (506, 20, 8) (579, 22,
5) (19, 24, 6) (368, 25, 4)
Queue #13: (327, 15, 6) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22,
4) (59, 23, 4) (656, 24, 7)
Queue #14: (203, 16, 7) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24,
6) (390, 25, 4)
Queue #15: (583, 15, 2) (127, 17, 5) (886, 17, 5) (539, 19, 7) (614, 21,
3) (255, 22, 7) (553, 24, 7) (740, 25, 4)
Queue #16: (268, 16, 7) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23,
8) (190, 25, 4)
Queue #17: (701, 14, 3) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21,
8) (180, 23, 6) (915, 24, 4) (937, 25, 3)
Queue #18: (81, 15, 4) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21,
5) (293, 22, 5) (298, 23, 8) (481, 25, 7)
Queue #19: (802, 15, 5) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20,
6) (973, 21, 6) (585, 23, 6) (228, 25, 3)
Queue #20: (887, 13, 1) (728, 16, 6) (253, 18, 6) (871, 19, 8) (1000, 21,
6) (668, 23, 6) (260, 25, 3)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```



Queue Management

Time: 26

Clients that haven't arrived yet: (188, 27, 5), (217, 27, 3), (392, 27, 5), (416, 27, 5), (479, 27, 5), (490, 27, 7), (596, 27, 8), (669, 27, 3), (817, 27, 5), (884, 27, 6), (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3),



Queue Management

(897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,



Queue Management

80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (274, 16, 4) (469, 17, 3) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8)

Queue #2: (931, 15, 2) (220, 17, 4) (828, 17, 7) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7)

Queue #3: (760, 14, 2) (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3)

Queue #4: (128, 15, 1) (735, 16, 8) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8)

Queue #5: (969, 15, 3) (377, 17, 4) (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3)

Queue #6: (162, 14, 1) (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4)

Queue #7: (398, 14, 1) (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8)

Queue #8: (1, 16, 4) (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6)



Queue Management

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Queue #9: (140, 15, 3) (382, 17, 8) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5)
Queue #10: (378, 16, 8) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5)
Queue #11: (60, 16, 5) (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25, 7)
Queue #12: (402, 16, 7) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26, 7)
Queue #13: (327, 15, 5) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26, 6)
Queue #14: (203, 16, 6) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25, 4)
Queue #15: (583, 15, 1) (127, 17, 5) (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25, 4)
Queue #16: (268, 16, 6) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26, 8)
Queue #17: (701, 14, 2) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25, 3)
Queue #18: (81, 15, 3) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25, 7)
Queue #19: (802, 15, 4) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26, 4)
Queue #20: (728, 16, 6) (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26, 4)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 27
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Clients that haven't arrived yet: (7, 28, 5), (69, 28, 6), (148, 28, 8), (212, 28, 7), (231, 28, 6), (244, 28, 3), (278, 28, 7), (404, 28, 7), (433, 28, 6), (454, 28, 3), (497, 28, 4), (537, 28, 6), (694, 28, 3), (747, 28, 8), (750, 28, 7), (852, 28, 8), (923, 28, 5), (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5),
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Queue Management

(589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76,



Queue Management

67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),



Queue Management

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(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (274, 16, 3) (469, 17, 3) (273, 18, 4) (269, 19, 6) (147, 21,
5) (325, 22, 6) (213, 24, 5) (304, 25, 8)
Queue #2: (931, 15, 1) (220, 17, 4) (828, 17, 7) (916, 19, 6) (703, 21,
3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7)
Queue #3: (760, 14, 1) (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21,
8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5)
Queue #4: (735, 16, 8) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22,
4) (310, 24, 6) (415, 25, 8)
Queue #5: (969, 15, 2) (377, 17, 4) (315, 18, 3) (135, 19, 4) (442, 20,
7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5)
Queue #6: (811, 16, 4) (670, 17, 7) (692, 19, 4) (920, 20, 3) (810, 21,
7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3)
Queue #7: (837, 16, 3) (516, 17, 5) (972, 18, 3) (707, 19, 8) (962, 21,
3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8)
Queue #8: (1, 16, 3) (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73,
22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5)
Queue #9: (140, 15, 2) (382, 17, 8) (381, 19, 4) (627, 20, 7) (501, 22,
7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6)
Queue #10: (378, 16, 7) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24,
6) (463, 25, 3) (788, 26, 5)
Queue #11: (60, 16, 4) (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22,
6) (395, 24, 3) (906, 24, 4) (684, 25, 7)
Queue #12: (402, 16, 6) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24,
6) (368, 25, 4) (911, 26, 7)
Queue #13: (327, 15, 4) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22,
4) (59, 23, 4) (656, 24, 7) (641, 26, 6)
Queue #14: (203, 16, 5) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24,
6) (390, 25, 4) (188, 27, 5)
Queue #15: (127, 17, 5) (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22,
7) (553, 24, 7) (740, 25, 4) (479, 27, 5)
Queue #16: (268, 16, 5) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23,
8) (190, 25, 4) (708, 26, 8)
Queue #17: (701, 14, 1) (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21,
8) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27, 3)
Queue #18: (81, 15, 2) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21,
5) (293, 22, 5) (298, 23, 8) (481, 25, 7)
Queue #19: (802, 15, 3) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20,
6) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7)
Queue #20: (728, 16, 5) (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23,
6) (260, 25, 3) (165, 26, 4) (596, 27, 8)
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Queue Management

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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 28
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Clients that haven't arrived yet: (27, 29, 7), (121, 29, 4), (206, 29, 3), (317, 29, 3), (406, 29, 3), (520, 29, 4), (524, 29, 7), (535, 29, 5), (561, 29, 5), (563, 29, 5), (618, 29, 6), (626, 29, 5), (807, 29, 6), (841, 29, 7), (881, 29, 5), (909, 29, 6), (938, 29, 6), (948, 29, 5), (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3),
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Queue Management

(897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,



Queue Management

80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (274, 16, 2) (469, 17, 3) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5)

Queue #2: (220, 17, 4) (828, 17, 7) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6)

Queue #3: (246, 17, 7) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4)

Queue #4: (735, 16, 7) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7)

Queue #5: (969, 15, 1) (377, 17, 4) (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6)

Queue #6: (811, 16, 3) (670, 17, 7) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3)

Queue #7: (837, 16, 2) (516, 17, 5) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3)

Queue #8: (1, 16, 2) (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5)



Queue Management

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Queue #9: (140, 15, 1) (382, 17, 8) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6)
Queue #10: (378, 16, 6) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28, 6)
Queue #11: (60, 16, 3) (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28, 3)
Queue #12: (402, 16, 5) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28, 8)
Queue #13: (327, 15, 3) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28, 7)
Queue #14: (203, 16, 4) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28, 7)
Queue #15: (127, 17, 4) (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7)
Queue #16: (268, 16, 4) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28, 8)
Queue #17: (373, 17, 6) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6)
Queue #18: (81, 15, 1) (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28, 8)
Queue #19: (802, 15, 2) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7)
Queue #20: (728, 16, 4) (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27, 8)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 29

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Clients that haven't arrived yet: (55, 30, 7), (179, 30, 7), (435, 30, 8), (458, 30, 7), (482, 30, 5), (494, 30, 4), (642, 30, 5), (904, 30, 5), (952, 30, 8), (987, 30, 8), (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8),
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Queue Management

(555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8),
(357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4),
(736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74,
42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42,
5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7),
(981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337,
43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43,
8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3),
(183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4),
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Queue Management

(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
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Queue Management

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Queue #1: (274, 16, 1) (469, 17, 3) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4)
Queue #2: (220, 17, 3) (828, 17, 7) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6)
Queue #3: (246, 17, 6) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5)
Queue #4: (735, 16, 6) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5)
Queue #5: (377, 17, 4) (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6)
Queue #6: (811, 16, 2) (670, 17, 7) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6)
Queue #7: (837, 16, 1) (516, 17, 5) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4)
Queue #8: (1, 16, 1) (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5)
Queue #9: (382, 17, 8) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7)
Queue #10: (378, 16, 5) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5)
Queue #11: (60, 16, 2) (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7)
Queue #12: (402, 16, 4) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28, 8)
Queue #13: (327, 15, 2) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5)
Queue #14: (203, 16, 3) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6)
Queue #15: (127, 17, 3) (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7)
Queue #16: (268, 16, 3) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28, 8)
Queue #17: (373, 17, 5) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7)
Queue #18: (452, 17, 3) (181, 18, 7) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29, 6)
Queue #19: (802, 15, 1) (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5)
Queue #20: (728, 16, 3) (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
```




Queue Management

Service time interval: [3, 9]

Time: 30

Clients that haven't arrived yet: (226, 31, 3), (250, 31, 8), (334, 31, 5), (343, 31, 3), (438, 31, 6), (577, 31, 7), (608, 31, 5), (716, 31, 8), (738, 31, 5), (771, 31, 4), (774, 31, 3), (941, 31, 5), (18, 32, 3), (248, 32, 5), (328, 32, 4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7), (685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222, 33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3), (538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3),



Queue Management

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(770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6),
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(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
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(634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),
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6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8),
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(192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6),
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(988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4),
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(945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225,
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(171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4),
(372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4),



Queue Management

(826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (469, 17, 3) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7)
Queue #2: (220, 17, 2) (828, 17, 7) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6)
Queue #3: (246, 17, 5) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8)
Queue #4: (735, 16, 5) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5)
Queue #5: (377, 17, 3) (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7)
Queue #6: (811, 16, 1) (670, 17, 7) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6)
Queue #7: (516, 17, 5) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7)
Queue #8: (575, 17, 3) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8)
Queue #9: (382, 17, 7) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7)
Queue #10: (378, 16, 4) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5)
Queue #11: (60, 16, 1) (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4)
Queue #12: (402, 16, 3) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5)



Queue Management

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Queue #13: (327, 15, 1) (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22,
4) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5)
Queue #14: (203, 16, 2) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24,
6) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6)
Queue #15: (127, 17, 2) (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22,
7) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5)
Queue #16: (268, 16, 2) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23,
8) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30, 5)
Queue #17: (373, 17, 4) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23,
6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7)
Queue #18: (452, 17, 2) (181, 18, 7) (429, 20, 3) (107, 21, 5) (293, 22,
5) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29, 6)
Queue #19: (615, 17, 3) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21,
6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5)
Queue #20: (728, 16, 2) (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23,
6) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 31
Clients that haven't arrived yet: (18, 32, 3), (248, 32, 5), (328, 32,
4), (329, 32, 7), (388, 32, 8), (476, 32, 4), (489, 32, 7), (545, 32, 7),
(685, 32, 3), (925, 32, 6), (929, 32, 3), (990, 32, 5), (48, 33, 6), (222,
33, 5), (223, 33, 5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33,
7), (507, 33, 4), (559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5),
(61, 34, 5), (82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261,
34, 7), (423, 34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34,
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(910, 35, 3), (980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8),
(629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6),
(134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5),
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(204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3),
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(950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3),
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(602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78,
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Queue Management

46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75,



Queue Management

3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (469, 17, 2) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7)

Queue #2: (220, 17, 1) (828, 17, 7) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7)

Queue #3: (246, 17, 4) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23,



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5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8)
Queue #4: (735, 16, 4) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22,
4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8)
Queue #5: (377, 17, 2) (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22,
3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7)
Queue #6: (670, 17, 7) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23,
6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5)
Queue #7: (516, 17, 4) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22,
3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7)
Queue #8: (575, 17, 2) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5,
24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8)
Queue #9: (382, 17, 6) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24,
3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4)
Queue #10: (378, 16, 3) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24,
6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3)
Queue #11: (773, 17, 7) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24,
3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5)
Queue #12: (402, 16, 2) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24,
6) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5)
Queue #13: (783, 17, 5) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23,
4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5)
Queue #14: (203, 16, 1) (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24,
6) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8)
Queue #15: (127, 17, 1) (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22,
7) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5)
Queue #16: (268, 16, 1) (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23,
8) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30, 5)
Queue #17: (373, 17, 3) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23,
6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3)
Queue #18: (452, 17, 1) (181, 18, 7) (429, 20, 3) (107, 21, 5) (293, 22,
5) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5)
Queue #19: (615, 17, 2) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21,
6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29,
5) (438, 31, 6)
Queue #20: (728, 16, 1) (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23,
6) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 32

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Clients that haven't arrived yet: (48, 33, 6), (222, 33, 5), (223, 33,
5), (281, 33, 4), (295, 33, 7), (361, 33, 5), (467, 33, 7), (507, 33, 4),
(559, 33, 8), (714, 33, 6), (14, 34, 8), (57, 34, 5), (61, 34, 5), (82,
34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423, 34,
3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34, 5),
(839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3),
(538, 35, 7), (547, 35, 6), (581, 35, 3), (704, 35, 6), (910, 35, 3),
(980, 35, 4), (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7),
(697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6),
(152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4),
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Queue Management

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Queue Management

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Queue Management

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(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (469, 17, 1) (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22,
6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5)
Queue #2: (828, 17, 7) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23,
4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7)
Queue #3: (246, 17, 3) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23,
5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8)
Queue #4: (735, 16, 3) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22,
4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8)
Queue #5: (377, 17, 1) (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22,
3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30,
7) (328, 32, 4)
Queue #6: (670, 17, 6) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23,
6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5) (990, 32, 5)
Queue #7: (516, 17, 3) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22,
3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30,
7) (489, 32, 7)
Queue #8: (575, 17, 1) (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5,
24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545,
32, 7)
Queue #9: (382, 17, 5) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24,
3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4)
Queue #10: (378, 16, 2) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24,
6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31,
3) (685, 32, 3)
Queue #11: (773, 17, 6) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24,
3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5)
Queue #12: (402, 16, 1) (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24,
6) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7)
Queue #13: (783, 17, 4) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23,
4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6)
Queue #14: (872, 17, 7) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25,
4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8)
Queue #15: (886, 17, 5) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24,
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Queue #16: (131, 18, 7) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25,
4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8)
Queue #17: (373, 17, 2) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23,
6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31,
3) (476, 32, 4)
Queue #18: (181, 18, 7) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23,
8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5)
Queue #19: (615, 17, 1) (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21,
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Queue Management

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6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29,
5) (438, 31, 6)
Queue #20: (253, 18, 6) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25,
3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 33
Clients that haven't arrived yet: (14, 34, 8), (57, 34, 5), (61, 34, 5),
(82, 34, 4), (99, 34, 3), (125, 34, 7), (256, 34, 7), (261, 34, 7), (423,
34, 3), (534, 34, 6), (607, 34, 5), (717, 34, 8), (723, 34, 3), (758, 34,
5), (839, 34, 5), (859, 34, 8), (947, 34, 7), (964, 34, 8), (385, 35, 3),
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Queue Management

54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,



Queue Management

82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (273, 18, 4) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8)
Queue #2: (828, 17, 6) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6)
Queue #3: (246, 17, 2) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7)
Queue #4: (735, 16, 2) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8)
Queue #5: (315, 18, 3) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5)
Queue #6: (670, 17, 5) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5)
Queue #7: (516, 17, 2) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7)
Queue #8: (340, 18, 6) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7)
Queue #9: (382, 17, 4) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24,



Queue Management

```
3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31,
4) (48, 33, 6)
Queue #10: (378, 16, 1) (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24,
6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31,
3) (685, 32, 3)
Queue #11: (773, 17, 5) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24,
3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7)
Queue #12: (344, 18, 7) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25,
4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7)
Queue #13: (783, 17, 3) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23,
4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6)
Queue #14: (872, 17, 6) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25,
4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8)
Queue #15: (886, 17, 4) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24,
7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3)
Queue #16: (131, 18, 6) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25,
4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8)
Queue #17: (373, 17, 1) (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23,
6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31,
3) (476, 32, 4) (507, 33, 4)
Queue #18: (181, 18, 6) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23,
8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5)
Queue #19: (389, 18, 3) (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23,
6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31,
6) (223, 33, 5)
Queue #20: (253, 18, 5) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25,
3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 34

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Clients that haven't arrived yet: (385, 35, 3), (538, 35, 7), (547, 35,
6), (581, 35, 3), (704, 35, 6), (910, 35, 3), (980, 35, 4), (161, 36, 4),
(196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5),
(868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7),
(551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4),
(846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63,
38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38,
5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4),
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(914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8),
(555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8),
(357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4),
(736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74,
42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42,
5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7),
(981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337,
43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43,
8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3),
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Queue Management

(183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4),
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(523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8),
(676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411,
46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46,
7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3),
(157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8),
(695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170,
48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48,
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(360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8),
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(197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8),
(533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8),



Queue Management

(772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)



Queue Management

```
Queue #1: (273, 18, 3) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8)
Queue #2: (828, 17, 5) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6)
Queue #3: (246, 17, 1) (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7)
Queue #4: (735, 16, 1) (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8)
Queue #5: (315, 18, 2) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5)
Queue #6: (670, 17, 4) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7)
Queue #7: (516, 17, 1) (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7)
Queue #8: (340, 18, 5) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3)
Queue #9: (382, 17, 3) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8)
Queue #10: (434, 18, 7) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7)
Queue #11: (773, 17, 4) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7)
Queue #12: (344, 18, 6) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8)
Queue #13: (783, 17, 2) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6)
Queue #14: (872, 17, 5) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4)
Queue #15: (886, 17, 3) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5)
Queue #16: (131, 18, 5) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5)
Queue #17: (753, 18, 3) (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8)
Queue #18: (181, 18, 5) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3)
Queue #19: (389, 18, 2) (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5)
Queue #20: (253, 18, 4) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7)
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Maximum simulation time: 200
Number of clients: 1000



Queue Management

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Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 35
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Clients that haven't arrived yet: (161, 36, 4), (196, 36, 5), (323, 36, 8), (629, 36, 7), (697, 36, 7), (809, 36, 5), (868, 36, 4), (116, 37, 6), (134, 37, 6), (152, 37, 4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8), (840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46, 38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8),
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Queue Management

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4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),



Queue Management

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(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
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(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
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97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
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(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (273, 18, 2) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24,
5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8)
Queue #2: (828, 17, 4) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23,
4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6)
Queue #3: (927, 18, 7) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3)
Queue #4: (963, 18, 4) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24,
6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8)
Queue #5: (315, 18, 1) (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23,
8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32,
4) (361, 33, 5) (839, 34, 5)
Queue #6: (670, 17, 3) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23,
6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5) (990, 32, 5) (256, 34, 7)
Queue #7: (972, 18, 3) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23,
4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7)
Queue #8: (340, 18, 4) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875,
24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423,
34, 3) (704, 35, 6)
Queue #9: (382, 17, 2) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24,
3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31,
4) (48, 33, 6) (859, 34, 8)
Queue #10: (434, 18, 6) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25,
3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7)
Queue #11: (773, 17, 3) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24,
3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3)
Queue #12: (344, 18, 5) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25,
4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8)
Queue #13: (783, 17, 1) (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23,
4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32,
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Queue Management

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6) (534, 34, 6)
  Queue #14: (872, 17, 4) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25,
4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3)
  Queue #15: (886, 17, 2) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24,
7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7)
  Queue #16: (131, 18, 4) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25,
4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5)
  Queue #17: (753, 18, 2) (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24,
4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32,
4) (507, 33, 4) (717, 34, 8)
  Queue #18: (181, 18, 4) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23,
8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4)
  Queue #19: (389, 18, 1) (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23,
6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31,
6) (223, 33, 5) (758, 34, 5)
  Queue #20: (253, 18, 3) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25,
3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 36

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Clients that haven't arrived yet: (116, 37, 6), (134, 37, 6), (152, 37,
4), (302, 37, 7), (551, 37, 6), (571, 37, 5), (589, 37, 4), (653, 37, 8),
(840, 37, 4), (846, 37, 4), (877, 37, 8), (13, 38, 8), (40, 38, 8), (46,
38, 6), (63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38,
3), (650, 38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8),
(83, 39, 4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527,
39, 5), (572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39,
7), (914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8),
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(357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4),
(736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74,
42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42,
5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7),
(981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337,
43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43,
8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3),
(183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4),
(477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4),
(301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5),
(523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8),
(676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411,
46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46,
7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3),
(157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8),
(695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170,
48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48,
5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4),
(360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8),
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Queue Management

(797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78,



Queue Management

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(249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),
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(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)
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Queue #1: (273, 18, 1) (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24,
5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33,
8) (161, 36, 4)
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Queue #2: (828, 17, 3) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23,
4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6)
```

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Queue #3: (927, 18, 6) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5)
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Queue #4: (963, 18, 3) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24,
6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5)
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Queue #5: (135, 19, 4) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24,
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Queue Management

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4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4)
Queue #6: (670, 17, 2) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23,
6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5) (990, 32, 5) (256, 34, 7)
Queue #7: (972, 18, 2) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23,
4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7)
Queue #8: (340, 18, 3) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875,
24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423,
34, 3) (704, 35, 6)
Queue #9: (382, 17, 1) (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24,
3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31,
4) (48, 33, 6) (859, 34, 8)
Queue #10: (434, 18, 5) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25,
3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7)
Queue #11: (773, 17, 2) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24,
3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3)
Queue #12: (344, 18, 4) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25,
4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8)
Queue #13: (138, 19, 6) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24,
7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6)
Queue #14: (872, 17, 3) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25,
4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8)
Queue #15: (886, 17, 1) (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24,
7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7)
Queue #16: (131, 18, 3) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25,
4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7)
Queue #17: (753, 18, 1) (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24,
4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32,
4) (507, 33, 4) (717, 34, 8)
Queue #18: (181, 18, 3) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23,
8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4)
Queue #19: (216, 19, 4) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25,
3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7)
Queue #20: (253, 18, 2) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25,
3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 37
Clients that haven't arrived yet: (13, 38, 8), (40, 38, 8), (46, 38, 6),
(63, 38, 7), (169, 38, 8), (356, 38, 8), (439, 38, 4), (522, 38, 3), (650,
38, 5), (674, 38, 7), (746, 38, 4), (853, 38, 5), (974, 38, 8), (83, 39,
4), (267, 39, 5), (286, 39, 4), (350, 39, 8), (358, 39, 3), (527, 39, 5),
```




Queue Management

(572, 39, 3), (679, 39, 6), (690, 39, 5), (891, 39, 7), (913, 39, 7),
(914, 39, 7), (207, 40, 3), (303, 40, 7), (486, 40, 8), (525, 40, 8),
(555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5), (271, 41, 8),
(357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4),
(736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74,
42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42,
5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7),
(981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337,
43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43,
8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3),
(183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4),
(477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4),
(301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5),
(523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8),
(676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411,
46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46,
7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3),
(157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8),
(695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170,
48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48,
5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4),
(360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8),
(797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136,
50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50,
8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6),
(536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24,
52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52,
6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6),
(182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8),
(528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5),
(965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331,
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6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3),
(211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8),
(111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3),
(741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3),
(834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4,
59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59,
4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5),
(318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65,
61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61,
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(252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8),
(770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6),
(113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5),
(567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7),
(275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8),
(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205,
65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65,
4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5),
(195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5),
(785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8),
(934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279,
67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67,
8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3),
(104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8),
(339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20,



Queue Management

69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),



Queue Management

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(617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5),
(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (269, 19, 6) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25,
8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36,
4) (653, 37, 8)
Queue #2: (828, 17, 2) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23,
4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6) (840, 37, 4)
Queue #3: (927, 18, 5) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5)
Queue #4: (963, 18, 2) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24,
6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5)
Queue #5: (135, 19, 3) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24,
4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4)
Queue #6: (670, 17, 1) (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23,
6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7)
Queue #7: (972, 18, 1) (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23,
4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7) (551, 37, 6)
Queue #8: (340, 18, 2) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875,
24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423,
34, 3) (704, 35, 6) (846, 37, 4)
Queue #9: (381, 19, 4) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25,
3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8)
Queue #10: (434, 18, 4) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25,
3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7)
Queue #11: (773, 17, 1) (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24,
3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3) (116, 37, 6)
Queue #12: (344, 18, 3) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25,
4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8)
Queue #13: (138, 19, 5) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24,
7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6)
Queue #14: (872, 17, 2) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25,
4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8)
Queue #15: (539, 19, 7) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7)
Queue #16: (131, 18, 2) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25,
4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7)
Queue #17: (675, 19, 6) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25,
3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
```



Queue Management

```
4) (717, 34, 8) (589, 37, 4)
  Queue #18: (181, 18, 2) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23,
8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5)
  Queue #19: (216, 19, 3) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25,
3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7)
  Queue #20: (253, 18, 1) (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25,
3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 38
Clients that haven't arrived yet: (83, 39, 4), (267, 39, 5), (286, 39,
4), (350, 39, 8), (358, 39, 3), (527, 39, 5), (572, 39, 3), (679, 39, 6),
(690, 39, 5), (891, 39, 7), (913, 39, 7), (914, 39, 7), (207, 40, 3),
(303, 40, 7), (486, 40, 8), (525, 40, 8), (555, 40, 7), (898, 40, 5),
(240, 41, 5), (254, 41, 5), (271, 41, 8), (357, 41, 6), (420, 41, 5),
(465, 41, 4), (643, 41, 4), (648, 41, 4), (736, 41, 7), (779, 41, 5),
(801, 41, 8), (933, 41, 3), (17, 42, 7), (74, 42, 5), (97, 42, 7), (110,
42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8), (509, 42,
3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10, 43, 3),
(120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43, 6),
(499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7),
(986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238,
44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44,
5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7),
(355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3),
(560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7),
(985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732,
46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46,
3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7),
(258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32,
48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48,
6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8),
(991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473,
49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49,
3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5),
(484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3),
(478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6),
(620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242,
52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52,
3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3),
(332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7),
(667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50,
54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54,
4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5),
(803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541,
55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56,
6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8),
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Queue Management

(173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8),
(277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443,
59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60,
6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6),
(637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201,
61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62,
8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8),
(673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6),
(995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3),
(300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3),
(849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4),
(500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45,
65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65,
7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8),
(66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590,
66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66,
6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7),
(76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557,
67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68,
6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4),
(333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6),
(756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410,
69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69,
6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5),
(114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3),
(582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3),
(979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345,
71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71,
3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
(989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3),
(444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5),
(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,
73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73,
5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6),
(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730,
74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75,
3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8),
(718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436,
76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76,
8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3),
(142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7),
(472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38,
78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78,
8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6),
(177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8),
(446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8),
(805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,
80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80,
7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3),
(954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),
(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),
(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),



Queue Management

```
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86,
7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (269, 19, 5) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25,
8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36,
4) (653, 37, 8)
```

```
Queue #2: (828, 17, 1) (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23,
4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6) (840, 37, 4)
```

```
Queue #3: (927, 18, 4) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4)
```

```
Queue #4: (963, 18, 1) (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24,
6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6)
```

```
Queue #5: (135, 19, 2) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24,
4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4) (63, 38, 7)
```

```
Queue #6: (692, 19, 4) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24,
4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31,
5) (990, 32, 5) (256, 34, 7) (302, 37, 7)
```

```
Queue #7: (707, 19, 8) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6)
```

```
Queue #8: (340, 18, 1) (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875,
24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423,
34, 3) (704, 35, 6) (846, 37, 4)
```

```
Queue #9: (381, 19, 3) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25,
3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
```



Queue Management

```
6) (859, 34, 8) (877, 37, 8)
Queue #10: (434, 18, 3) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25,
3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8)
Queue #11: (776, 19, 7) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3)
Queue #12: (344, 18, 2) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25,
4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8)
Queue #13: (138, 19, 4) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24,
7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5)
Queue #14: (872, 17, 1) (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25,
4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8)
Queue #15: (539, 19, 6) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8)
Queue #16: (131, 18, 1) (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25,
4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7)
Queue #17: (675, 19, 5) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25,
3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4)
Queue #18: (181, 18, 1) (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23,
8) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5)
Queue #19: (216, 19, 2) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25,
3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8)
Queue #20: (871, 19, 8) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 39
Clients that haven't arrived yet: (207, 40, 3), (303, 40, 7), (486, 40,
8), (525, 40, 8), (555, 40, 7), (898, 40, 5), (240, 41, 5), (254, 41, 5),
(271, 41, 8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4),
(648, 41, 4), (736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17,
42, 7), (74, 42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42,
4), (330, 42, 5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3),
(768, 42, 7), (981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316,
43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43,
4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7),
(163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5),
(453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3),
(247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8),
(514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7),
```



Queue Management

(661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730,



Queue Management

74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (269, 19, 4) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7)

Queue #2: (916, 19, 6) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24,



Queue Management

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7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7)
Queue #3: (927, 18, 3) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5)
Queue #4: (961, 19, 8) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25,
8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6)
Queue #5: (135, 19, 1) (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24,
4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7)
Queue #6: (692, 19, 3) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24,
4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31,
5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3)
Queue #7: (707, 19, 7) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5)
Queue #8: (164, 20, 4) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448,
25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704,
35, 6) (846, 37, 4) (286, 39, 4)
Queue #9: (381, 19, 2) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25,
3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8)
Queue #10: (434, 18, 2) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25,
3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8)
Queue #11: (776, 19, 6) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3)
Queue #12: (344, 18, 1) (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25,
4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8)
Queue #13: (138, 19, 3) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24,
7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5)
Queue #14: (234, 20, 8) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8)
Queue #15: (539, 19, 5) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8)
Queue #16: (237, 20, 5) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26,
8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7)
Queue #17: (675, 19, 4) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25,
3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5)
Queue #18: (429, 20, 3) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25,
7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5)
Queue #19: (216, 19, 1) (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25,
3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8)
Queue #20: (871, 19, 7) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8)
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Queue Management

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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 40
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Clients that haven't arrived yet: (240, 41, 5), (254, 41, 5), (271, 41,
8), (357, 41, 6), (420, 41, 5), (465, 41, 4), (643, 41, 4), (648, 41, 4),
(736, 41, 7), (779, 41, 5), (801, 41, 8), (933, 41, 3), (17, 42, 7), (74,
42, 5), (97, 42, 7), (110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42,
5), (369, 42, 8), (509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7),
(981, 42, 6), (10, 43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337,
43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43,
8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3),
(183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4),
(477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4),
(301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5),
(523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8),
(676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411,
46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46,
7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3),
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5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4),
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6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6),
(182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8),
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(965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331,
54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54,
6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3),
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4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5),
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(567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7),
(275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8),
(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205,
65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65,
4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5),
(195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5),
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Queue Management

(785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8),
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8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3),
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4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4),
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8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7),
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(951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4),
(456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8),
(218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5),



Queue Management

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(519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6),
(907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6),
(702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4),
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(658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3),
(249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),
(617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5),
(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (269, 19, 3) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25,
8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36,
4) (653, 37, 8) (891, 39, 7)
Queue #2: (916, 19, 5) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24,
7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7)
Queue #3: (927, 18, 2) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5)
Queue #4: (961, 19, 7) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25,
8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6)
Queue #5: (442, 20, 7) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26,
3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7)
Queue #6: (692, 19, 2) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24,
4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31,
5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3)
Queue #7: (707, 19, 6) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5)
Queue #8: (164, 20, 3) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448,
25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704,
35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7)
Queue #9: (381, 19, 1) (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25,
3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8) (486, 40, 8)
Queue #10: (434, 18, 1) (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25,
3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8)
Queue #11: (776, 19, 5) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3)
Queue #12: (506, 20, 8) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8)
Queue #13: (138, 19, 2) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24,
7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7)
Queue #14: (234, 20, 7) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8)
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Queue Management

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Queue #15: (539, 19, 4) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5)
Queue #16: (237, 20, 4) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26,
8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7)
Queue #17: (675, 19, 3) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25,
3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5)
Queue #18: (429, 20, 2) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25,
7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5)
Queue #19: (603, 20, 6) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26,
4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8)
Queue #20: (871, 19, 6) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 41

```
Clients that haven't arrived yet: (17, 42, 7), (74, 42, 5), (97, 42, 7),
(110, 42, 3), (158, 42, 5), (235, 42, 4), (330, 42, 5), (369, 42, 8),
(509, 42, 3), (554, 42, 6), (625, 42, 3), (768, 42, 7), (981, 42, 6), (10,
43, 3), (120, 43, 5), (204, 43, 8), (316, 43, 5), (337, 43, 5), (386, 43,
6), (499, 43, 3), (530, 43, 6), (599, 43, 4), (686, 43, 8), (899, 43, 7),
(986, 43, 5), (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238,
44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44,
5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7),
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46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46,
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52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52,
3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3),
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54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54,
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55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56,
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Queue Management

6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8),
(173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8),
(277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443,
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3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
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7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3),
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(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
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(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),



Queue Management

```
(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
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7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
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(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
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6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (269, 19, 2) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25,
8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36,
4) (653, 37, 8) (891, 39, 7)
```

```
Queue #2: (916, 19, 4) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24,
7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7)
```

```
Queue #3: (927, 18, 1) (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24,
4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4)
```

```
Queue #4: (961, 19, 6) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25,
8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6) (933, 41, 3)
```

```
Queue #5: (442, 20, 6) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26,
3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7)
```

```
Queue #6: (692, 19, 1) (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24,
4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31,
5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4)
```

```
Queue #7: (707, 19, 5) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5) (254, 41, 5)
```

```
Queue #8: (164, 20, 2) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448,
25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704,
35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7)
```

```
Queue #9: (627, 20, 7) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25,
```




Queue Management

```
5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8)
Queue #10: (882, 20, 8) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8)
Queue #11: (776, 19, 4) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8)
Queue #12: (506, 20, 7) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6)
Queue #13: (138, 19, 1) (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24,
7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7)
Queue #14: (234, 20, 6) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5)
Queue #15: (539, 19, 3) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5)
Queue #16: (237, 20, 3) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26,
8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38,
7) (465, 41, 4)
Queue #17: (675, 19, 2) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25,
3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8)
Queue #18: (429, 20, 1) (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25,
7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5) (240, 41, 5)
Queue #19: (603, 20, 5) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26,
4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7)
Queue #20: (871, 19, 5) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 42

```
Clients that haven't arrived yet: (10, 43, 3), (120, 43, 5), (204, 43,
8), (316, 43, 5), (337, 43, 5), (386, 43, 6), (499, 43, 3), (530, 43, 6),
(599, 43, 4), (686, 43, 8), (899, 43, 7), (986, 43, 5), (3, 44, 7), (62,
44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44,
5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3),
(247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8),
(514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7),
(661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305,
46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46,
7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3),
(130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7),
(568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150,
```



Queue Management

48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3),



Queue Management

```
(142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7),
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7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
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(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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```
Queue #1: (269, 19, 1) (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25,
8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36,
4) (653, 37, 8) (891, 39, 7) (235, 42, 4)
```

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Queue #2: (916, 19, 3) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24,
7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5)
```

```
Queue #3: (888, 20, 3) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26,
3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35,
3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8)
```



Queue Management

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Queue #4: (961, 19, 5) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25,
8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6) (933, 41, 3)
Queue #5: (442, 20, 5) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26,
3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3)
Queue #6: (920, 20, 3) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26,
4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32,
5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6)
Queue #7: (707, 19, 4) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7)
Queue #8: (164, 20, 1) (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448,
25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704,
35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3)
Queue #9: (627, 20, 6) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25,
5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8)
Queue #10: (882, 20, 7) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8)
Queue #11: (776, 19, 3) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8)
Queue #12: (506, 20, 6) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7)
Queue #13: (968, 20, 5) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26,
6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6)
Queue #14: (234, 20, 5) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5)
Queue #15: (539, 19, 2) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7)
Queue #16: (237, 20, 2) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26,
8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38,
7) (465, 41, 4) (110, 42, 3)
Queue #17: (675, 19, 1) (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25,
3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8)
Queue #18: (107, 21, 5) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28,
8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5)
Queue #19: (603, 20, 4) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26,
4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7)
Queue #20: (871, 19, 4) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
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Queue Management

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 43

Clients that haven't arrived yet: (3, 44, 7), (62, 44, 7), (163, 44, 3), (183, 44, 5), (238, 44, 5), (263, 44, 8), (393, 44, 5), (453, 44, 4), (477, 44, 3), (587, 44, 5), (833, 44, 8), (950, 44, 3), (247, 45, 4), (301, 45, 6), (347, 45, 7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3), (560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7), (985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),



Queue Management

(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),



Queue Management

```
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (147, 21, 5) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28,
5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37,
8) (891, 39, 7) (235, 42, 4) (899, 43, 7)
Queue #2: (916, 19, 2) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24,
7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5)
Queue #3: (888, 20, 2) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26,
3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35,
3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8)
Queue #4: (961, 19, 4) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25,
8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5)
Queue #5: (442, 20, 4) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26,
3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3)
Queue #6: (920, 20, 2) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26,
4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32,
5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6)
Queue #7: (707, 19, 3) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7)
Queue #8: (461, 21, 4) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817,
27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846,
37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6)
Queue #9: (627, 20, 5) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25,
5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8) (120, 43, 5)
Queue #10: (882, 20, 6) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8)
Queue #11: (776, 19, 2) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5)
Queue #12: (506, 20, 5) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7)
Queue #13: (968, 20, 4) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26,
6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6)
Queue #14: (234, 20, 4) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5)
Queue #15: (539, 19, 1) (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25,
4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7)
Queue #16: (237, 20, 1) (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26,
8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38,
7) (465, 41, 4) (110, 42, 3) (386, 43, 6)
Queue #17: (503, 21, 8) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8)
Queue #18: (107, 21, 4) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28,
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Queue Management

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8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4)
Queue #19: (603, 20, 3) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26,
4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8)
Queue #20: (871, 19, 3) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 44
Clients that haven't arrived yet: (247, 45, 4), (301, 45, 6), (347, 45,
7), (355, 45, 3), (370, 45, 8), (514, 45, 5), (523, 45, 4), (543, 45, 3),
(560, 45, 5), (602, 45, 7), (661, 45, 8), (676, 45, 6), (967, 45, 7),
(985, 45, 4), (78, 46, 6), (305, 46, 7), (411, 46, 4), (595, 46, 7), (732,
46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7), (863, 46, 4), (905, 46,
3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157, 47, 8), (214, 47, 7),
(258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47, 6), (769, 47, 4), (32,
48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48,
6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8),
(991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473,
49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49,
3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5),
(484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3),
(478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6),
(620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242,
52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52,
3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3),
(332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7),
(667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50,
54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54,
4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5),
(803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541,
55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56,
6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8),
(173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8),
(277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443,
59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60,
6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6),
(637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201,
61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62,
8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8),
(673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6),
(995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3),
(300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3),
(849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4),
(500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45,
65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65,
7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8),
(66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590,
```




Queue Management

66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),



Queue Management

```
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (147, 21, 4) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28,
5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37,
8) (891, 39, 7) (235, 42, 4) (899, 43, 7)
Queue #2: (916, 19, 1) (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24,
7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7)
Queue #3: (888, 20, 1) (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26,
3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35,
3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8)
Queue #4: (961, 19, 3) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25,
8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5)
Queue #5: (442, 20, 3) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26,
3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5)
Queue #6: (920, 20, 1) (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26,
4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32,
5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8)
Queue #7: (707, 19, 2) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24,
6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5)
Queue #8: (461, 21, 3) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817,
27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846,
37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6)
Queue #9: (627, 20, 4) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25,
5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4)
Queue #10: (882, 20, 5) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8)
Queue #11: (776, 19, 1) (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24,
4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5)
Queue #12: (506, 20, 4) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8)
Queue #13: (968, 20, 3) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26,
6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3)
```



Queue Management

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Queue #14: (234, 20, 3) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3)
Queue #15: (614, 21, 3) (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27,
5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35,
7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3)
Queue #16: (638, 21, 6) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28,
8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6)
Queue #17: (503, 21, 7) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5)
Queue #18: (107, 21, 3) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28,
8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4)
Queue #19: (603, 20, 2) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26,
4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8)
Queue #20: (871, 19, 2) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 45
Clients that haven't arrived yet: (78, 46, 6), (305, 46, 7), (411, 46,
4), (595, 46, 7), (732, 46, 6), (786, 46, 8), (806, 46, 7), (842, 46, 7),
(863, 46, 4), (905, 46, 3), (43, 47, 6), (70, 47, 3), (130, 47, 3), (157,
47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8), (695, 47,
6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5),
(397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5),
(935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360,
49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49,
7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5),
(283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8),
(687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6),
(536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24,
52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52,
6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6),
(182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8),
(528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5),
(965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331,
54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54,
6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3),
(211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8),
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(834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4,
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4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5),
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61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87,



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8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (147, 21, 3) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6)

Queue #2: (703, 21, 3) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7)

Queue #3: (709, 21, 8) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6)

Queue #4: (961, 19, 2) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8)

Queue #5: (442, 20, 2) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7)

Queue #6: (810, 21, 7) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8)

Queue #7: (707, 19, 1) (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4)

Queue #8: (461, 21, 2) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5)

Queue #9: (627, 20, 3) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5)

Queue #10: (882, 20, 4) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,



Queue Management

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5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4)
Queue #11: (895, 21, 3) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25,
7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5)
Queue #12: (506, 20, 3) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8)
Queue #13: (968, 20, 2) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26,
6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3)
Queue #14: (234, 20, 2) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7)
Queue #15: (614, 21, 2) (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27,
5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35,
7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7)
Queue #16: (638, 21, 5) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28,
8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3)
Queue #17: (503, 21, 6) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8)
Queue #18: (107, 21, 2) (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28,
8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4)
Queue #19: (603, 20, 1) (973, 21, 6) (585, 23, 6) (228, 25, 3) (47, 26,
4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8)
Queue #20: (871, 19, 1) (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26,
4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 46

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Clients that haven't arrived yet: (43, 47, 6), (70, 47, 3), (130, 47,
3), (157, 47, 8), (214, 47, 7), (258, 47, 7), (264, 47, 7), (568, 47, 8),
(695, 47, 6), (769, 47, 4), (32, 48, 4), (36, 48, 8), (150, 48, 7), (170,
48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48,
5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4),
(360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8),
(797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136,
50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50,
8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6),
(536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24,
52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52,
6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6),
(182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8),
(528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5),
(965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331,
54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54,
```



Queue Management

6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83,



Queue Management

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Queue #1: (147, 21, 2) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6)

Queue #2: (703, 21, 2) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6)

Queue #3: (709, 21, 7) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4)

Queue #4: (961, 19, 1) (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8)

Queue #5: (442, 20, 1) (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7)

Queue #6: (810, 21, 6) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3)

Queue #7: (962, 21, 3) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37,



Queue Management

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6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4)
Queue #8: (461, 21, 1) (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817,
27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846,
37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5)
Queue #9: (627, 20, 2) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25,
5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5)
Queue #10: (882, 20, 3) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7)
Queue #11: (895, 21, 2) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25,
7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8)
Queue #12: (506, 20, 2) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8)
Queue #13: (968, 20, 1) (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26,
6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
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Queue #14: (234, 20, 1) (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27,
5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7)
Queue #15: (614, 21, 1) (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27,
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Queue #16: (638, 21, 4) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28,
8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6)
Queue #17: (503, 21, 5) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
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8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8)
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7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4)
Queue #20: (1000, 21, 6) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27,
8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 47

Clients that haven't arrived yet: (32, 48, 4), (36, 48, 8), (150, 48, 7), (170, 48, 5), (397, 48, 3), (550, 48, 6), (744, 48, 5), (752, 48, 4), (878, 48, 5), (935, 48, 4), (957, 48, 8), (991, 48, 7), (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8),



Queue Management

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8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3),
(142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7),
(472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38,
78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78,
8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6),
(177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8),



Queue Management

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(446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8),
(805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,
80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80,
7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3),
(954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),
(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),
(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86,
7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (147, 21, 1) (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28,
5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37,
8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7)
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Queue #2: (703, 21, 1) (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26,
7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37,
4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6)
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Queue #3: (709, 21, 6) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27,
5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4)
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Queue #4: (11, 22, 3) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28,
7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8)
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Queue #5: (34, 22, 3) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27,
5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36,
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Queue Management

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4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7)
Queue #6: (810, 21, 5) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27,
3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6)
Queue #7: (962, 21, 2) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26,
8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37,
6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3)
Queue #8: (73, 22, 6) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923,
28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286,
39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6)
Queue #9: (627, 20, 1) (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25,
5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3)
Queue #10: (882, 20, 2) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7)
Queue #11: (895, 21, 1) (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25,
7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8)
Queue #12: (506, 20, 1) (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26,
7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8)
Queue #13: (151, 22, 4) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28,
7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7)
Queue #14: (236, 22, 6) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28,
7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4)
Queue #15: (255, 22, 7) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28,
7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7)
Queue #16: (638, 21, 3) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28,
8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6)
Queue #17: (503, 21, 4) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8)
Queue #18: (293, 22, 5) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29,
6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7)
Queue #19: (973, 21, 5) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27,
7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7)
Queue #20: (1000, 21, 5) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27,
8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Queue Management

Time: 48

Clients that haven't arrived yet: (86, 49, 5), (311, 49, 4), (360, 49, 6), (363, 49, 7), (473, 49, 4), (552, 49, 6), (647, 49, 8), (797, 49, 7), (874, 49, 6), (970, 49, 3), (996, 49, 6), (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432,



Queue Management

77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (325, 22, 6) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7)

Queue #2: (460, 22, 3) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8)

Queue #3: (709, 21, 5) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7)



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Queue #4: (11, 22, 2) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28,
7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8)
Queue #5: (34, 22, 2) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27,
5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36,
4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5)
Queue #6: (810, 21, 4) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27,
3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6)
Queue #7: (962, 21, 1) (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26,
8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37,
6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3)
Queue #8: (73, 22, 5) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923,
28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286,
39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8)
Queue #9: (501, 22, 7) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6)
Queue #10: (882, 20, 1) (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26,
5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7)
Queue #11: (521, 22, 6) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28,
3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8)
Queue #12: (579, 22, 5) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28,
8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8)
Queue #13: (151, 22, 3) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28,
7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4)
Queue #14: (236, 22, 5) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28,
7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4)
Queue #15: (255, 22, 6) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28,
7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7)
Queue #16: (638, 21, 2) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28,
8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4)
Queue #17: (503, 21, 3) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5)
Queue #18: (293, 22, 4) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29,
6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4)
Queue #19: (973, 21, 4) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27,
7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7)
Queue #20: (1000, 21, 4) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27,
8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5)
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Queue Management

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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 49

Clients that haven't arrived yet: (72, 50, 5), (136, 50, 5), (283, 50, 5), (483, 50, 5), (484, 50, 3), (492, 50, 8), (584, 50, 8), (687, 50, 6), (726, 50, 3), (478, 51, 6), (505, 51, 8), (531, 51, 6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3), (24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3), (8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7),



Queue Management

(896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (325, 22, 5) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7)



Queue Management

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Queue #2: (460, 22, 2) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28,
6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39,
4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8)
Queue #3: (709, 21, 4) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27,
5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7)
Queue #4: (11, 22, 1) (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28,
7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8)
Queue #5: (34, 22, 1) (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27,
5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36,
4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7)
Queue #6: (810, 21, 3) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27,
3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6)
Queue #7: (630, 22, 3) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28,
3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4)
Queue #8: (73, 22, 4) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923,
28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286,
39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8)
Queue #9: (501, 22, 6) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6)
Queue #10: (724, 22, 5) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28,
6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7)
Queue #11: (521, 22, 5) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28,
3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5)
Queue #12: (579, 22, 4) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28,
8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3)
Queue #13: (151, 22, 2) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28,
7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6)
Queue #14: (236, 22, 4) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28,
7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6)
Queue #15: (255, 22, 5) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28,
7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4)
Queue #16: (638, 21, 1) (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28,
8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7)
Queue #17: (503, 21, 2) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5)
Queue #18: (293, 22, 3) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29,
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Queue Management

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6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6)
Queue #19: (973, 21, 3) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27,
7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8)
Queue #20: (1000, 21, 3) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27,
8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 50
Clients that haven't arrived yet: (478, 51, 6), (505, 51, 8), (531, 51,
6), (536, 51, 6), (591, 51, 6), (620, 51, 8), (652, 51, 3), (897, 51, 3),
(24, 52, 5), (88, 52, 5), (242, 52, 5), (504, 52, 8), (580, 52, 6), (605,
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(634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),
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Queue Management

(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),



Queue Management

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(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (325, 22, 4) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55,
30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235,
42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5)
Queue #2: (460, 22, 1) (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28,
6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39,
4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3)
Queue #3: (709, 21, 3) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27,
5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3)
Queue #4: (850, 22, 4) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29,
5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41,
3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8)
Queue #5: (30, 23, 8) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7)
Queue #6: (810, 21, 2) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27,
3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6)
Queue #7: (630, 22, 2) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28,
3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8)
Queue #8: (73, 22, 3) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923,
28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286,
39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8)
Queue #9: (501, 22, 5) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5)
Queue #10: (724, 22, 4) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28,
6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7)
Queue #11: (521, 22, 4) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28,
3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6)
Queue #12: (579, 22, 3) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28,
8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3)
Queue #13: (151, 22, 1) (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28,
7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6)
Queue #14: (236, 22, 3) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28,
7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6)
Queue #15: (255, 22, 4) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28,
7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
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Queue Management

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8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4)
Queue #16: (39, 23, 8) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30,
5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7)
Queue #17: (503, 21, 1) (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27,
3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5)
Queue #18: (293, 22, 2) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29,
6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6)
Queue #19: (973, 21, 2) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27,
7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8)
Queue #20: (1000, 21, 2) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27,
8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 51
Clients that haven't arrived yet: (24, 52, 5), (88, 52, 5), (242, 52,
5), (504, 52, 8), (580, 52, 6), (605, 52, 6), (851, 52, 3), (932, 52, 3),
(8, 53, 3), (26, 53, 5), (160, 53, 6), (182, 53, 5), (270, 53, 3), (332,
53, 8), (405, 53, 4), (422, 53, 8), (528, 53, 5), (578, 53, 7), (667, 53,
4), (712, 53, 4), (781, 53, 5), (965, 53, 4), (44, 54, 7), (50, 54, 4),
(176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4),
(565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5),
(803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541,
55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56,
6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8),
(173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8),
(277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443,
59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60,
6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6),
(637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201,
61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62,
8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8),
(673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6),
(995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3),
(300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3),
(849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4),
(500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45,
65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65,
7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8),
(66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590,
66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66,
6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7),
(76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557,
67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68,
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Queue Management

6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),



Queue Management

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(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (325, 22, 3) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55,
30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235,
42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5)
Queue #2: (53, 23, 4) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29,
6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3)
Queue #3: (709, 21, 2) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27,
5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6)
Queue #4: (850, 22, 3) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29,
5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41,
3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8)
Queue #5: (30, 23, 7) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7)
Queue #6: (810, 21, 1) (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27,
3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6)
Queue #7: (630, 22, 1) (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28,
3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8)
Queue #8: (73, 22, 2) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923,
28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286,
39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8)
Queue #9: (501, 22, 4) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5)
Queue #10: (724, 22, 3) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28,
6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6)
Queue #11: (521, 22, 3) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28,
3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6)
Queue #12: (579, 22, 2) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28,
8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6)
Queue #13: (59, 23, 4) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29,
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5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6)
Queue #14: (236, 22, 2) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28,
7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6)
Queue #15: (255, 22, 3) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28,
7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8)
Queue #16: (39, 23, 7) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30,
5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3)
Queue #17: (180, 23, 6) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28,
6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3)
Queue #18: (293, 22, 1) (298, 23, 8) (481, 25, 7) (148, 28, 8) (938, 29,
6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6)
Queue #19: (973, 21, 1) (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27,
7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8)
Queue #20: (1000, 21, 1) (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27,
8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 52

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Clients that haven't arrived yet: (8, 53, 3), (26, 53, 5), (160, 53, 6),
(182, 53, 5), (270, 53, 3), (332, 53, 8), (405, 53, 4), (422, 53, 8),
(528, 53, 5), (578, 53, 7), (667, 53, 4), (712, 53, 4), (781, 53, 5),
(965, 53, 4), (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331,
54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54,
6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3),
(211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8),
(111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3),
(741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3),
(834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4,
59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59,
4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5),
(318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65,
61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61,
6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5),
(252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8),
(770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6),
(113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5),
(567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7),
(275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8),
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Queue Management

(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7),



Queue Management

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(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (325, 22, 2) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55,
30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235,
42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5)
Queue #2: (53, 23, 3) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29,
6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8)
Queue #3: (709, 21, 1) (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27,
5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6)
Queue #4: (850, 22, 2) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29,
5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41,
3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8)
Queue #5: (30, 23, 6) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3)
Queue #6: (224, 23, 6) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28,
3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6)
Queue #7: (297, 23, 4) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29,
4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8)
Queue #8: (73, 22, 1) (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923,
28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286,
39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8)
Queue #9: (501, 22, 3) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6)
Queue #10: (724, 22, 2) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28,
6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6)
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Queue Management

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Queue #11: (521, 22, 2) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6)
Queue #12: (579, 22, 1) (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6)
Queue #13: (59, 23, 3) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3)
Queue #14: (236, 22, 1) (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6)
Queue #15: (255, 22, 2) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8)
Queue #16: (39, 23, 6) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3)
Queue #17: (180, 23, 5) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3)
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Queue #19: (585, 23, 6) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8)
Queue #20: (668, 23, 6) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 53
Clients that haven't arrived yet: (44, 54, 7), (50, 54, 4), (176, 54, 8), (276, 54, 6), (331, 54, 3), (447, 54, 8), (487, 54, 4), (565, 54, 5), (604, 54, 4), (619, 54, 6), (666, 54, 7), (739, 54, 5), (803, 54, 4), (12, 55, 4), (103, 55, 3), (211, 55, 7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324,
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Queue Management

61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,



Queue Management

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7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (325, 22, 1) (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55,
30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235,
42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5)
```

```
Queue #2: (53, 23, 2) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29,
6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8)
```

```
Queue #3: (836, 23, 5) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28,
4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6)
```

```
Queue #4: (850, 22, 1) (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29,
5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41,
3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4)
```

```
Queue #5: (30, 23, 5) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8)
```

```
Queue #6: (224, 23, 5) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28,
3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6)
```

```
Queue #7: (297, 23, 3) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29,
4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5)
```

```
Queue #8: (5, 24, 4) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28,
5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8)
```

```
Queue #9: (501, 22, 2) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
```



Queue Management

```
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6)
Queue #10: (724, 22, 1) (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28,
6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7)
Queue #11: (521, 22, 1) (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28,
3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5)
Queue #12: (19, 24, 6) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30,
5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3)
Queue #13: (59, 23, 2) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29,
5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8)
Queue #14: (193, 24, 6) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29,
6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4)
Queue #15: (255, 22, 1) (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28,
7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8)
Queue #16: (39, 23, 5) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30,
5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6)
Queue #17: (180, 23, 4) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28,
6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5)
Queue #18: (298, 23, 7) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31,
5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4)
Queue #19: (585, 23, 5) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29,
3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5)
Queue #20: (668, 23, 5) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29,
5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 54
Clients that haven't arrived yet: (12, 55, 4), (103, 55, 3), (211, 55,
7), (338, 55, 4), (541, 55, 4), (593, 55, 5), (748, 55, 8), (111, 56, 3),
```



Queue Management

(566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6),
(764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3),
(879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287,
59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59,
4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3),
(375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67,
61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61,
5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7),
(259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7),
(856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8),
(189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3),
(613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7),
(383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8),
(944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341,
65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65,
3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5),
(394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5),
(800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15,
67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4),
(518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8),
(789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215,
68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68,
5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8),
(187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7),
(569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6),
(792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6),
(299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8),
(808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98,
71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71,
7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4),
(893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8),
(266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4),
(639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5),
(835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154,
73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73,
8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3),
(16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928,
74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75,
8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3),
(831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635,
76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76,
5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8),
(230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8),
(765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172,
78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78,
7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5),
(202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7),
(645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8),
(861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292,
80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80,
7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5),
(106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3),
(496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3),
(992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353,
82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83,
7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6),
(184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8),



Queue Management

(380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7),
(313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3),
(787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94,
86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86,
6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3),
(977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87,
4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8),
(601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124,
88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89,
3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5),
(35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403,
90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91,
8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,
8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (213, 24, 5) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248,
32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899,
43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7)

Queue #2: (53, 23, 1) (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29,
6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6)

Queue #3: (836, 23, 4) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28,
4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4)

Queue #4: (310, 24, 6) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31,
8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7)

Queue #5: (30, 23, 4) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8)

Queue #6: (224, 23, 4) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28,
3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6)

Queue #7: (297, 23, 2) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29,
4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,



Queue Management

```
4) (584, 50, 8) (528, 53, 5)
Queue #8: (5, 24, 3) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28,
5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4)
Queue #9: (501, 22, 1) (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27,
6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3)
Queue #10: (359, 24, 6) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29,
5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38,
8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7)
Queue #11: (395, 24, 3) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29,
7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38,
3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5)
Queue #12: (19, 24, 5) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30,
5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8)
Queue #13: (59, 23, 1) (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29,
5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8)
Queue #14: (193, 24, 5) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29,
6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5)
Queue #15: (553, 24, 7) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30,
5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8)
Queue #16: (39, 23, 4) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30,
5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4)
Queue #17: (180, 23, 3) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28,
6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4)
Queue #18: (298, 23, 6) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31,
5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4)
Queue #19: (585, 23, 4) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29,
3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5)
Queue #20: (668, 23, 4) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29,
5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4)
```

Maximum simulation time: 200
Number of clients: 1000



Queue Management

Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 55

Clients that haven't arrived yet: (111, 56, 3), (566, 56, 8), (621, 56, 6), (628, 56, 6), (689, 56, 3), (741, 56, 6), (764, 56, 8), (108, 57, 8), (173, 57, 7), (822, 57, 3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),



Queue Management

(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),
(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86,
7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (213, 24, 4) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248,
32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899,
43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7)

Queue #2: (592, 24, 7) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31,
7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6)

Queue #3: (836, 23, 3) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28,
4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7)

Queue #4: (310, 24, 5) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31,
8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7)

Queue #5: (30, 23, 3) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8)

Queue #6: (224, 23, 3) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28,
3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,



Queue Management

```
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6)
Queue #7: (297, 23, 1) (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29,
4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4)
Queue #8: (5, 24, 2) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28,
5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8)
Queue #9: (600, 24, 3) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29,
3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40,
8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50,
5) (605, 52, 6) (331, 54, 3) (541, 55, 4)
Queue #10: (359, 24, 5) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29,
5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38,
8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7)
Queue #11: (395, 24, 2) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29,
7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38,
3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5)
Queue #12: (19, 24, 4) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30,
5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8)
Queue #13: (656, 24, 7) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31,
5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8)
Queue #14: (193, 24, 4) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29,
6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5)
Queue #15: (553, 24, 6) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30,
5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8)
Queue #16: (39, 23, 3) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30,
5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4)
Queue #17: (180, 23, 2) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28,
6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4)
Queue #18: (298, 23, 5) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31,
5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4)
Queue #19: (585, 23, 3) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29,
3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5)
Queue #20: (668, 23, 3) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29,
5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3)
```



Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 56

```
Clients that haven't arrived yet: (108, 57, 8), (173, 57, 7), (822, 57,
3), (834, 57, 3), (879, 57, 8), (133, 58, 8), (277, 58, 5), (719, 58, 6),
(4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5), (711,
59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257, 60,
5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60, 5),
(65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3), (471,
61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143, 62,
5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8),
(770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6),
(113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5),
(567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7),
(275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8),
(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205,
65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65,
4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5),
(195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5),
(785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8),
(934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279,
67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67,
8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3),
(104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8),
(339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20,
69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69,
7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4),
(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
(199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7),
(634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),
(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418,
71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71,
6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3),
(197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8),
(533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8),
(772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105,
73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73,
3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8),
(956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845,
74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75,
6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8),
(824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612,
76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76,
4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4),
(229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5),
(474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129,
78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78,
6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7),
(192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6),
(450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3),
```



Queue Management

(854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (213, 24, 3) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3)

Queue #2: (592, 24, 6) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6)

Queue #3: (836, 23, 2) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7)

Queue #4: (310, 24, 4) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7)

Queue #5: (30, 23, 2) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28,



Queue Management

```
6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6)
Queue #6: (224, 23, 2) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28,
3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8)
Queue #7: (791, 24, 6) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30,
7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4)
Queue #8: (5, 24, 1) (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28,
5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8)
Queue #9: (600, 24, 2) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29,
3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40,
8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50,
5) (605, 52, 6) (331, 54, 3) (541, 55, 4)
Queue #10: (359, 24, 4) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29,
5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38,
8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3)
Queue #11: (395, 24, 1) (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29,
7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38,
3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5)
Queue #12: (19, 24, 3) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30,
5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8)
Queue #13: (656, 24, 6) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31,
5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8)
Queue #14: (193, 24, 3) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29,
6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5)
Queue #15: (553, 24, 5) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30,
5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8)
Queue #16: (39, 23, 2) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30,
5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4)
Queue #17: (180, 23, 1) (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28,
6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6)
Queue #18: (298, 23, 4) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31,
5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4)
Queue #19: (585, 23, 2) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29,
3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
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Queue Management

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3) (781, 53, 5) (593, 55, 5)
Queue #20: (668, 23, 2) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29,
5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 57
Clients that haven't arrived yet: (133, 58, 8), (277, 58, 5), (719, 58,
6), (4, 59, 3), (287, 59, 4), (320, 59, 7), (443, 59, 5), (696, 59, 5),
(711, 59, 4), (795, 59, 4), (33, 60, 4), (153, 60, 6), (194, 60, 3), (257,
60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3), (865, 60,
5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324, 61, 3),
(471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62, 6), (143,
62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62,
8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6),
(113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5),
(567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7),
(275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8),
(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205,
65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65,
4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5),
(195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5),
(785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8),
(934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279,
67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67,
8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3),
(104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8),
(339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20,
69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69,
7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4),
(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
(199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7),
(634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),
(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418,
71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71,
6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3),
(197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8),
(533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8),
(772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105,
73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73,
3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8),
(956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845,
74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75,
6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8),
(824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612,
76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76,
4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4),
(229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5),
(474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129,
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Queue Management

78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (213, 24, 2) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3)

Queue #2: (592, 24, 5) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6)

Queue #3: (836, 23, 1) (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7)



Queue Management

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Queue #4: (310, 24, 3) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7)
Queue #5: (30, 23, 1) (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6)
Queue #6: (224, 23, 1) (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8)
Queue #7: (791, 24, 5) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3)
Queue #8: (875, 24, 3) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8)
Queue #9: (600, 24, 1) (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8)
Queue #10: (359, 24, 3) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3)
Queue #11: (906, 24, 4) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8)
Queue #12: (19, 24, 2) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8)
Queue #13: (656, 24, 5) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8)
Queue #14: (193, 24, 2) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5)
Queue #15: (553, 24, 4) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8)
Queue #16: (39, 23, 1) (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7)
Queue #17: (915, 24, 4) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6)
Queue #18: (298, 23, 3) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
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Queue Management

```
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3)
Queue #19: (585, 23, 1) (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29,
3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5)
Queue #20: (668, 23, 1) (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29,
5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 58
Clients that haven't arrived yet: (4, 59, 3), (287, 59, 4), (320, 59,
7), (443, 59, 5), (696, 59, 5), (711, 59, 4), (795, 59, 4), (33, 60, 4),
(153, 60, 6), (194, 60, 3), (257, 60, 5), (318, 60, 3), (375, 60, 3),
(623, 60, 6), (637, 60, 3), (865, 60, 5), (65, 61, 8), (67, 61, 7), (93,
61, 5), (201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61,
8), (22, 62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3),
(556, 62, 8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7),
(943, 62, 6), (995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5),
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(715, 63, 3), (849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3),
(445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25,
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6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3),
(848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449,
66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66,
6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7),
(51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549,
67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67,
8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8),
(308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8),
(742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400,
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4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8),
(959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7),
(430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5),
(978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156,
71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71,
4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3),
(908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3),
(365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6),
(659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56,
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6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7),
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(573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209,
76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76,
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Queue Management

5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (213, 24, 1) (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3)

Queue #2: (592, 24, 4) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6)



Queue Management

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Queue #3: (953, 24, 4) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29,
5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7)
Queue #4: (310, 24, 2) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31,
8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7)
Queue #5: (975, 24, 4) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30,
7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6)
Queue #6: (993, 24, 4) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29,
3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39,
3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8)
Queue #7: (791, 24, 4) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30,
7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3)
Queue #8: (875, 24, 2) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30,
8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40,
7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8)
Queue #9: (115, 25, 3) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29,
7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8)
Queue #10: (359, 24, 2) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29,
5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38,
8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3)
Queue #11: (906, 24, 3) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30,
4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8)
Queue #12: (19, 24, 1) (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30,
5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8)
Queue #13: (656, 24, 4) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31,
5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8)
Queue #14: (193, 24, 1) (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29,
6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8)
Queue #15: (553, 24, 3) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30,
5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5)
Queue #16: (190, 25, 4) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32,
8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7)
Queue #17: (915, 24, 3) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29,
7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
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Queue Management

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5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6)
Queue #18: (298, 23, 2) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31,
5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3)
Queue #19: (228, 25, 3) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29,
5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5)
Queue #20: (260, 25, 3) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30,
8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 59
Clients that haven't arrived yet: (33, 60, 4), (153, 60, 6), (194, 60,
3), (257, 60, 5), (318, 60, 3), (375, 60, 3), (623, 60, 6), (637, 60, 3),
(865, 60, 5), (65, 61, 8), (67, 61, 7), (93, 61, 5), (201, 61, 3), (324,
61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22, 62, 8), (79, 62,
6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7),
(722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6),
(997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8),
(564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4),
(936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5),
(682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175,
65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65,
5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4),
(137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3),
(681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6),
(930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76,
67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67,
3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6),
(95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333,
68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68,
6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4),
(431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6),
(705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5),
(114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3),
(582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3),
(979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345,
71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71,
3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
(989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3),
(444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5),
(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,
73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73,
5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6),
(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730,
74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75,
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Queue Management

3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 8) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5)

Queue #2: (592, 24, 3) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31,



Queue Management

```
7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6)
Queue #3: (953, 24, 3) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29,
5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4)
Queue #4: (310, 24, 1) (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31,
8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5)
Queue #5: (975, 24, 3) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30,
7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6)
Queue #6: (993, 24, 3) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29,
3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39,
3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8)
Queue #7: (791, 24, 3) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30,
7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3)
Queue #8: (875, 24, 1) (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30,
8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40,
7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8)
Queue #9: (115, 25, 2) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29,
7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8)
Queue #10: (359, 24, 1) (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29,
5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38,
8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3) (4, 59, 3)
Queue #11: (906, 24, 2) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30,
4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8)
Queue #12: (368, 25, 4) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32,
7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4)
Queue #13: (656, 24, 3) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31,
5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8)
Queue #14: (390, 25, 4) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31,
8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43,
5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8)
Queue #15: (553, 24, 2) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30,
5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5)
Queue #16: (190, 25, 3) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32,
8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
```



Queue Management

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6) (803, 54, 4) (173, 57, 7)
  Queue #17: (915, 24, 2) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29,
7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6)
  Queue #18: (298, 23, 1) (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31,
5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4)
  Queue #19: (228, 25, 2) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29,
5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7)
  Queue #20: (260, 25, 2) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30,
8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 60
Clients that haven't arrived yet: (65, 61, 8), (67, 61, 7), (93, 61, 5),
(201, 61, 3), (324, 61, 3), (471, 61, 6), (818, 61, 5), (830, 61, 8), (22,
62, 8), (79, 62, 6), (143, 62, 5), (252, 62, 7), (259, 62, 3), (556, 62,
8), (673, 62, 7), (722, 62, 8), (770, 62, 7), (856, 62, 7), (943, 62, 6),
(995, 62, 6), (997, 62, 6), (113, 63, 8), (189, 63, 5), (210, 63, 3),
(300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3),
(849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4),
(500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45,
65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65,
7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8),
(66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590,
66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66,
6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7),
(76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557,
67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68,
6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4),
(333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6),
(756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410,
69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69,
6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5),
(114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3),
(582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3),
(979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345,
71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71,
3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
(989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3),
(444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5),
(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,
73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73,
5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6),
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Queue Management

(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 7) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,



Queue Management

```
5)
Queue #2: (592, 24, 2) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31,
7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6)
Queue #3: (953, 24, 2) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29,
5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4)
Queue #4: (415, 25, 8) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34,
8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5)
Queue #5: (975, 24, 2) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30,
7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3)
Queue #6: (993, 24, 2) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29,
3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39,
3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8)
Queue #7: (791, 24, 2) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30,
7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4)
Queue #8: (448, 25, 6) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32,
7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3)
Queue #9: (115, 25, 1) (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29,
7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8)
Queue #10: (463, 25, 3) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31,
3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40,
8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53,
7) (111, 56, 3) (4, 59, 3) (153, 60, 6)
Queue #11: (906, 24, 1) (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30,
4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8)
Queue #12: (368, 25, 3) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32,
7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3)
Queue #13: (656, 24, 2) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31,
5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5)
Queue #14: (390, 25, 3) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31,
8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43,
5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8)
Queue #15: (553, 24, 1) (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30,
5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5) (623, 60, 6)
Queue #16: (190, 25, 2) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32,
```



Queue Management

```
8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7)
Queue #17: (915, 24, 1) (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29,
7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3)
Queue #18: (481, 25, 7) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33,
5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4)
Queue #19: (228, 25, 1) (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29,
5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7)
Queue #20: (260, 25, 1) (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30,
8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 61
Clients that haven't arrived yet: (22, 62, 8), (79, 62, 6), (143, 62,
5), (252, 62, 7), (259, 62, 3), (556, 62, 8), (673, 62, 7), (722, 62, 8),
(770, 62, 7), (856, 62, 7), (943, 62, 6), (995, 62, 6), (997, 62, 6),
(113, 63, 8), (189, 63, 5), (210, 63, 3), (300, 63, 8), (564, 63, 5),
(567, 63, 3), (613, 63, 5), (715, 63, 3), (849, 63, 4), (936, 63, 7),
(275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8),
(755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205,
65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65,
4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5),
(195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5),
(785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8),
(934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279,
67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67,
8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3),
(104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8),
(339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20,
69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69,
7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4),
(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
(199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7),
(634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),
(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418,
71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71,
6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3),
(197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8),
(533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8),
(772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105,
73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73,
```



Queue Management

3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 6) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676,



Queue Management

45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5)

Queue #2: (592, 24, 1) (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3)

Queue #3: (953, 24, 1) (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3)

Queue #4: (415, 25, 7) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6)

Queue #5: (975, 24, 1) (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3)

Queue #6: (993, 24, 1) (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5)

Queue #7: (791, 24, 1) (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8)

Queue #8: (448, 25, 5) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3)

Queue #9: (655, 25, 5) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8)

Queue #10: (463, 25, 2) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6)

Queue #11: (684, 25, 7) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8)

Queue #12: (368, 25, 2) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3)

Queue #13: (656, 24, 1) (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5)

Queue #14: (390, 25, 2) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8)

Queue #15: (740, 25, 4) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,



Queue Management

```
8) (277, 58, 5) (623, 60, 6)
Queue #16: (190, 25, 1) (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32,
8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8)
Queue #17: (937, 25, 3) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31,
3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39,
5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3)
Queue #18: (481, 25, 6) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33,
5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7)
Queue #19: (47, 26, 4) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31,
6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7)
Queue #20: (165, 26, 4) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33,
4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 62
Clients that haven't arrived yet: (113, 63, 8), (189, 63, 5), (210, 63,
3), (300, 63, 8), (564, 63, 5), (567, 63, 3), (613, 63, 5), (715, 63, 3),
(849, 63, 4), (936, 63, 7), (275, 64, 7), (383, 64, 3), (445, 64, 4),
(500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45,
65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65,
7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8),
(66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590,
66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66,
6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7),
(76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557,
67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68,
6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4),
(333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6),
(756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410,
69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69,
6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5),
(114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3),
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(979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345,
71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71,
3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
(989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3),
(444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5),
(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,
73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73,
5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6),
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Queue Management

(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 5) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,



Queue Management

```
5) (93, 61, 5)
Queue #2: (348, 26, 7) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44,
7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7)
Queue #3: (427, 26, 3) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30,
8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41,
4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6)
Queue #4: (415, 25, 6) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34,
8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6)
Queue #5: (428, 26, 3) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32,
4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42,
3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5)
Queue #6: (440, 26, 4) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5)
Queue #7: (488, 26, 8) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8)
Queue #8: (448, 25, 4) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32,
7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8)
Queue #9: (655, 25, 4) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31,
4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7)
Queue #10: (463, 25, 1) (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31,
3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40,
8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53,
7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6)
Queue #11: (684, 25, 6) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8)
Queue #12: (368, 25, 1) (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32,
7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6)
Queue #13: (641, 26, 6) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32,
6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5)
Queue #14: (390, 25, 1) (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31,
8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43,
5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8)
Queue #15: (740, 25, 3) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32,
3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42,
7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6)
```



Queue Management

Queue #16: (708, 26, 8) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8)

Queue #17: (937, 25, 2) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6)

Queue #18: (481, 25, 5) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7)

Queue #19: (47, 26, 3) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7)

Queue #20: (165, 26, 3) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7)

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 63

Clients that haven't arrived yet: (275, 64, 7), (383, 64, 3), (445, 64, 4), (500, 64, 5), (682, 64, 8), (755, 64, 8), (944, 64, 7), (25, 65, 3), (45, 65, 3), (175, 65, 5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5), (546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137, 66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4),



Queue Management

(573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 4) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7)

Queue #2: (348, 26, 6) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44,



Queue Management

7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7)

Queue #3: (427, 26, 2) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6)

Queue #4: (415, 25, 5) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5)

Queue #5: (428, 26, 2) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3)

Queue #6: (440, 26, 3) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8)

Queue #7: (488, 26, 7) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8)

Queue #8: (448, 25, 3) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8)

Queue #9: (655, 25, 3) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7)

Queue #10: (788, 26, 5) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6)

Queue #11: (684, 25, 5) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8)

Queue #12: (911, 26, 7) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6)

Queue #13: (641, 26, 5) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8)

Queue #14: (188, 27, 5) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8)

Queue #15: (740, 25, 2) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5)

Queue #16: (708, 26, 7) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,



Queue Management

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4) (173, 57, 7) (65, 61, 8) (849, 63, 4)
  Queue #17: (937, 25, 1) (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31,
3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39,
5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5)
  Queue #18: (481, 25, 4) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33,
5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3)
  Queue #19: (47, 26, 2) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31,
6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7)
  Queue #20: (165, 26, 2) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33,
4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 64
Clients that haven't arrived yet: (25, 65, 3), (45, 65, 3), (175, 65,
5), (205, 65, 6), (341, 65, 7), (342, 65, 6), (412, 65, 7), (508, 65, 5),
(546, 65, 4), (588, 65, 3), (777, 65, 3), (848, 65, 8), (66, 66, 4), (137,
66, 5), (195, 66, 5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66,
5), (785, 66, 5), (800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8),
(934, 66, 4), (15, 67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279,
67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67,
8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3),
(104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8),
(339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20,
69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69,
7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4),
(759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5),
(199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7),
(634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4),
(984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418,
71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71,
6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3),
(197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8),
(533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8),
(772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105,
73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73,
3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8),
(956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845,
74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75,
6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8),
(824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612,
76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76,
4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4),
(229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5),
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Queue Management

(474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 3) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7)

Queue #2: (348, 26, 5) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7)

Queue #3: (427, 26, 1) (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41,



Queue Management

```
4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8)
Queue #4: (415, 25, 4) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5)
Queue #5: (428, 26, 1) (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8)
Queue #6: (440, 26, 2) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8)
Queue #7: (488, 26, 6) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7)
Queue #8: (448, 25, 2) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8)
Queue #9: (655, 25, 2) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3)
Queue #10: (788, 26, 4) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7)
Queue #11: (684, 25, 4) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4)
Queue #12: (911, 26, 6) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6)
Queue #13: (641, 26, 4) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8)
Queue #14: (188, 27, 4) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8)
Queue #15: (740, 25, 1) (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5)
Queue #16: (708, 26, 6) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4)
Queue #17: (217, 27, 3) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
```




Queue Management

```
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5)
Queue #18: (481, 25, 3) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33,
5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3)
Queue #19: (47, 26, 1) (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31,
6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5)
Queue #20: (165, 26, 1) (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33,
4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 65
Clients that haven't arrived yet: (66, 66, 4), (137, 66, 5), (195, 66,
5), (394, 66, 8), (449, 66, 7), (590, 66, 3), (681, 66, 5), (785, 66, 5),
(800, 66, 8), (855, 66, 6), (918, 66, 6), (930, 66, 8), (934, 66, 4), (15,
67, 6), (42, 67, 7), (51, 67, 7), (76, 67, 7), (279, 67, 4), (364, 67, 4),
(518, 67, 7), (549, 67, 6), (557, 67, 3), (691, 67, 8), (699, 67, 8),
(789, 67, 5), (870, 67, 8), (21, 68, 6), (95, 68, 3), (104, 68, 3), (215,
68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68,
5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8),
(187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7),
(569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6),
(792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6),
(299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8),
(808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98,
71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71,
7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4),
(893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8),
(266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4),
(639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5),
(835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154,
73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73,
8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3),
(16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928,
74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75,
8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3),
(831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635,
76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76,
5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8),
(230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8),
(765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172,
78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78,
7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5),
(202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7),
(645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8),
(861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292,
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Queue Management

80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (304, 25, 2) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7)

Queue #2: (348, 26, 4) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7)

Queue #3: (392, 27, 5) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8)

Queue #4: (415, 25, 3) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5)

Queue #5: (416, 27, 5) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,



Queue Management

```
5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8)
Queue #6: (440, 26, 1) (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29,
6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8)
Queue #7: (488, 26, 5) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7)
Queue #8: (448, 25, 1) (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32,
7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6)
Queue #9: (655, 25, 1) (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31,
4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4)
Queue #10: (788, 26, 3) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31,
3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7)
Queue #11: (684, 25, 3) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8)
Queue #12: (911, 26, 5) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34,
3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7)
Queue #13: (641, 26, 3) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32,
6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8)
Queue #14: (188, 27, 3) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34,
4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3)
Queue #15: (479, 27, 5) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3)
Queue #16: (708, 26, 5) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34,
5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3)
Queue #17: (217, 27, 2) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32,
4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3)
Queue #18: (481, 25, 2) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33,
5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5)
Queue #19: (490, 27, 7) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
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Queue Management

```
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5)
Queue #20: (596, 27, 8) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 66
Clients that haven't arrived yet: (15, 67, 6), (42, 67, 7), (51, 67, 7),
(76, 67, 7), (279, 67, 4), (364, 67, 4), (518, 67, 7), (549, 67, 6), (557,
67, 3), (691, 67, 8), (699, 67, 8), (789, 67, 5), (870, 67, 8), (21, 68,
6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4),
(333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6),
(756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410,
69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69,
6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5),
(114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3),
(582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3),
(979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345,
71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71,
3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4),
(989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3),
(444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5),
(671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64,
73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73,
5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6),
(924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730,
74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75,
3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8),
(718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436,
76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76,
8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3),
(142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7),
(472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38,
78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78,
8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6),
(177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8),
(446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8),
(805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,
80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80,
7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3),
(954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),
(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),
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Queue Management

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(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86,
7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (304, 25, 1) (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559,
33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676,
45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8)
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Queue #2: (348, 26, 3) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44,
7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7)
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Queue #3: (392, 27, 4) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8)
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Queue #4: (415, 25, 2) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34,
8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4)
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Queue #5: (416, 27, 4) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8)
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Queue #6: (669, 27, 3) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31,
5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8)
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Queue #7: (488, 26, 4) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
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Queue Management

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7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6)
Queue #8: (817, 27, 5) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34,
3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43,
6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6)
Queue #9: (884, 27, 6) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6)
Queue #10: (788, 26, 2) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31,
3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7)
Queue #11: (684, 25, 2) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8)
Queue #12: (911, 26, 4) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34,
3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7)
Queue #13: (641, 26, 2) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32,
6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4)
Queue #14: (188, 27, 2) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34,
4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5)
Queue #15: (479, 27, 4) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5)
Queue #16: (708, 26, 4) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34,
5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3)
Queue #17: (217, 27, 1) (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32,
4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5)
Queue #18: (481, 25, 1) (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33,
5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5)
Queue #19: (490, 27, 6) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7)
Queue #20: (596, 27, 7) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8)
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Queue Management

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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 67
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Clients that haven't arrived yet: (21, 68, 6), (95, 68, 3), (104, 68, 3), (215, 68, 3), (227, 68, 8), (308, 68, 4), (333, 68, 8), (339, 68, 3), (354, 68, 5), (417, 68, 8), (742, 68, 6), (756, 68, 6), (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5),
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Queue Management

(35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (7, 28, 5) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8)

Queue #2: (348, 26, 2) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7)

Queue #3: (392, 27, 3) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4)

Queue #4: (415, 25, 1) (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8)

Queue #5: (416, 27, 3) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4)

Queue #6: (669, 27, 2) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8)

Queue #7: (488, 26, 3) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6)

Queue #8: (817, 27, 4) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6)

Queue #9: (884, 27, 5) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,



Queue Management

```
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6)
Queue #10: (788, 26, 1) (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31,
3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7)
Queue #11: (684, 25, 1) (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31,
5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8)
Queue #12: (911, 26, 3) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34,
3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7)
Queue #13: (641, 26, 1) (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32,
6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7)
Queue #14: (188, 27, 1) (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34,
4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6)
Queue #15: (479, 27, 3) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3)
Queue #16: (708, 26, 3) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34,
5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8)
Queue #17: (69, 28, 6) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8)
Queue #18: (148, 28, 8) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5)
Queue #19: (490, 27, 5) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7)
Queue #20: (596, 27, 6) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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```
Time: 68
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Queue Management

Clients that haven't arrived yet: (20, 69, 4), (80, 69, 8), (187, 69, 8), (400, 69, 6), (410, 69, 4), (431, 69, 7), (532, 69, 7), (569, 69, 5), (616, 69, 4), (649, 69, 6), (705, 69, 4), (759, 69, 6), (792, 69, 8), (857, 69, 8), (959, 69, 5), (114, 70, 5), (199, 70, 6), (299, 70, 6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6), (867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132, 71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),



Queue Management

(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,
8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (7, 28, 4) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161,
36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264,
47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8)

Queue #2: (348, 26, 1) (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33,
6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44,
7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7)

Queue #3: (392, 27, 2) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3)

Queue #4: (212, 28, 7) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8)

Queue #5: (416, 27, 2) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8)

Queue #6: (669, 27, 1) (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31,
5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4)

Queue #7: (488, 26, 2) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8)

Queue #8: (817, 27, 3) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34,
3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43,
6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5)

Queue #9: (884, 27, 4) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3)

Queue #10: (231, 28, 6) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6)

Queue #11: (244, 28, 3) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6)



Queue Management

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Queue #12: (911, 26, 2) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34,
3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7)
Queue #13: (278, 28, 7) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6)
Queue #14: (404, 28, 7) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6)
Queue #15: (479, 27, 2) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3)
Queue #16: (708, 26, 2) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34,
5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8)
Queue #17: (69, 28, 5) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8)
Queue #18: (148, 28, 7) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5)
Queue #19: (490, 27, 4) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3)
Queue #20: (596, 27, 5) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 69
Clients that haven't arrived yet: (114, 70, 5), (199, 70, 6), (299, 70,
6), (414, 70, 7), (430, 70, 3), (582, 70, 7), (634, 70, 8), (808, 70, 6),
(867, 70, 5), (978, 70, 3), (979, 70, 4), (984, 70, 6), (98, 71, 7), (132,
71, 3), (156, 71, 3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71,
4), (721, 71, 4), (757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5),
(903, 71, 3), (908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8),
(307, 72, 3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3),
(654, 72, 6), (659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7),
(858, 72, 7), (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168,
```



Queue Management

73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (7, 28, 3) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264,



Queue Management

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47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8)
Queue #2: (433, 28, 6) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46,
6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61,
3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4)
Queue #3: (392, 27, 1) (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33,
7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7)
Queue #4: (212, 28, 6) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8)
Queue #5: (416, 27, 1) (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33,
5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8)
Queue #6: (454, 28, 3) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32,
5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6)
Queue #7: (488, 26, 1) (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32,
7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8)
Queue #8: (817, 27, 2) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34,
3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43,
6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8)
Queue #9: (884, 27, 3) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7)
Queue #10: (231, 28, 5) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6)
Queue #11: (244, 28, 2) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6)
Queue #12: (911, 26, 1) (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34,
3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5)
Queue #13: (278, 28, 6) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6)
Queue #14: (404, 28, 6) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
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Queue Management

```
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8)
Queue #15: (479, 27, 1) (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32,
3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8)
Queue #16: (708, 26, 1) (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34,
5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4)
Queue #17: (69, 28, 4) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5)
Queue #18: (148, 28, 6) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4)
Queue #19: (490, 27, 3) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8)
Queue #20: (596, 27, 4) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 70

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Clients that haven't arrived yet: (98, 71, 7), (132, 71, 3), (156, 71,
3), (345, 71, 6), (418, 71, 4), (459, 71, 7), (574, 71, 4), (721, 71, 4),
(757, 71, 3), (794, 71, 6), (827, 71, 4), (893, 71, 5), (903, 71, 3),
(908, 71, 4), (989, 71, 3), (197, 72, 8), (266, 72, 8), (307, 72, 3),
(365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6),
(659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56,
73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73,
6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7),
(896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700,
74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75,
5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4),
(573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209,
76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76,
5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3),
(92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432,
77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77,
8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6),
(796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149,
```



Queue Management

79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (7, 28, 2) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4)

Queue #2: (433, 28, 5) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5)

Queue #3: (497, 28, 4) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6)



Queue Management

```
Queue #4: (212, 28, 5) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6)
Queue #5: (537, 28, 6) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7)
Queue #6: (454, 28, 2) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32,
5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6)
Queue #7: (694, 28, 3) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3)
Queue #8: (817, 27, 1) (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34,
3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43,
6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8)
Queue #9: (884, 27, 2) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7)
Queue #10: (231, 28, 4) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7)
Queue #11: (244, 28, 1) (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33,
7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6)
Queue #12: (747, 28, 8) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8)
Queue #13: (278, 28, 5) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6)
Queue #14: (404, 28, 5) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8)
Queue #15: (750, 28, 7) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8)
Queue #16: (852, 28, 8) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5)
Queue #17: (69, 28, 3) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
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Queue Management

```
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5)
Queue #18: (148, 28, 5) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6)
Queue #19: (490, 27, 2) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8)
Queue #20: (596, 27, 3) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 71
Clients that haven't arrived yet: (197, 72, 8), (266, 72, 8), (307, 72,
3), (365, 72, 3), (444, 72, 8), (533, 72, 4), (639, 72, 3), (654, 72, 6),
(659, 72, 5), (671, 72, 8), (772, 72, 5), (835, 72, 7), (858, 72, 7), (56,
73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73,
6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7),
(896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700,
74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75,
5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4),
(573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209,
76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76,
5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3),
(92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432,
77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77,
8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6),
(796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149,
79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79,
8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8),
(805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37,
80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80,
7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3),
(954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8),
(455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),
(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86,
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Queue Management

```
7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (7, 28, 1) (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161,
36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264,
47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3)
```

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Queue #2: (433, 28, 4) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46,
6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61,
3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3)
```

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Queue #3: (497, 28, 3) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35,
3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45,
6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6)
```

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Queue #4: (212, 28, 4) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6)
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Queue #5: (537, 28, 5) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7)
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Queue #6: (454, 28, 1) (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32,
5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7)
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Queue #7: (694, 28, 2) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
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Queue Management

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7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4)
Queue #8: (923, 28, 5) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35,
6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8)
Queue #9: (884, 27, 1) (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33,
6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4)
Queue #10: (231, 28, 3) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7)
Queue #11: (27, 29, 7) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7)
Queue #12: (747, 28, 7) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8)
Queue #13: (278, 28, 4) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6)
Queue #14: (404, 28, 4) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8)
Queue #15: (750, 28, 6) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5)
Queue #16: (852, 28, 7) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3)
Queue #17: (69, 28, 2) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4)
Queue #18: (148, 28, 4) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4)
Queue #19: (490, 27, 1) (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33,
5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6)
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Queue Management

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Queue #20: (596, 27, 2) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 72
Clients that haven't arrived yet: (56, 73, 5), (64, 73, 7), (105, 73, 4), (154, 73, 7), (168, 73, 7), (185, 73, 6), (366, 73, 5), (387, 73, 3), (511, 73, 8), (660, 73, 8), (767, 73, 7), (896, 73, 6), (924, 73, 8), (956, 73, 3), (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6),
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Queue Management

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(907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6),
(702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4),
(384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4),
(658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3),
(249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),
(617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5),
(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (121, 29, 4) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36,
4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47,
7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3)
Queue #2: (433, 28, 3) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35,
6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46,
6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61,
3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3)
Queue #3: (497, 28, 2) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35,
3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45,
6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8)
Queue #4: (212, 28, 3) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6)
Queue #5: (537, 28, 4) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8)
Queue #6: (206, 29, 3) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7)
Queue #7: (694, 28, 1) (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34,
7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4)
Queue #8: (923, 28, 4) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35,
6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8)
Queue #9: (317, 29, 3) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4)
Queue #10: (231, 28, 2) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32,
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Queue Management

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3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3)
Queue #11: (27, 29, 6) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7)
Queue #12: (747, 28, 6) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5)
Queue #13: (278, 28, 3) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8)
Queue #14: (404, 28, 3) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3)
Queue #15: (750, 28, 5) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5)
Queue #16: (852, 28, 6) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7)
Queue #17: (69, 28, 1) (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33,
4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6)
Queue #18: (148, 28, 3) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4)
Queue #19: (406, 29, 3) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7)
Queue #20: (596, 27, 1) (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34,
7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
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Queue Management

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 73

Clients that haven't arrived yet: (16, 74, 7), (117, 74, 3), (700, 74, 6), (730, 74, 3), (845, 74, 4), (928, 74, 3), (955, 74, 7), (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)



Queue Management

Queue #1: (121, 29, 3) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5)

Queue #2: (433, 28, 2) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6)

Queue #3: (497, 28, 1) (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8)

Queue #4: (212, 28, 2) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8)

Queue #5: (537, 28, 3) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8)

Queue #6: (206, 29, 2) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7)

Queue #7: (520, 29, 4) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7)

Queue #8: (923, 28, 3) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8)

Queue #9: (317, 29, 2) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8)

Queue #10: (231, 28, 1) (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5)

Queue #11: (27, 29, 5) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3)

Queue #12: (747, 28, 5) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,



Queue Management

```
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5)
Queue #13: (278, 28, 2) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8)
Queue #14: (404, 28, 2) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7)
Queue #15: (750, 28, 4) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8)
Queue #16: (852, 28, 5) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7)
Queue #17: (524, 29, 7) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6)
Queue #18: (148, 28, 2) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7)
Queue #19: (406, 29, 2) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7)
Queue #20: (535, 29, 5) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 74

Clients that haven't arrived yet: (119, 75, 5), (221, 75, 3), (309, 75, 6), (451, 75, 8), (468, 75, 6), (540, 75, 4), (573, 75, 8), (718, 75, 8), (824, 75, 3), (831, 75, 3), (89, 76, 8), (209, 76, 7), (436, 76, 4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8), (816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142, 77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5),



Queue Management

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(474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)
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Queue #1: (121, 29, 2) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6)
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Queue #2: (433, 28, 1) (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6)
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Queue Management

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Queue #3: (561, 29, 5) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8)
Queue #4: (212, 28, 1) (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36,
5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8)
Queue #5: (537, 28, 2) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34,
5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3)
Queue #6: (206, 29, 1) (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34,
7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7)
Queue #7: (520, 29, 3) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37,
6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7)
Queue #8: (923, 28, 2) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35,
6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3)
Queue #9: (317, 29, 1) (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34,
8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8)
Queue #10: (563, 29, 5) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7)
Queue #11: (27, 29, 4) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3)
Queue #12: (747, 28, 4) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7)
Queue #13: (278, 28, 1) (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34,
6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4)
Queue #14: (404, 28, 1) (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35,
3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
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Queue Management

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7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7)
Queue #15: (750, 28, 3) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8)
Queue #16: (852, 28, 4) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7)
Queue #17: (524, 29, 6) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3)
Queue #18: (148, 28, 1) (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34,
3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7)
Queue #19: (406, 29, 1) (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34,
5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7)
Queue #20: (535, 29, 4) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 75
Clients that haven't arrived yet: (89, 76, 8), (209, 76, 7), (436, 76,
4), (612, 76, 5), (635, 76, 8), (743, 76, 8), (754, 76, 5), (804, 76, 8),
(816, 76, 4), (844, 76, 5), (912, 76, 5), (922, 76, 3), (92, 77, 3), (142,
77, 4), (229, 77, 8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77,
5), (474, 77, 8), (765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4),
(129, 78, 5), (172, 78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8),
(889, 78, 6), (890, 78, 7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177,
79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79,
6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3),
(854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284,
80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80,
8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3),
(988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4),
(457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8),
(945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225,
```



Queue Management

82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (121, 29, 1) (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6)

Queue #2: (618, 29, 6) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6)

Queue #3: (561, 29, 4) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8)

Queue #4: (626, 29, 5) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8)

Queue #5: (537, 28, 1) (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,



Queue Management

```
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3)
Queue #6: (807, 29, 6) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6)
Queue #7: (520, 29, 2) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37,
6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7)
Queue #8: (923, 28, 1) (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35,
6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3)
Queue #9: (841, 29, 7) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8)
Queue #10: (563, 29, 4) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7)
Queue #11: (27, 29, 3) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4)
Queue #12: (747, 28, 3) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7)
Queue #13: (881, 29, 5) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4)
Queue #14: (909, 29, 6) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8)
Queue #15: (750, 28, 2) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8)
Queue #16: (852, 28, 3) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
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Queue Management

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4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5)
  Queue #17: (524, 29, 5) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8)
  Queue #18: (938, 29, 6) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3)
  Queue #19: (948, 29, 5) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3)
  Queue #20: (535, 29, 3) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 76

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Clients that haven't arrived yet: (92, 77, 3), (142, 77, 4), (229, 77,
8), (230, 77, 3), (346, 77, 8), (432, 77, 7), (472, 77, 5), (474, 77, 8),
(765, 77, 4), (885, 77, 5), (902, 77, 8), (38, 78, 4), (129, 78, 5), (172,
78, 8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78,
7), (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5),
(202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7),
(645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8),
(861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292,
80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80,
7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5),
(106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3),
(496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3),
(992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353,
82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83,
7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6),
(184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8),
(380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7),
(313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3),
(787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94,
86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86,
6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3),
(977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87,
4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8),
(601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124,
88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89,
3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5),
(35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403,
```




Queue Management

90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (55, 30, 7) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4)

Queue #2: (618, 29, 5) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6)

Queue #3: (561, 29, 3) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8)

Queue #4: (626, 29, 4) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5)

Queue #5: (179, 30, 7) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8)

Queue #6: (807, 29, 5) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6)

Queue #7: (520, 29, 1) (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7)

Queue #8: (435, 30, 8) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37,



Queue Management

```
4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5)
Queue #9: (841, 29, 6) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8)
Queue #10: (563, 29, 3) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7)
Queue #11: (27, 29, 2) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35,
3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5)
Queue #12: (747, 28, 2) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34,
8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3)
Queue #13: (881, 29, 4) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4)
Queue #14: (909, 29, 5) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8)
Queue #15: (750, 28, 1) (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34,
5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5)
Queue #16: (852, 28, 2) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36,
7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5)
Queue #17: (524, 29, 4) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8)
Queue #18: (938, 29, 5) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8)
Queue #19: (948, 29, 4) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
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Queue Management

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8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8)
Queue #20: (535, 29, 2) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37,
4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 77
Clients that haven't arrived yet: (38, 78, 4), (129, 78, 5), (172, 78,
8), (245, 78, 8), (288, 78, 6), (796, 78, 8), (889, 78, 6), (890, 78, 7),
(28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202,
79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79,
7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5),
(873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401,
80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80,
5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5),
(167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6),
(624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6,
82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82,
4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4),
(677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7),
(208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3),
(462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3),
(321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4),
(814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101,
86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86,
4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6),
(2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87,
6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4),
(813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351,
88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89,
7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5),
(251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8),
(632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8),
(233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
```



Queue Management

97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (55, 30, 6) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5)

Queue #2: (618, 29, 4) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8)

Queue #3: (561, 29, 2) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8)

Queue #4: (626, 29, 3) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5)

Queue #5: (179, 30, 6) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8)

Queue #6: (807, 29, 4) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3)

Queue #7: (458, 30, 7) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7)

Queue #8: (435, 30, 7) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5)

Queue #9: (841, 29, 5) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4)

Queue #10: (563, 29, 2) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8)



Queue Management

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Queue #11: (27, 29, 1) (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5)
Queue #12: (747, 28, 1) (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5)
Queue #13: (881, 29, 3) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7)
Queue #14: (909, 29, 4) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8)
Queue #15: (482, 30, 5) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8)
Queue #16: (852, 28, 1) (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4)
Queue #17: (524, 29, 3) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8)
Queue #18: (938, 29, 4) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8)
Queue #19: (948, 29, 3) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8)
Queue #20: (535, 29, 1) (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
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Queue Management

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 78

Clients that haven't arrived yet: (28, 79, 4), (145, 79, 8), (149, 79, 6), (177, 79, 7), (192, 79, 5), (202, 79, 6), (239, 79, 5), (336, 79, 8), (446, 79, 6), (450, 79, 7), (645, 79, 7), (664, 79, 6), (793, 79, 8), (805, 79, 3), (854, 79, 8), (861, 79, 5), (873, 79, 8), (971, 79, 7), (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (55, 30, 5) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5)

Queue #2: (618, 29, 3) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,



Queue Management

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7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8)
Queue #3: (561, 29, 1) (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36,
5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8)
Queue #4: (626, 29, 2) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38,
6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47,
8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4)
Queue #5: (179, 30, 5) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36,
4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8)
Queue #6: (807, 29, 3) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8)
Queue #7: (458, 30, 6) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6)
Queue #8: (435, 30, 6) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37,
4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8)
Queue #9: (841, 29, 4) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6)
Queue #10: (563, 29, 1) (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34,
5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8)
Queue #11: (494, 30, 4) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7)
Queue #12: (642, 30, 5) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51,
6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5)
Queue #13: (881, 29, 2) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7)
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Queue Management

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Queue #14: (909, 29, 3) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5)
Queue #15: (482, 30, 4) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8)
Queue #16: (904, 30, 5) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4)
Queue #17: (524, 29, 2) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8)
Queue #18: (938, 29, 3) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8)
Queue #19: (948, 29, 2) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8)
Queue #20: (952, 30, 8) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 79
Clients that haven't arrived yet: (37, 80, 8), (284, 80, 5), (292, 80, 7), (401, 80, 8), (407, 80, 7), (636, 80, 7), (678, 80, 8), (761, 80, 7), (763, 80, 5), (825, 80, 8), (917, 80, 3), (954, 80, 3), (988, 80, 5), (106, 81, 5), (167, 81, 6), (335, 81, 8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4), (880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123, 82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3),
```




Queue Management

(787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (55, 30, 4) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8)

Queue #2: (618, 29, 2) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7)

Queue #3: (987, 30, 8) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8)

Queue #4: (626, 29, 1) (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6)

Queue #5: (179, 30, 4) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6)

Queue #6: (807, 29, 2) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,



Queue Management

```
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8)
Queue #7: (458, 30, 5) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3)
Queue #8: (435, 30, 5) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37,
4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8)
Queue #9: (841, 29, 3) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8)
Queue #10: (226, 31, 3) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8)
Queue #11: (494, 30, 3) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7)
Queue #12: (642, 30, 4) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51,
6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5)
Queue #13: (881, 29, 1) (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37,
6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6)
Queue #14: (909, 29, 2) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7)
Queue #15: (482, 30, 3) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35,
7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5)
Queue #16: (904, 30, 4) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38,
7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48,
4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7)
Queue #17: (524, 29, 1) (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34,
8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
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Queue Management

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8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8)
Queue #18: (938, 29, 2) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5)
Queue #19: (948, 29, 1) (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36,
7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8)
Queue #20: (952, 30, 7) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 80
Clients that haven't arrived yet: (106, 81, 5), (167, 81, 6), (335, 81,
8), (455, 81, 4), (457, 81, 3), (496, 81, 6), (624, 81, 3), (876, 81, 4),
(880, 81, 8), (945, 81, 3), (992, 81, 7), (6, 82, 7), (71, 82, 5), (123,
82, 8), (225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82,
8), (29, 83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8),
(118, 84, 4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5),
(289, 84, 4), (372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6),
(731, 84, 4), (826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8),
(644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75,
86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86,
7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5),
(939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54,
87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87,
7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5),
(41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729,
88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89,
4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8),
(379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
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Queue Management

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(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (55, 30, 3) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37,
8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8)
Queue #2: (618, 29, 1) (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37,
4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48,
8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7)
Queue #3: (987, 30, 7) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8)
Queue #4: (250, 31, 8) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50,
8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8)
Queue #5: (179, 30, 3) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36,
4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3)
Queue #6: (807, 29, 1) (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37,
7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8)
Queue #7: (458, 30, 4) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7)
Queue #8: (435, 30, 4) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37,
4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7)
Queue #9: (841, 29, 2) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37,
8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8)
Queue #10: (226, 31, 2) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34,
7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
```



Queue Management

```
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8)
Queue #11: (494, 30, 2) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37,
6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7)
Queue #12: (642, 30, 3) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38,
8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51,
6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7)
Queue #13: (334, 31, 5) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3)
Queue #14: (909, 29, 1) (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36,
8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5)
Queue #15: (482, 30, 2) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35,
7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5)
Queue #16: (904, 30, 3) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38,
7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48,
4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5)
Queue #17: (343, 31, 3) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8)
Queue #18: (938, 29, 1) (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35,
4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5)
Queue #19: (438, 31, 6) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8)
Queue #20: (952, 30, 6) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7)
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Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 81
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Clients that haven't arrived yet: (6, 82, 7), (71, 82, 5), (123, 82, 8),
(225, 82, 7), (353, 82, 8), (544, 82, 4), (733, 82, 6), (778, 82, 8), (29,
83, 8), (296, 83, 7), (542, 83, 4), (677, 83, 7), (949, 83, 8), (118, 84,
4), (171, 84, 6), (184, 84, 7), (208, 84, 8), (243, 84, 5), (289, 84, 4),
(372, 84, 8), (380, 84, 3), (462, 84, 4), (606, 84, 6), (731, 84, 4),
(826, 84, 7), (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7),
(727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77,
86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86,
4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7),
(976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87,
8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5),
(517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109,
88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89,
8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3),
(960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399,
90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91,
8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7),
(657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6),
(951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4),
(456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8),
(218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5),
(519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6),
(907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6),
(702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4),
(384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4),
(658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3),
(249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),
(617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5),
(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)
```

```
Queue #1: (55, 30, 2) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37,
8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6)
```

```
Queue #2: (577, 31, 7) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39,
4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8)
```

```
Queue #3: (987, 30, 6) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
```



Queue Management

```
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8)
Queue #4: (250, 31, 7) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8)
Queue #5: (179, 30, 2) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3)
Queue #6: (608, 31, 5) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8)
Queue #7: (458, 30, 3) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7)
Queue #8: (435, 30, 3) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7)
Queue #9: (841, 29, 1) (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4)
Queue #10: (226, 31, 1) (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3)
Queue #11: (494, 30, 1) (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8)
Queue #12: (642, 30, 2) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7)
Queue #13: (334, 31, 4) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6)
Queue #14: (716, 31, 8) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
```



Queue Management

```
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5)
Queue #15: (482, 30, 1) (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35,
7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5)
Queue #16: (904, 30, 2) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38,
7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48,
4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3)
Queue #17: (343, 31, 2) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37,
4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8)
Queue #18: (738, 31, 5) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4)
Queue #19: (438, 31, 5) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8)
Queue #20: (952, 30, 5) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 82
Clients that haven't arrived yet: (29, 83, 8), (296, 83, 7), (542, 83,
4), (677, 83, 7), (949, 83, 8), (118, 84, 4), (171, 84, 6), (184, 84, 7),
(208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3),
(462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3),
(321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4),
(814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101,
86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86,
4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6),
(2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87,
6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4),
(813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351,
88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89,
7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5),
```




Queue Management

(251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8),
(632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8),
(233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,
8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (55, 30, 1) (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37,
8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6)

Queue #2: (577, 31, 6) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39,
4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8)

Queue #3: (987, 30, 5) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7)

Queue #4: (250, 31, 6) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50,
8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8)

Queue #5: (179, 30, 1) (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36,
4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3)

Queue #6: (608, 31, 4) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39,
3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8)

Queue #7: (458, 30, 2) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39,
5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,



Queue Management

```
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4)
Queue #8: (435, 30, 2) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5)
Queue #9: (771, 31, 4) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4)
Queue #10: (774, 31, 3) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6)
Queue #11: (941, 31, 5) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8)
Queue #12: (642, 30, 1) (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8)
Queue #13: (334, 31, 3) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6)
Queue #14: (716, 31, 7) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8)
Queue #15: (18, 32, 3) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5)
Queue #16: (904, 30, 1) (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3)
Queue #17: (343, 31, 1) (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7)
Queue #18: (738, 31, 4) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
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Queue Management

```
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4)
Queue #19: (438, 31, 4) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8)
Queue #20: (952, 30, 4) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 83
Clients that haven't arrived yet: (118, 84, 4), (171, 84, 6), (184, 84,
7), (208, 84, 8), (243, 84, 5), (289, 84, 4), (372, 84, 8), (380, 84, 3),
(462, 84, 4), (606, 84, 6), (731, 84, 4), (826, 84, 7), (313, 85, 3),
(321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4),
(814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101,
86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86,
4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6),
(2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87,
6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4),
(813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351,
88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89,
7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5),
(251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8),
(632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8),
(233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,
8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)
```



Queue Management

Queue #1: (248, 32, 5) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6)

Queue #2: (577, 31, 5) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8)

Queue #3: (987, 30, 4) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7)

Queue #4: (250, 31, 5) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4)

Queue #5: (328, 32, 4) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7)

Queue #6: (608, 31, 3) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8)

Queue #7: (458, 30, 1) (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4)

Queue #8: (435, 30, 1) (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5)

Queue #9: (771, 31, 3) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4)

Queue #10: (774, 31, 2) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6)

Queue #11: (941, 31, 4) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8)



Queue Management

```
Queue #12: (329, 32, 7) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8)
Queue #13: (334, 31, 2) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6)
Queue #14: (716, 31, 6) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8)
Queue #15: (18, 32, 2) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8)
Queue #16: (388, 32, 8) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8)
Queue #17: (476, 32, 4) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7)
Queue #18: (738, 31, 3) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7)
Queue #19: (438, 31, 3) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8)
Queue #20: (952, 30, 3) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 84
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Queue Management

Clients that haven't arrived yet: (313, 85, 3), (321, 85, 7), (558, 85, 8), (644, 85, 7), (727, 85, 3), (787, 85, 4), (814, 85, 3), (894, 85, 3), (75, 86, 6), (77, 86, 5), (94, 86, 4), (101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6), (819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3), (977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (248, 32, 4) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6)

Queue #2: (577, 31, 4) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5)

Queue #3: (987, 30, 3) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4)

Queue #4: (250, 31, 4) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3)

Queue #5: (328, 32, 3) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,



Queue Management

```
3) (677, 83, 7)
Queue #6: (608, 31, 2) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39,
3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8)
Queue #7: (489, 32, 7) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4)
Queue #8: (545, 32, 7) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8)
Queue #9: (771, 31, 2) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40,
8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50,
5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64,
3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7)
Queue #10: (774, 31, 1) (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38,
8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7)
Queue #11: (941, 31, 3) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38,
3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8)
Queue #12: (329, 32, 6) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8)
Queue #13: (334, 31, 1) (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38,
5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8)
Queue #14: (716, 31, 5) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8)
Queue #15: (18, 32, 1) (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38,
8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8)
Queue #16: (388, 32, 7) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
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Queue Management

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3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8)
Queue #17: (476, 32, 3) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7)
Queue #18: (738, 31, 2) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7)
Queue #19: (438, 31, 2) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4)
Queue #20: (952, 30, 2) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 85
Clients that haven't arrived yet: (75, 86, 6), (77, 86, 5), (94, 86, 4),
(101, 86, 6), (306, 86, 7), (409, 86, 7), (498, 86, 4), (640, 86, 6),
(819, 86, 4), (838, 86, 8), (864, 86, 5), (939, 86, 7), (976, 86, 3),
(977, 86, 6), (2, 87, 4), (52, 87, 7), (54, 87, 5), (58, 87, 8), (96, 87,
4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421, 87, 5), (517, 87, 8),
(601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88, 7), (109, 88, 5), (124,
88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89,
3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5),
(35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403,
90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91,
8), (233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,
```




Queue Management

8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (248, 32, 3) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3)

Queue #2: (577, 31, 3) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5)

Queue #3: (987, 30, 2) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4)

Queue #4: (250, 31, 3) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4)

Queue #5: (328, 32, 2) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3)

Queue #6: (608, 31, 1) (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3)

Queue #7: (489, 32, 6) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4)

Queue #8: (545, 32, 6) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 6) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8)

Queue #9: (771, 31, 1) (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7)

Queue #10: (685, 32, 3) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,



Queue Management

```
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7)
Queue #11: (941, 31, 2) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38,
3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3)
Queue #12: (329, 32, 5) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8)
Queue #13: (925, 32, 6) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8)
Queue #14: (716, 31, 4) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8)
Queue #15: (929, 32, 3) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8)
Queue #16: (388, 32, 6) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8)
Queue #17: (476, 32, 2) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7)
Queue #18: (738, 31, 1) (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37,
5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7)
Queue #19: (438, 31, 1) (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38,
8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4)
Queue #20: (952, 30, 1) (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38,
8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6)
```



Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 86

```
Clients that haven't arrived yet: (2, 87, 4), (52, 87, 7), (54, 87, 5),
(58, 87, 8), (96, 87, 4), (191, 87, 6), (198, 87, 7), (219, 87, 7), (421,
87, 5), (517, 87, 8), (601, 87, 4), (813, 87, 5), (820, 87, 5), (41, 88,
7), (109, 88, 5), (124, 88, 3), (351, 88, 4), (464, 88, 3), (729, 88, 7),
(87, 89, 8), (480, 89, 3), (485, 89, 7), (665, 89, 3), (720, 89, 4), (946,
89, 3), (960, 89, 5), (35, 90, 5), (251, 90, 5), (349, 90, 8), (379, 90,
6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8), (994, 90, 5),
(155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3), (548, 91, 8),
(611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5), (843, 91, 4),
(926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6), (112, 92, 3),
(139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3),
(829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6),
(413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8),
(900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4),
(562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4),
(999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6),
(570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7),
(862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7),
(491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3),
(698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49,
97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97,
6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8),
(466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7),
(688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7),
(352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7),
(766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7),
(751, 99, 6), (847, 99, 3)
```

```
Queue #1: (248, 32, 2) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39,
7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8)
```

```
Queue #2: (577, 31, 2) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39,
4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6)
```

```
Queue #3: (987, 30, 1) (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38,
4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4)
```

```
Queue #4: (250, 31, 2) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50,
8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
```



Queue Management

```
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4)
Queue #5: (328, 32, 1) (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38,
7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62,
5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5)
Queue #6: (990, 32, 5) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7)
Queue #7: (489, 32, 5) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6)
Queue #8: (545, 32, 5) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8)
Queue #9: (48, 33, 6) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7)
Queue #10: (685, 32, 2) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40,
8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53,
7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7)
Queue #11: (941, 31, 1) (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38,
3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7)
Queue #12: (329, 32, 4) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8)
Queue #13: (925, 32, 5) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3)
Queue #14: (716, 31, 3) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5)
Queue #15: (929, 32, 2) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
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Queue Management

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8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4)
Queue #16: (388, 32, 5) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4)
Queue #17: (476, 32, 1) (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38,
4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7)
Queue #18: (222, 33, 5) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7)
Queue #19: (223, 33, 5) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6)
Queue #20: (281, 33, 4) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 87
Clients that haven't arrived yet: (41, 88, 7), (109, 88, 5), (124, 88,
3), (351, 88, 4), (464, 88, 3), (729, 88, 7), (87, 89, 8), (480, 89, 3),
(485, 89, 7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35,
90, 5), (251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90,
8), (632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8),
(233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
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Queue Management

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(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),  
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,  
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,  
8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),  
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),  
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),  
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),  
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (248, 32, 1) (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39,  
7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,  
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,  
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,  
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,  
3) (838, 86, 8)
```

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Queue #2: (577, 31, 1) (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39,  
4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,  
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,  
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,  
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,  
6) (813, 87, 5)
```

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Queue #3: (295, 33, 7) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,  
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,  
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,  
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,  
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,  
4) (219, 87, 7)
```

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Queue #4: (250, 31, 1) (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39,  
6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50,  
8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,  
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,  
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,  
4) (2, 87, 4)
```

```
Queue #5: (361, 33, 5) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,  
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,  
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,  
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,  
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,  
7) (814, 85, 3) (864, 86, 5)
```

```
Queue #6: (990, 32, 4) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,  
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,  
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,  
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,  
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7)
```

```
Queue #7: (489, 32, 4) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,  
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,  
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,  
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,  
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,  
4) (289, 84, 4) (75, 86, 6) (421, 87, 5)
```

```
Queue #8: (545, 32, 4) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,  
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,  
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,  
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,  
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7)
```

```
Queue #9: (48, 33, 5) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,  
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
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Queue Management

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6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7)
Queue #10: (685, 32, 1) (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40,
8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53,
7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8)
Queue #11: (467, 33, 7) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7)
Queue #12: (329, 32, 3) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5)
Queue #13: (925, 32, 4) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8)
Queue #14: (716, 31, 2) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4)
Queue #15: (929, 32, 1) (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40,
5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5)
Queue #16: (388, 32, 4) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6)
Queue #17: (507, 33, 4) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39,
5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7)
Queue #18: (222, 33, 4) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4)
Queue #19: (223, 33, 4) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
```



Queue Management

```
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6)
Queue #20: (281, 33, 3) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6)

Maximum simulation time: 200
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Time: 88
Clients that haven't arrived yet: (87, 89, 8), (480, 89, 3), (485, 89,
7), (665, 89, 3), (720, 89, 4), (946, 89, 3), (960, 89, 5), (35, 90, 5),
(251, 90, 5), (349, 90, 8), (379, 90, 6), (399, 90, 4), (403, 90, 8),
(632, 90, 8), (663, 90, 8), (994, 90, 5), (155, 91, 8), (232, 91, 8),
(233, 91, 5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6),
(662, 91, 5), (693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6),
(982, 91, 3), (102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3),
(594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5),
(280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8),
(706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8),
(940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4),
(869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8),
(425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6),
(734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3),
(285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5),
(631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8),
(780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91,
97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97,
8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (559, 33, 8) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42,
4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8)
Queue #2: (714, 33, 6) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5)
Queue #3: (295, 33, 6) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
```




Queue Management

```
4) (219, 87, 7)
Queue #4: (14, 34, 8) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5)
Queue #5: (361, 33, 4) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3)
Queue #6: (990, 32, 3) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7)
Queue #7: (489, 32, 3) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5)
Queue #8: (545, 32, 3) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7)
Queue #9: (48, 33, 4) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4)
Queue #10: (57, 34, 5) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8)
Queue #11: (467, 33, 6) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3)
Queue #12: (329, 32, 2) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5)
Queue #13: (925, 32, 3) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8)
Queue #14: (716, 31, 1) (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39,
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Queue Management

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8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7)
Queue #15: (61, 34, 5) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42,
7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5)
Queue #16: (388, 32, 3) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6)
Queue #17: (507, 33, 3) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39,
5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7)
Queue #18: (222, 33, 3) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4)
Queue #19: (223, 33, 3) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7)
Queue #20: (281, 33, 2) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 89

```
Clients that haven't arrived yet: (35, 90, 5), (251, 90, 5), (349, 90,
8), (379, 90, 6), (399, 90, 4), (403, 90, 8), (632, 90, 8), (663, 90, 8),
(994, 90, 5), (155, 91, 8), (232, 91, 8), (233, 91, 5), (290, 91, 3),
(548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5), (693, 91, 5),
(843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3), (102, 92, 6),
(112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4), (597, 92, 3),
(812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8), (294, 93, 6),
(376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3),
(790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6),
```



Queue Management

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(437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6),
(921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4),
(526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (559, 33, 7) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42,
4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4)

Queue #2: (714, 33, 5) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5)

Queue #3: (295, 33, 5) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7)

Queue #4: (14, 34, 7) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5)

Queue #5: (361, 33, 3) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3)

Queue #6: (990, 32, 2) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7)

Queue #7: (489, 32, 2) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5)

Queue #8: (545, 32, 2) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
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Queue Management

```
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7)
Queue #9: (48, 33, 3) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4)
Queue #10: (57, 34, 4) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8)
Queue #11: (467, 33, 5) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3)
Queue #12: (329, 32, 1) (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41,
6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5)
Queue #13: (925, 32, 2) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8)
Queue #14: (82, 34, 4) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7)
Queue #15: (61, 34, 4) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42,
7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8)
Queue #16: (388, 32, 2) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6)
Queue #17: (507, 33, 2) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39,
5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7)
Queue #18: (222, 33, 2) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
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Queue Management

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4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3)
Queue #19: (223, 33, 2) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7)
Queue #20: (281, 33, 1) (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41,
5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 90

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Clients that haven't arrived yet: (155, 91, 8), (232, 91, 8), (233, 91,
5), (290, 91, 3), (548, 91, 8), (611, 91, 7), (657, 91, 6), (662, 91, 5),
(693, 91, 5), (843, 91, 4), (926, 91, 6), (951, 91, 6), (982, 91, 3),
(102, 92, 6), (112, 92, 3), (139, 92, 4), (456, 92, 3), (594, 92, 4),
(597, 92, 3), (812, 92, 3), (829, 92, 8), (218, 93, 5), (280, 93, 8),
(294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8),
(710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5),
(371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8),
(919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5),
(470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3),
(775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8),
(362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4),
(633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4),
(815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100,
97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97,
6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6),
(610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6),
(860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3),
(683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7),
(495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)
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```
Queue #1: (559, 33, 6) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42,
4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4)
```

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Queue #2: (714, 33, 4) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6)
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Queue #3: (295, 33, 4) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
```



Queue Management

```
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5)
Queue #4: (14, 34, 6) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5)
Queue #5: (361, 33, 2) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3)
Queue #6: (990, 32, 1) (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40,
3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7)
Queue #7: (489, 32, 1) (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41,
5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5)
Queue #8: (545, 32, 1) (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39,
4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5)
Queue #9: (48, 33, 2) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4)
Queue #10: (57, 34, 3) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8)
Queue #11: (467, 33, 4) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5)
Queue #12: (99, 34, 3) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8)
Queue #13: (925, 32, 1) (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40,
7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
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Queue Management

```
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8)
Queue #14: (82, 34, 3) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7)
Queue #15: (61, 34, 3) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42,
7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8)
Queue #16: (388, 32, 1) (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41,
4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8)
Queue #17: (507, 33, 1) (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39,
5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8)
Queue #18: (222, 33, 1) (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38,
5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3)
Queue #19: (223, 33, 1) (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41,
7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7)
Queue #20: (125, 34, 7) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 91
Clients that haven't arrived yet: (102, 92, 6), (112, 92, 3), (139, 92,
4), (456, 92, 3), (594, 92, 4), (597, 92, 3), (812, 92, 3), (829, 92, 8),
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Queue Management

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(218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5),
(519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6),
(907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6),
(702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4),
(384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4),
(658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3),
(249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),
(617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5),
(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (559, 33, 5) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42,
4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6)
Queue #2: (714, 33, 3) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6)
Queue #3: (295, 33, 3) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5)
Queue #4: (14, 34, 5) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8)
Queue #5: (361, 33, 1) (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39,
7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3)
Queue #6: (256, 34, 7) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7)
Queue #7: (261, 34, 7) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
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Queue Management

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4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5)
Queue #8: (423, 34, 3) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40,
7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5)
Queue #9: (48, 33, 1) (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43,
5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4)
Queue #10: (57, 34, 2) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8)
Queue #11: (467, 33, 3) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6)
Queue #12: (99, 34, 2) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8)
Queue #13: (534, 34, 6) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8)
Queue #14: (82, 34, 2) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6)
Queue #15: (61, 34, 2) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42,
7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8)
Queue #16: (607, 34, 5) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8)
Queue #17: (717, 34, 8) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
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Queue Management

```
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8)
Queue #18: (723, 34, 3) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5)
Queue #19: (758, 34, 5) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7)
Queue #20: (125, 34, 6) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

Time: 92

```
Clients that haven't arrived yet: (218, 93, 5), (280, 93, 8), (294, 93, 6), (376, 93, 6), (413, 93, 5), (519, 93, 8), (706, 93, 8), (710, 93, 3), (790, 93, 8), (900, 93, 6), (907, 93, 8), (940, 93, 5), (371, 94, 6), (437, 94, 4), (562, 94, 6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4), (384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)
```

```
Queue #1: (559, 33, 4) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6)
```

```
Queue #2: (714, 33, 2) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 7)
```



Queue Management

```
5) (379, 90, 6) (139, 92, 4)
Queue #3: (295, 33, 2) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3)
Queue #4: (14, 34, 4) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8)
Queue #5: (839, 34, 5) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42,
3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3)
Queue #6: (256, 34, 6) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6)
Queue #7: (261, 34, 6) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5)
Queue #8: (423, 34, 2) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40,
7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5)
Queue #9: (859, 34, 8) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8)
Queue #10: (57, 34, 1) (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43,
8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8)
Queue #11: (467, 33, 2) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6)
Queue #12: (99, 34, 1) (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42,
7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
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Queue Management

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5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8)
Queue #13: (534, 34, 5) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8)
Queue #14: (82, 34, 1) (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41,
5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6)
Queue #15: (61, 34, 1) (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42,
7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3)
Queue #16: (607, 34, 4) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3)
Queue #17: (717, 34, 7) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8)
Queue #18: (723, 34, 2) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4)
Queue #19: (758, 34, 4) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7)
Queue #20: (125, 34, 5) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Queue Management

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Time: 93
Clients that haven't arrived yet: (371, 94, 6), (437, 94, 4), (562, 94,
6), (702, 94, 4), (869, 94, 8), (919, 94, 6), (921, 94, 4), (999, 94, 4),
(384, 95, 8), (425, 95, 5), (470, 95, 4), (526, 95, 6), (570, 95, 4),
(658, 95, 6), (734, 95, 3), (775, 95, 7), (798, 95, 7), (862, 95, 3),
(249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8),
(617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5),
(713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68,
97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97,
8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3),
(475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7),
(737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4),
(510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4),
(312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6),
(847, 99, 3)

Queue #1: (559, 33, 3) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42,
4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5)
Queue #2: (714, 33, 1) (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39,
7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5)
Queue #3: (295, 33, 1) (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39,
5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8)
Queue #4: (14, 34, 3) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8)
Queue #5: (839, 34, 4) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42,
3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3)
Queue #6: (256, 34, 5) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6)
Queue #7: (261, 34, 5) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
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Queue Management

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4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3)
Queue #8: (423, 34, 1) (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40,
7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8)
Queue #9: (859, 34, 7) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8)
Queue #10: (947, 34, 7) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6)
Queue #11: (467, 33, 1) (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39,
3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6)
Queue #12: (964, 34, 8) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5)
Queue #13: (534, 34, 4) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8)
Queue #14: (385, 35, 3) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43,
5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6)
Queue #15: (538, 35, 7) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8)
Queue #16: (607, 34, 3) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3)
Queue #17: (717, 34, 6) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
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Queue Management

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3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6)
Queue #18: (723, 34, 1) (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41,
5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4)
Queue #19: (758, 34, 3) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8)
Queue #20: (125, 34, 4) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 94
Clients that haven't arrived yet: (384, 95, 8), (425, 95, 5), (470, 95,
4), (526, 95, 6), (570, 95, 4), (658, 95, 6), (734, 95, 3), (775, 95, 7),
(798, 95, 7), (862, 95, 3), (249, 96, 3), (285, 96, 8), (362, 96, 8),
(367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8),
(672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3),
(958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241,
97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97,
6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7),
(651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7),
(892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7),
(745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5),
(586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (559, 33, 2) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42,
4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5)
Queue #2: (547, 35, 6) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5)
Queue #3: (581, 35, 3) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41,
4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
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Queue Management

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6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8)
Queue #4: (14, 34, 2) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10,
43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666,
54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870,
67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8)
Queue #5: (839, 34, 3) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42,
3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6)
Queue #6: (256, 34, 4) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4)
Queue #7: (261, 34, 4) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4)
Queue #8: (704, 35, 6) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8)
Queue #9: (859, 34, 6) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8)
Queue #10: (947, 34, 6) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6)
Queue #11: (910, 35, 3) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6)
Queue #12: (964, 34, 7) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5)
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Queue Management

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Queue #13: (534, 34, 3) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4)
Queue #14: (385, 35, 2) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43,
5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6)
Queue #15: (538, 35, 6) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8)
Queue #16: (607, 34, 2) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4)
Queue #17: (717, 34, 5) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6)
Queue #18: (980, 35, 4) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8)
Queue #19: (758, 34, 2) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8)
Queue #20: (125, 34, 3) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```



Queue Management

Time: 95

Clients that haven't arrived yet: (249, 96, 3), (285, 96, 8), (362, 96, 8), (367, 96, 7), (491, 96, 8), (617, 96, 5), (631, 96, 4), (633, 96, 8), (672, 96, 3), (698, 96, 5), (713, 96, 8), (780, 96, 4), (815, 96, 3), (958, 96, 4), (49, 97, 7), (68, 97, 4), (91, 97, 8), (100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8), (314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6), (513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5), (799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (559, 33, 1) (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5)

Queue #2: (547, 35, 5) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3)

Queue #3: (581, 35, 2) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8)

Queue #4: (14, 34, 1) (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8)

Queue #5: (839, 34, 2) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6)

Queue #6: (256, 34, 3) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7)

Queue #7: (261, 34, 3) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3)

Queue #8: (704, 35, 5) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,



Queue Management

```
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8)
Queue #9: (859, 34, 5) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8)
Queue #10: (947, 34, 5) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7)
Queue #11: (910, 35, 2) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6)
Queue #12: (964, 34, 6) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8)
Queue #13: (534, 34, 2) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4)
Queue #14: (385, 35, 1) (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43,
5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6)
Queue #15: (538, 35, 5) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8)
Queue #16: (607, 34, 1) (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42,
3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6)
Queue #17: (717, 34, 4) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
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Queue Management

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3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4)
Queue #18: (980, 35, 3) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8)
Queue #19: (758, 34, 1) (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43,
8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8)
Queue #20: (125, 34, 2) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 96
Clients that haven't arrived yet: (49, 97, 7), (68, 97, 4), (91, 97, 8),
(100, 97, 4), (241, 97, 5), (262, 97, 6), (265, 97, 8), (282, 97, 8),
(314, 97, 6), (391, 97, 6), (408, 97, 8), (466, 97, 3), (475, 97, 6),
(513, 97, 6), (610, 97, 7), (651, 97, 7), (688, 97, 7), (737, 97, 5),
(799, 97, 6), (860, 97, 7), (892, 97, 7), (352, 98, 4), (510, 98, 6),
(598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3),
(493, 99, 7), (495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (161, 36, 4) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43,
7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4)
Queue #2: (547, 35, 4) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5)
Queue #3: (581, 35, 1) (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41,
4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8)
Queue #4: (196, 36, 5) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
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Queue Management

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3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5)
Queue #5: (839, 34, 1) (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42,
3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4)
Queue #6: (256, 34, 2) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41,
4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7)
Queue #7: (261, 34, 2) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42,
7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3)
Queue #8: (704, 35, 4) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8)
Queue #9: (859, 34, 4) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3)
Queue #10: (947, 34, 4) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7)
Queue #11: (910, 35, 1) (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41,
8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8)
Queue #12: (964, 34, 5) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8)
Queue #13: (534, 34, 1) (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42,
6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
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Queue Management

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7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8)
Queue #14: (323, 36, 8) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8)
Queue #15: (538, 35, 4) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7)
Queue #16: (629, 36, 7) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6)
Queue #17: (717, 34, 3) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4)
Queue #18: (980, 35, 2) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42,
5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
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3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3)
Queue #19: (697, 36, 7) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3)
Queue #20: (125, 34, 1) (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42,
5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 97

Clients that haven't arrived yet: (352, 98, 4), (510, 98, 6), (598, 98, 3), (683, 98, 7), (745, 98, 7), (766, 98, 4), (312, 99, 3), (493, 99, 7),



Queue Management

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(495, 99, 5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (161, 36, 3) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6)

Queue #2: (547, 35, 3) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6)

Queue #3: (809, 36, 5) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (196, 36, 4) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6)

Queue #5: (868, 36, 4) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6)

Queue #6: (256, 34, 1) (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6)

Queue #7: (261, 34, 1) (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7)

Queue #8: (704, 35, 3) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (859, 34, 3) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
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Queue Management

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7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (947, 34, 3) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (116, 37, 6) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (964, 34, 4) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8)
Queue #13: (134, 37, 6) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8)
Queue #14: (323, 36, 7) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (538, 35, 3) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (629, 36, 6) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8)
Queue #17: (717, 34, 2) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3)
Queue #18: (980, 35, 1) (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
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Queue Management

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4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (697, 36, 6) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (152, 37, 4) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 98
Clients that haven't arrived yet: (312, 99, 3), (493, 99, 7), (495, 99,
5), (586, 99, 7), (751, 99, 6), (847, 99, 3)

Queue #1: (161, 36, 2) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43,
7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6)
Queue #2: (547, 35, 2) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6)
Queue #3: (809, 36, 4) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (196, 36, 3) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (868, 36, 3) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
```



Queue Management

Queue #6: (302, 37, 7) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6)

Queue #7: (551, 37, 6) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3)

Queue #8: (704, 35, 2) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (859, 34, 2) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)

Queue #10: (947, 34, 2) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)

Queue #11: (116, 37, 5) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)

Queue #12: (964, 34, 3) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8)

Queue #13: (134, 37, 5) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)

Queue #14: (323, 36, 6) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)

Queue #15: (538, 35, 2) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,



Queue Management

```
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (629, 36, 5) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8)
Queue #17: (717, 34, 1) (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41,
8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (571, 37, 5) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (697, 36, 5) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (152, 37, 3) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 99
All of the clients have already arrived.

Queue #1: (161, 36, 1) (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43,
7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (547, 35, 1) (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42,
5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
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Queue Management

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6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (809, 36, 3) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (196, 36, 2) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (868, 36, 2) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (302, 37, 6) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (551, 37, 5) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (704, 35, 1) (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42,
3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (859, 34, 1) (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44,
4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (947, 34, 1) (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45,
4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (116, 37, 4) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
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Queue Management

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5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (964, 34, 2) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44,
8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (134, 37, 4) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (323, 36, 5) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (538, 35, 1) (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44,
3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (629, 36, 4) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (589, 37, 4) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (571, 37, 4) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (697, 36, 4) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (152, 37, 2) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
```



Queue Management

```
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 100
All of the clients have already arrived.
```

```
Queue #1: (653, 37, 8) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45,
6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (840, 37, 4) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44,
7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (809, 36, 2) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (196, 36, 1) (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43,
3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (868, 36, 1) (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43,
3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (302, 37, 5) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (551, 37, 4) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
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Queue Management

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6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (846, 37, 4) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (877, 37, 8) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 8) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (116, 37, 3) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (964, 34, 1) (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (134, 37, 3) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (323, 36, 4) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 8) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (629, 36, 3) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (589, 37, 3) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
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Queue Management

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5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (571, 37, 3) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (697, 36, 3) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (152, 37, 1) (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44,
7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 101
All of the clients have already arrived.

Queue #1: (653, 37, 7) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45,
6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (840, 37, 3) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44,
7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (809, 36, 1) (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42,
8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (46, 38, 6) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
```




Queue Management

```
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (63, 38, 7) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (302, 37, 4) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (551, 37, 3) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (846, 37, 3) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43,
6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (877, 37, 7) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 7) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (116, 37, 2) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 8) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (134, 37, 2) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
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Queue Management

```
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (323, 36, 3) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 7) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (629, 36, 2) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (589, 37, 2) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (571, 37, 2) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (697, 36, 2) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (356, 38, 8) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 102
All of the clients have already arrived.
```



Queue Management

Queue #1: (653, 37, 6) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (840, 37, 2) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (439, 38, 4) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (46, 38, 5) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (63, 38, 6) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (302, 37, 3) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (551, 37, 2) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (846, 37, 2) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (877, 37, 6) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)

Queue #10: (13, 38, 6) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,



Queue Management

```
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (116, 37, 1) (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43,
5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 7) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (134, 37, 1) (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44,
3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (323, 36, 2) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 6) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (629, 36, 1) (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43,
6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (589, 37, 1) (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44,
5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (571, 37, 1) (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43,
4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (697, 36, 1) (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46,
4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
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Queue Management

```
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
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Queue #20: (356, 38, 7) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 103

All of the clients have already arrived.

```
Queue #1: (653, 37, 5) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
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Queue #2: (840, 37, 1) (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
```

```
Queue #3: (439, 38, 3) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
```

```
Queue #4: (46, 38, 4) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
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Queue #5: (63, 38, 5) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
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Queue #6: (302, 37, 2) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 8)
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Queue Management

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4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (551, 37, 1) (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44,
5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (846, 37, 1) (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43,
6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (877, 37, 5) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 5) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (522, 38, 3) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 6) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (650, 38, 5) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (323, 36, 1) (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44,
3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 5) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (674, 38, 7) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
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Queue Management

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4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
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Queue #17: (746, 38, 4) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
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Queue #18: (853, 38, 5) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
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Queue #19: (974, 38, 8) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
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Queue #20: (356, 38, 6) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200  
Number of clients: 1000  
Number of queues: 20  
Arrival time interval: [10, 100]  
Service time interval: [3, 9]
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Time: 104  
All of the clients have already arrived.
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Queue #1: (653, 37, 4) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
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Queue #2: (83, 39, 4) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
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Queue #3: (439, 38, 2) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
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Queue Management

```
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (46, 38, 3) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (63, 38, 4) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (302, 37, 1) (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42,
6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (267, 39, 5) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (286, 39, 4) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (877, 37, 4) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 4) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (522, 38, 2) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 5) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
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Queue Management

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8) (265, 97, 8) (847, 99, 3)
Queue #13: (650, 38, 4) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 8) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 4) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (674, 38, 6) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (746, 38, 3) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (853, 38, 4) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (974, 38, 7) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (356, 38, 5) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
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Queue Management

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 105

All of the clients have already arrived.

```
Queue #1: (653, 37, 3) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45,
6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (83, 39, 3) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36,
48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856,
62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (439, 38, 1) (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45,
6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (46, 38, 2) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (63, 38, 3) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (358, 39, 3) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (267, 39, 4) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (286, 39, 3) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (877, 37, 3) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
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Queue Management

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5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 3) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (522, 38, 1) (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44,
5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 4) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (650, 38, 3) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 7) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 3) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (674, 38, 5) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (746, 38, 2) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (853, 38, 3) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
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Queue Management

```
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (974, 38, 6) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (356, 38, 4) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 106
All of the clients have already arrived.

Queue #1: (653, 37, 2) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45,
6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (83, 39, 2) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36,
48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856,
62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (527, 39, 5) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (46, 38, 1) (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43,
5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (63, 38, 2) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
```



Queue Management

```
4) (262, 97, 6) (745, 98, 7)
Queue #6: (358, 39, 2) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (267, 39, 3) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (286, 39, 2) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (877, 37, 2) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 2) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (572, 39, 3) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 3) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (650, 38, 2) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 6) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 2) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
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Queue Management

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6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
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Queue #16: (674, 38, 4) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
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Queue #17: (746, 38, 1) (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45,
8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
```

```
Queue #18: (853, 38, 2) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
```

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Queue #19: (974, 38, 5) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
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Queue #20: (356, 38, 3) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 107

All of the clients have already arrived.

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Queue #1: (653, 37, 1) (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45,
6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
```

```
Queue #2: (83, 39, 1) (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36,
48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856,
62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
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Queue Management

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3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (527, 39, 4) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (679, 39, 6) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (63, 38, 1) (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44,
5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (358, 39, 1) (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44,
8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (267, 39, 2) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45,
4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (286, 39, 1) (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45,
5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (877, 37, 1) (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45,
5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (13, 38, 1) (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46,
7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (572, 39, 2) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
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Queue Management

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6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 2) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (650, 38, 1) (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45,
3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 5) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (40, 38, 1) (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45,
7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (674, 38, 3) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (690, 39, 5) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (853, 38, 1) (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45,
4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (974, 38, 4) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (356, 38, 2) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```




Queue Management

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 108
All of the clients have already arrived.

Queue #1: (891, 39, 7) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (913, 39, 7) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (527, 39, 3) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (679, 39, 5) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (914, 39, 7) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (207, 40, 3) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (267, 39, 1) (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (303, 40, 7) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,



Queue Management

```
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 8) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 8) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (572, 39, 1) (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46,
8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (169, 38, 1) (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47,
8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (555, 40, 7) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 4) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (898, 40, 5) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (674, 38, 2) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (690, 39, 4) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
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Queue Management

```
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (240, 41, 5) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (974, 38, 3) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (356, 38, 1) (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46,
7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 109
All of the clients have already arrived.

Queue #1: (891, 39, 6) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47,
7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (913, 39, 6) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48,
8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (527, 39, 2) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (679, 39, 4) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (914, 39, 6) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
```



Queue Management

```
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (207, 40, 2) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (254, 41, 5) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (303, 40, 6) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 7) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 7) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 8) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (357, 41, 6) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (555, 40, 6) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 3) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
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Queue Management

```
6) (362, 96, 8) (737, 97, 5)
Queue #15: (898, 40, 4) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (674, 38, 1) (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45,
3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (690, 39, 3) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (240, 41, 4) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (974, 38, 2) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47,
7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (420, 41, 5) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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```
Time: 110
All of the clients have already arrived.
```

```
Queue #1: (891, 39, 5) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47,
7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (913, 39, 5) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48,
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Queue Management

```
8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (527, 39, 1) (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46,
4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (679, 39, 3) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (914, 39, 5) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (207, 40, 1) (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46,
3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (254, 41, 4) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (303, 40, 5) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 6) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 6) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 7) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
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Queue Management

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3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (357, 41, 5) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (555, 40, 5) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 2) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (898, 40, 3) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (465, 41, 4) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (690, 39, 2) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (240, 41, 3) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (974, 38, 1) (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (420, 41, 4) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```



Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 111
All of the clients have already arrived.
```

```
Queue #1: (891, 39, 4) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47,
7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (913, 39, 4) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48,
8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (643, 41, 4) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (679, 39, 2) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (914, 39, 4) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (648, 41, 4) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (254, 41, 3) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (303, 40, 4) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
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Queue Management

```
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 5) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 5) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 6) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (357, 41, 4) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (555, 40, 4) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (350, 39, 1) (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45,
7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (898, 40, 2) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (465, 41, 3) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (690, 39, 1) (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48,
5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (240, 41, 2) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
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Queue Management

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3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 7) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (420, 41, 3) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 112
All of the clients have already arrived.

Queue #1: (891, 39, 3) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47,
7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (913, 39, 3) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48,
8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (643, 41, 3) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (679, 39, 1) (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45,
8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (914, 39, 3) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
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Queue Management

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6) (745, 98, 7)
Queue #6: (648, 41, 3) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (254, 41, 2) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (303, 40, 3) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 4) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 4) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 5) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (357, 41, 3) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (555, 40, 3) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (779, 41, 5) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (898, 40, 1) (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47,
7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
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Queue Management

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5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (465, 41, 2) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 8) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (240, 41, 1) (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46,
7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 6) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (420, 41, 2) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 113
All of the clients have already arrived.

Queue #1: (891, 39, 2) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47,
7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (913, 39, 2) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48,
8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (643, 41, 2) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48,
7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
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Queue Management

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3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (933, 41, 3) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47,
8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (914, 39, 2) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45,
7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (648, 41, 2) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47,
6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (254, 41, 1) (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47,
3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (303, 40, 2) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47,
6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 3) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47,
3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 3) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48,
7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 4) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (357, 41, 2) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
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Queue Management

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Queue #13: (555, 40, 2) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (779, 41, 4) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (17, 42, 7) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (465, 41, 1) (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46,
6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 7) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (74, 42, 5) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 5) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (420, 41, 1) (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48,
5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 114
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Queue Management

All of the clients have already arrived.

```
Queue #1: (891, 39, 1) (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (913, 39, 1) (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (643, 41, 1) (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (933, 41, 2) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (914, 39, 1) (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (648, 41, 1) (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (97, 42, 7) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (303, 40, 1) (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 2) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 2) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
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Queue Management

```
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 3) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49,
5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (357, 41, 1) (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49,
3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (555, 40, 1) (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46,
7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (779, 41, 3) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47,
4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (17, 42, 6) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (110, 42, 3) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48,
4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 6) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (74, 42, 4) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 4) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (158, 42, 5) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
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Queue Management

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5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
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```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 115
All of the clients have already arrived.
```

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Queue #1: (235, 42, 4) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (330, 42, 5) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (369, 42, 8) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (933, 41, 1) (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47,
8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (509, 42, 3) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62,
5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (554, 42, 6) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (97, 42, 6) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
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Queue Management

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Queue #8: (625, 42, 3) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (486, 40, 1) (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (525, 40, 1) (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 2) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 7) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (981, 42, 6) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (779, 41, 2) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (17, 42, 5) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (110, 42, 2) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 5) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
```



Queue Management

```
Queue #18: (74, 42, 3) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 3) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (158, 42, 4) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 116
All of the clients have already arrived.

Queue #1: (235, 42, 3) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (330, 42, 4) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (369, 42, 7) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (10, 43, 3) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50,
8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (509, 42, 2) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62,
5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
```



Queue Management

3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (554, 42, 5) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (97, 42, 5) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (625, 42, 2) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (120, 43, 5) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 8) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (271, 41, 1) (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 6) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (981, 42, 5) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (779, 41, 1) (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (17, 42, 4) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)



Queue Management

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Queue #16: (110, 42, 1) (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48,
4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 4) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (74, 42, 2) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 2) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (158, 42, 3) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 117
All of the clients have already arrived.

Queue #1: (235, 42, 2) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (330, 42, 3) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (369, 42, 6) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
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Queue Management

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4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (10, 43, 2) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50,
8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (509, 42, 1) (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48,
5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62,
5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (554, 42, 4) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (97, 42, 4) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (625, 42, 1) (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48,
8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (120, 43, 4) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 7) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (316, 43, 5) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 5) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51,
6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (981, 42, 4) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (337, 43, 5) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
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Queue Management

```
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (17, 42, 3) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (386, 43, 6) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 3) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (74, 42, 1) (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48,
4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (736, 41, 1) (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49,
8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (158, 42, 2) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 118
All of the clients have already arrived.

Queue #1: (235, 42, 1) (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50,
5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
```



Queue Management

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Queue #2: (330, 42, 2) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (369, 42, 5) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (10, 43, 1) (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (499, 43, 3) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (554, 42, 3) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (97, 42, 3) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (530, 43, 6) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (120, 43, 3) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 6) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (316, 43, 4) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 4) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
```




Queue Management

```
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (981, 42, 3) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (337, 43, 4) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (17, 42, 2) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (386, 43, 5) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 2) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (599, 43, 4) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 8) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (158, 42, 1) (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50,
5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```



Queue Management

Time: 119

All of the clients have already arrived.

```
Queue #1: (899, 43, 7) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (330, 42, 1) (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50,
3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (369, 42, 4) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (986, 43, 5) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53,
4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (499, 43, 2) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49,
7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (554, 42, 2) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49,
6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (97, 42, 2) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48,
3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (530, 43, 5) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (120, 43, 2) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 5) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
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Queue Management

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7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (316, 43, 3) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 3) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51,
6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (981, 42, 2) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48,
4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (337, 43, 3) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (17, 42, 1) (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49,
4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (386, 43, 4) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (801, 41, 1) (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50,
5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (599, 43, 3) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 7) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 7) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```



Queue Management

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 120
All of the clients have already arrived.

Queue #1: (899, 43, 6) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (62, 44, 7) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (369, 42, 3) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (986, 43, 4) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (499, 43, 1) (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (554, 42, 1) (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (97, 42, 1) (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (530, 43, 4) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (120, 43, 1) (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48,



Queue Management

```
6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 4) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (316, 43, 2) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 2) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (981, 42, 1) (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (337, 43, 2) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (163, 44, 3) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (386, 43, 3) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (183, 44, 5) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (599, 43, 2) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 6) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
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Queue Management

```
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 6) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 121
All of the clients have already arrived.
```

```
Queue #1: (899, 43, 5) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (62, 44, 6) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (369, 42, 2) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (986, 43, 3) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53,
4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (238, 44, 5) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 8) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (393, 44, 5) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
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Queue Management

```
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (530, 43, 3) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (453, 44, 4) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50,
5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64,
3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 3) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (316, 43, 1) (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50,
6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (768, 42, 1) (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51,
6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (477, 44, 3) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (337, 43, 1) (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49,
6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (163, 44, 2) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (386, 43, 2) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (183, 44, 4) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (599, 43, 1) (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49,
6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
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Queue Management

```
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 5) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 5) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 122
All of the clients have already arrived.

Queue #1: (899, 43, 4) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (62, 44, 5) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (369, 42, 1) (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50,
3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (986, 43, 2) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53,
4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (238, 44, 4) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 7) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
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Queue Management

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6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (393, 44, 4) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (530, 43, 2) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51,
8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (453, 44, 3) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50,
5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64,
3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 2) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51,
6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (587, 44, 5) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 8) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (477, 44, 2) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49,
6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (950, 44, 3) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (163, 44, 1) (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51,
8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (386, 43, 1) (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49,
7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (183, 44, 3) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
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Queue Management

```
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (247, 45, 4) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 4) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 4) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 123
All of the clients have already arrived.

Queue #1: (899, 43, 3) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (62, 44, 4) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (301, 45, 6) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (986, 43, 1) (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53,
4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (238, 44, 3) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
```



Queue Management

```
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 6) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (393, 44, 3) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (530, 43, 1) (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (453, 44, 2) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (204, 43, 1) (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (587, 44, 4) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 7) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (477, 44, 1) (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (950, 44, 2) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 7) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (355, 45, 3) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
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Queue Management

```
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (183, 44, 2) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (247, 45, 3) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 3) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 3) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 124

All of the clients have already arrived.

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Queue #1: (899, 43, 2) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (62, 44, 3) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (301, 45, 5) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 8) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
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Queue Management

```
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (238, 44, 2) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 5) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (393, 44, 2) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (514, 45, 5) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (453, 44, 1) (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50,
5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64,
3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (523, 45, 4) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53,
7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (587, 44, 3) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 6) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (543, 45, 3) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (950, 44, 1) (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51,
6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 6) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
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Queue Management

```
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (355, 45, 2) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (183, 44, 1) (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51,
3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (247, 45, 2) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 2) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 2) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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```
Time: 125
All of the clients have already arrived.
```

```
Queue #1: (899, 43, 1) (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52,
5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (62, 44, 2) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (301, 45, 4) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
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Queue Management

```
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 7) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (238, 44, 1) (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52,
3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 4) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (393, 44, 1) (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49,
4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (514, 45, 4) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (560, 45, 5) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (523, 45, 3) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53,
7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (587, 44, 2) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53,
5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 5) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (543, 45, 2) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 7) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
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Queue Management

```
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 5) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (355, 45, 1) (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51,
3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 8) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (247, 45, 1) (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52,
5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (686, 43, 1) (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53,
3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (3, 44, 1) (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52,
5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 126
All of the clients have already arrived.
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Queue #1: (676, 45, 6) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (62, 44, 1) (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52,
8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
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Queue Management

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6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (301, 45, 3) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 6) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (967, 45, 7) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 3) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (985, 45, 4) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (514, 45, 3) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (560, 45, 4) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (523, 45, 2) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (587, 44, 1) (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 4) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (543, 45, 1) (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52,
```



Queue Management

```
3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 6) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 4) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (78, 46, 6) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 7) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 7) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (411, 46, 4) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 7) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 127

All of the clients have already arrived.

```
Queue #1: (676, 45, 5) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
```



Queue Management

```
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (732, 46, 6) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (301, 45, 2) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 5) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (967, 45, 6) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 2) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (985, 45, 3) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (514, 45, 2) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (560, 45, 3) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (523, 45, 1) (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 8) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 3) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
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Queue Management

```
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 7) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 5) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 3) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (78, 46, 5) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 6) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 6) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (411, 46, 3) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 6) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 128
All of the clients have already arrived.
```



Queue Management

```
Queue #1: (676, 45, 4) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (732, 46, 5) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (301, 45, 1) (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51,
6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 4) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (967, 45, 5) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (263, 44, 1) (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52,
6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (985, 45, 2) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (514, 45, 1) (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54,
4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (560, 45, 2) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (842, 46, 7) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 7) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
```



Queue Management

```
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 2) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 6) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 4) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 2) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (78, 46, 4) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 5) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 5) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (411, 46, 2) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 5) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Queue Management

Time: 129

All of the clients have already arrived.

```
Queue #1: (676, 45, 3) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (732, 46, 4) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (863, 46, 4) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 3) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (967, 45, 4) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (905, 46, 3) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (985, 45, 1) (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50,
8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (43, 47, 6) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (560, 45, 1) (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52,
6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (842, 46, 6) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
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Queue Management

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6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 6) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (833, 44, 1) (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53,
3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 5) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 3) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (347, 45, 1) (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54,
8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (78, 46, 3) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 4) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 4) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (411, 46, 1) (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53,
5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 4) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200



Queue Management

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 130

All of the clients have already arrived.

Queue #1: (676, 45, 2) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (732, 46, 3) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (863, 46, 3) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (370, 45, 2) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (967, 45, 3) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (905, 46, 2) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (70, 47, 3) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (43, 47, 5) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (130, 47, 3) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)



Queue Management

```
Queue #10: (842, 46, 5) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 5) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 8) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 4) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 2) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 7) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (78, 46, 2) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 3) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 3) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (258, 47, 7) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 3) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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```
Time: 131
All of the clients have already arrived.
```

```
Queue #1: (676, 45, 1) (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54,
7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (732, 46, 2) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (863, 46, 2) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (370, 45, 1) (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54,
7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (967, 45, 2) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (905, 46, 1) (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54,
6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (70, 47, 2) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (43, 47, 4) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (130, 47, 2) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
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Queue Management

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6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (842, 46, 4) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 4) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 7) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 3) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (602, 45, 1) (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53,
4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 6) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (78, 46, 1) (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53,
6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (661, 45, 2) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 2) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (258, 47, 6) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 2) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
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Queue Management

```
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 132
All of the clients have already arrived.

Queue #1: (264, 47, 7) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (732, 46, 1) (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54,
6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (863, 46, 1) (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54,
4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 8) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (967, 45, 1) (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53,
8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (695, 47, 6) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (70, 47, 1) (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53,
5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (43, 47, 3) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
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Queue Management

```
8) (633, 96, 8) (892, 97, 7)
Queue #9: (130, 47, 1) (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54,
3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (842, 46, 3) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 3) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 6) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 2) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (769, 47, 4) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 5) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (32, 48, 4) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (661, 45, 1) (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53,
5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (305, 46, 1) (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53,
4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (258, 47, 5) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
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Queue Management

```
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (595, 46, 1) (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53,
4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 133
All of the clients have already arrived.

Queue #1: (264, 47, 6) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 8) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 7) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 7) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (170, 48, 5) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (695, 47, 5) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (397, 48, 3) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (43, 47, 2) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
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Queue Management

```
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (550, 48, 6) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (842, 46, 2) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 2) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 5) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (806, 46, 1) (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53,
8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (769, 47, 3) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 4) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (32, 48, 3) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (744, 48, 5) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (752, 48, 4) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (258, 47, 4) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
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Queue Management

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5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (878, 48, 5) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 134
All of the clients have already arrived.

Queue #1: (264, 47, 5) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 7) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 6) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 6) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (170, 48, 4) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (695, 47, 4) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (397, 48, 2) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
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Queue Management

```
7) (598, 98, 3) (751, 99, 6)
Queue #8: (43, 47, 1) (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55,
8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (550, 48, 5) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (842, 46, 1) (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56,
3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (786, 46, 1) (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54,
5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 4) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (935, 48, 4) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (769, 47, 2) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 3) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (32, 48, 2) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (744, 48, 4) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (752, 48, 3) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
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Queue Management

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3) (282, 97, 8)
Queue #19: (258, 47, 3) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (878, 48, 4) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 135
All of the clients have already arrived.

Queue #1: (264, 47, 4) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 6) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 5) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 5) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (170, 48, 3) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (695, 47, 3) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (397, 48, 1) (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55,
4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
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Queue Management

```
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (957, 48, 8) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (550, 48, 4) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 7) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (86, 49, 5) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 3) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (935, 48, 3) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (769, 47, 1) (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54,
5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 2) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (32, 48, 1) (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54,
4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (744, 48, 3) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (752, 48, 2) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
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Queue Management

```
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (258, 47, 2) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (878, 48, 3) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 136
All of the clients have already arrived.

Queue #1: (264, 47, 3) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 5) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 4) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 4) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (170, 48, 2) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (695, 47, 2) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (311, 49, 4) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
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Queue Management

```
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (957, 48, 7) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (550, 48, 3) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 6) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (86, 49, 4) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 2) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (935, 48, 2) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (360, 49, 6) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (214, 47, 1) (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58,
5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 7) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (744, 48, 2) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (752, 48, 1) (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55,
4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
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Queue Management

```
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (258, 47, 1) (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55,
5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (878, 48, 2) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 137
All of the clients have already arrived.

Queue #1: (264, 47, 2) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 4) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 3) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 3) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (170, 48, 1) (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56,
6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (695, 47, 1) (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56,
8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
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Queue Management

```
Queue #7: (311, 49, 3) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (957, 48, 6) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (550, 48, 2) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 5) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (86, 49, 3) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (157, 47, 1) (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54,
8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (935, 48, 1) (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56,
8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (360, 49, 5) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (473, 49, 4) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 6) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (744, 48, 1) (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54,
4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (552, 49, 6) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
```




Queue Management

```
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 8) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (878, 48, 1) (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55,
3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
8) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 138
All of the clients have already arrived.

Queue #1: (264, 47, 1) (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56,
3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 3) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 2) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 2) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 7) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (874, 49, 6) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
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Queue Management

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Queue #7: (311, 49, 2) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (957, 48, 5) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (550, 48, 1) (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55,
4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 4) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (86, 49, 2) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (970, 49, 3) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (996, 49, 6) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (360, 49, 4) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (473, 49, 3) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 5) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (72, 50, 5) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (552, 49, 5) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
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Queue Management

```
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 7) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (136, 50, 5) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 139
All of the clients have already arrived.

Queue #1: (283, 50, 5) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 2) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (150, 48, 1) (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55,
7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (568, 47, 1) (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59,
5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 6) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (874, 49, 5) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
```



Queue Management

```
Queue #7: (311, 49, 1) (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57,
3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (957, 48, 4) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (483, 50, 5) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 3) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (86, 49, 1) (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57,
8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (970, 49, 2) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59,
4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (996, 49, 5) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (360, 49, 3) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (473, 49, 2) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60,
6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 4) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (72, 50, 4) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (552, 49, 4) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
```



Queue Management

```
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 6) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (136, 50, 4) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 140
All of the clients have already arrived.

Queue #1: (283, 50, 4) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (36, 48, 1) (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58,
6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (484, 50, 3) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (492, 50, 8) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 5) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (874, 49, 4) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
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Queue Management

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Queue #7: (584, 50, 8) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (957, 48, 3) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (483, 50, 4) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 2) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (687, 50, 6) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (970, 49, 1) (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (996, 49, 4) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (360, 49, 2) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (473, 49, 1) (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 3) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (72, 50, 3) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (552, 49, 3) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
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Queue Management

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5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 5) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (136, 50, 3) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 141
All of the clients have already arrived.

Queue #1: (283, 50, 3) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (726, 50, 3) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61,
3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (484, 50, 2) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (492, 50, 7) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 4) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (874, 49, 3) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (584, 50, 7) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
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Queue Management

```
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (957, 48, 2) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (483, 50, 3) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (991, 48, 1) (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59,
3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (687, 50, 5) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (478, 51, 6) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (996, 49, 3) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (360, 49, 1) (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58,
8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (505, 51, 8) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 2) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (72, 50, 2) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (552, 49, 2) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
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Queue Management

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8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 4) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (136, 50, 2) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 142
All of the clients have already arrived.

Queue #1: (283, 50, 2) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (726, 50, 2) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61,
3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (484, 50, 1) (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59,
4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (492, 50, 6) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 3) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (874, 49, 2) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (584, 50, 6) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
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Queue Management

```
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (957, 48, 1) (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60,
3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (483, 50, 2) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (531, 51, 6) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (687, 50, 4) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (478, 51, 5) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (996, 49, 2) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (536, 51, 6) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (505, 51, 7) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (363, 49, 1) (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57,
7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (72, 50, 1) (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56,
6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (552, 49, 1) (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57,
3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
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Queue Management

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Queue #19: (647, 49, 3) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (136, 50, 1) (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56,
6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 143
All of the clients have already arrived.

Queue #1: (283, 50, 1) (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59,
5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (726, 50, 1) (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61,
3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (591, 51, 6) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (492, 50, 5) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 2) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (874, 49, 1) (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61,
5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (584, 50, 5) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
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Queue Management

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5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 8) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (483, 50, 1) (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57,
8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (531, 51, 5) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (687, 50, 3) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (478, 51, 4) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (996, 49, 1) (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60,
5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (536, 51, 5) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (505, 51, 6) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (652, 51, 3) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (897, 51, 3) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (24, 52, 5) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 2) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
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Queue Management

```
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (88, 52, 5) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 144
All of the clients have already arrived.

Queue #1: (242, 52, 5) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 8) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (591, 51, 5) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (492, 50, 4) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (797, 49, 1) (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60,
3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (580, 52, 6) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (584, 50, 4) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 7) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
```



Queue Management

```
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (605, 52, 6) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (531, 51, 4) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (687, 50, 2) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (478, 51, 3) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (851, 52, 3) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (536, 51, 4) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (505, 51, 5) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (652, 51, 2) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (897, 51, 2) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (24, 52, 4) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (647, 49, 1) (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59,
7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (88, 52, 4) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
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Queue Management

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4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 145
All of the clients have already arrived.

Queue #1: (242, 52, 4) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 7) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (591, 51, 4) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (492, 50, 3) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (932, 52, 3) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62,
5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (580, 52, 5) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (584, 50, 3) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 6) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (605, 52, 5) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
```



Queue Management

```
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (531, 51, 3) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (687, 50, 1) (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62,
8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (478, 51, 2) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (851, 52, 2) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (536, 51, 3) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (505, 51, 4) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (652, 51, 1) (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61,
8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (897, 51, 1) (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60,
3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (24, 52, 3) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (8, 53, 3) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (88, 52, 3) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)
```




Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 146
All of the clients have already arrived.
```

```
Queue #1: (242, 52, 3) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 6) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (591, 51, 3) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (492, 50, 2) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61,
6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (932, 52, 2) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62,
5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (580, 52, 4) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (584, 50, 2) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60,
4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 5) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (605, 52, 4) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (531, 51, 2) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60,
6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
```



Queue Management

```
Queue #11: (26, 53, 5) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (478, 51, 1) (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60,
3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (851, 52, 1) (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63,
8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (536, 51, 2) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (505, 51, 3) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (160, 53, 6) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (182, 53, 5) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (24, 52, 2) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (8, 53, 2) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (88, 52, 2) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
```



Queue Management

Service time interval: [3, 9]

Time: 147

All of the clients have already arrived.

Queue #1: (242, 52, 2) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (504, 52, 5) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (591, 51, 2) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (492, 50, 1) (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (932, 52, 1) (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (580, 52, 3) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (584, 50, 1) (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (620, 51, 4) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (605, 52, 3) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)

Queue #10: (531, 51, 1) (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)

Queue #11: (26, 53, 4) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)



Queue Management

```
Queue #12: (270, 53, 3) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (332, 53, 8) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (536, 51, 1) (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62,
8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (505, 51, 2) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (160, 53, 5) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (182, 53, 4) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (24, 52, 1) (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59,
4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (8, 53, 1) (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62,
7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (88, 52, 1) (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60,
5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 148
All of the clients have already arrived.

Queue #1: (242, 52, 1) (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61,
```



Queue Management

```
5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 4) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (591, 51, 1) (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61,
3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (405, 53, 4) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (422, 53, 8) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (580, 52, 2) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (528, 53, 5) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 3) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (605, 52, 2) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (578, 53, 7) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (26, 53, 3) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (270, 53, 2) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (332, 53, 7) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
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Queue Management

```
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (667, 53, 4) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (505, 51, 1) (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63,
5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (160, 53, 4) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (182, 53, 3) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (712, 53, 4) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (781, 53, 5) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (965, 53, 4) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 149
All of the clients have already arrived.
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```
Queue #1: (44, 54, 7) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 3) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
```



Queue Management

```
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (50, 54, 4) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (405, 53, 3) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (422, 53, 7) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (580, 52, 1) (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63,
8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (528, 53, 4) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 2) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (605, 52, 1) (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62,
7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (578, 53, 6) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (26, 53, 2) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (270, 53, 1) (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62,
3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (332, 53, 6) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (667, 53, 3) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 8) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
```



Queue Management

```
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (160, 53, 3) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (182, 53, 2) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (712, 53, 3) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (781, 53, 4) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (965, 53, 3) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 150
All of the clients have already arrived.

Queue #1: (44, 54, 6) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 2) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (50, 54, 3) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (405, 53, 2) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
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Queue Management

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5) (314, 97, 6) (766, 98, 4)
Queue #5: (422, 53, 6) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (276, 54, 6) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (528, 53, 3) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (620, 51, 1) (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62,
8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (331, 54, 3) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64,
3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (578, 53, 5) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (26, 53, 1) (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64,
4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (447, 54, 8) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (332, 53, 5) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (667, 53, 2) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65,
3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 7) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (160, 53, 2) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63,
4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (182, 53, 1) (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62,
6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
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Queue Management

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4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (712, 53, 2) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61,
7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (781, 53, 3) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (965, 53, 2) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 151
All of the clients have already arrived.

Queue #1: (44, 54, 5) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (504, 52, 1) (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62,
7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (50, 54, 2) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (405, 53, 1) (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63,
5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (422, 53, 5) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (276, 54, 5) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
```



Queue Management

Queue #7: (528, 53, 2) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (487, 54, 4) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (331, 54, 2) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)

Queue #10: (578, 53, 4) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)

Queue #11: (565, 54, 5) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)

Queue #12: (447, 54, 7) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)

Queue #13: (332, 53, 4) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)

Queue #14: (667, 53, 1) (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)

Queue #15: (176, 54, 6) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)

Queue #16: (160, 53, 1) (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)

Queue #17: (604, 54, 4) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)

Queue #18: (712, 53, 1) (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)

Queue #19: (781, 53, 2) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,



Queue Management

```
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (965, 53, 1) (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62,
7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 152
All of the clients have already arrived.

Queue #1: (44, 54, 4) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (619, 54, 6) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (50, 54, 1) (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62,
6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (666, 54, 7) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (422, 53, 4) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (276, 54, 4) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (528, 53, 1) (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61,
8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (487, 54, 3) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (331, 54, 1) (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64,
3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
```



Queue Management

```
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (578, 53, 3) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (565, 54, 4) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (447, 54, 6) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (332, 53, 3) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (739, 54, 5) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 5) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (803, 54, 4) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (604, 54, 3) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (12, 55, 4) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (781, 53, 1) (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64,
5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (103, 55, 3) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
```



Queue Management

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 153

All of the clients have already arrived.

```
Queue #1: (44, 54, 3) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (619, 54, 5) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (211, 55, 7) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (666, 54, 6) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (422, 53, 3) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (276, 54, 3) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (338, 55, 4) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (487, 54, 2) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (541, 55, 4) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (578, 53, 2) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (565, 54, 3) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (447, 54, 5) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
```



Queue Management

```
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (332, 53, 2) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (739, 54, 4) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 4) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (803, 54, 3) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (604, 54, 2) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (12, 55, 3) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (593, 55, 5) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (103, 55, 2) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 154
All of the clients have already arrived.
```

```
Queue #1: (44, 54, 2) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (619, 54, 4) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
```



Queue Management

```
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (211, 55, 6) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (666, 54, 5) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (422, 53, 2) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (276, 54, 2) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (338, 55, 3) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (487, 54, 1) (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65,
6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (541, 55, 3) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (578, 53, 1) (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62,
6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (565, 54, 2) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (447, 54, 4) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (332, 53, 1) (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66,
4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (739, 54, 3) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 3) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
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Queue Management

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3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (803, 54, 2) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (604, 54, 1) (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63,
5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (12, 55, 2) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (593, 55, 4) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (103, 55, 1) (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65,
6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 155

All of the clients have already arrived.

```
Queue #1: (44, 54, 1) (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63,
3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (619, 54, 3) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (211, 55, 5) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (666, 54, 4) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
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Queue Management

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6) (766, 98, 4)
Queue #5: (422, 53, 1) (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63,
3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (276, 54, 1) (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66,
8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (338, 55, 2) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 8) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (541, 55, 2) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (111, 56, 3) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (565, 54, 1) (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65,
8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (447, 54, 3) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 8) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (739, 54, 2) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 2) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (803, 54, 1) (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65,
3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (621, 56, 6) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
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Queue Management

```
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (12, 55, 1) (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63,
3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (593, 55, 3) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (628, 56, 6) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 156
All of the clients have already arrived.

Queue #1: (689, 56, 3) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (619, 54, 2) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (211, 55, 4) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (666, 54, 3) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (741, 56, 6) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 8) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (338, 55, 1) (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64,
7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
```



Queue Management

```
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 7) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (541, 55, 1) (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65,
4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (111, 56, 2) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 8) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (447, 54, 2) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 7) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (739, 54, 1) (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66,
5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (176, 54, 1) (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65,
3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (173, 57, 7) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (621, 56, 5) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (822, 57, 3) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (593, 55, 2) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (628, 56, 5) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
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Queue Management

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3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200  
Number of clients: 1000  
Number of queues: 20  
Arrival time interval: [10, 100]  
Service time interval: [3, 9]
```

```
Time: 157  
All of the clients have already arrived.
```

```
Queue #1: (689, 56, 2) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,  
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,  
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,  
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,  
4) (475, 97, 6) (495, 99, 5)
```

```
Queue #2: (619, 54, 1) (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65,  
7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,  
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,  
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,  
5) (513, 97, 6) (586, 99, 7)
```

```
Queue #3: (211, 55, 3) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,  
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,  
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,  
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
```

```
Queue #4: (666, 54, 2) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,  
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,  
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,  
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,  
6) (766, 98, 4)
```

```
Queue #5: (741, 56, 5) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,  
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,  
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,  
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,  
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
```

```
Queue #6: (764, 56, 7) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,  
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,  
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,  
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
```

```
Queue #7: (834, 57, 3) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,  
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,  
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,  
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,  
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
```

```
Queue #8: (748, 55, 6) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,  
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,  
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,  
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
```

```
Queue #9: (879, 57, 8) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,  
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,  
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,  
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,  
4) (610, 97, 7)
```

```
Queue #10: (111, 56, 1) (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64,  
7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
```



Queue Management

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7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 7) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (447, 54, 1) (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62,
6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 6) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 8) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (277, 58, 5) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (173, 57, 6) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (621, 56, 4) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (822, 57, 2) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (593, 55, 1) (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66,
7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (628, 56, 4) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 158
All of the clients have already arrived.

Queue #1: (689, 56, 1) (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63,
```



Queue Management

```
7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (719, 58, 6) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (211, 55, 2) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (666, 54, 1) (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65,
5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (741, 56, 4) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 6) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (834, 57, 2) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 5) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (879, 57, 7) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (4, 59, 3) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 6) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (287, 59, 4) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 5) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
```



Queue Management

```
Queue #14: (133, 58, 7) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (277, 58, 4) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (173, 57, 5) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (621, 56, 3) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (822, 57, 1) (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65,
5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (320, 59, 7) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (628, 56, 3) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 159
All of the clients have already arrived.

Queue #1: (443, 59, 5) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (719, 58, 5) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (211, 55, 1) (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64,
8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (696, 59, 5) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
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Queue Management

```
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (741, 56, 3) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 5) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (834, 57, 1) (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66,
6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 4) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (879, 57, 6) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (4, 59, 2) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 5) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (287, 59, 3) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 4) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 6) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (277, 58, 3) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (173, 57, 4) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (621, 56, 2) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
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Queue Management

```
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (711, 59, 4) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (320, 59, 6) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (628, 56, 2) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 160
All of the clients have already arrived.
```

```
Queue #1: (443, 59, 4) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (719, 58, 4) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (795, 59, 4) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (696, 59, 4) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (741, 56, 2) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 4) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (33, 60, 4) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
```



Queue Management

```
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 3) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (879, 57, 5) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (4, 59, 1) (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67,
7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 4) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (287, 59, 2) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 3) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 5) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (277, 58, 2) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (173, 57, 3) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (621, 56, 1) (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65,
3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (711, 59, 3) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (320, 59, 5) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (628, 56, 1) (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66,
8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 161
All of the clients have already arrived.
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```
Queue #1: (443, 59, 3) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (719, 58, 3) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (795, 59, 3) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (696, 59, 3) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (741, 56, 1) (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64,
8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 3) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (33, 60, 3) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 2) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67,
6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (879, 57, 4) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (153, 60, 6) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
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Queue Management

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Queue #11: (108, 57, 3) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (287, 59, 1) (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65,
7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 2) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67,
7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 4) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (277, 58, 1) (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66,
5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (173, 57, 2) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (194, 60, 3) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (711, 59, 2) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (320, 59, 4) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (257, 60, 5) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 162
All of the clients have already arrived.

Queue #1: (443, 59, 2) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
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Queue Management

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8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (719, 58, 2) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (795, 59, 2) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (696, 59, 2) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (318, 60, 3) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 2) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (33, 60, 2) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (748, 55, 1) (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (879, 57, 3) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (153, 60, 5) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 2) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (375, 60, 3) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (566, 56, 1) (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 3) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
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Queue Management

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7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (623, 60, 6) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (173, 57, 1) (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66,
3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (194, 60, 2) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (711, 59, 1) (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66,
5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (320, 59, 3) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (257, 60, 4) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 163
All of the clients have already arrived.

Queue #1: (443, 59, 1) (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66,
8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (719, 58, 1) (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67,
7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (795, 59, 1) (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67,
4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (696, 59, 1) (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66,
4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
```



Queue Management

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Queue #5: (318, 60, 2) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (764, 56, 1) (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68,
4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (33, 60, 1) (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68,
8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (637, 60, 3) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (879, 57, 2) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (153, 60, 4) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (108, 57, 1) (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68,
6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (375, 60, 2) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (865, 60, 5) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 2) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (623, 60, 5) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 8) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (194, 60, 1) (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66,
5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (67, 61, 7) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
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Queue Management

```
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (320, 59, 2) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (257, 60, 3) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 164
All of the clients have already arrived.

Queue #1: (93, 61, 5) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (201, 61, 3) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (324, 61, 3) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (471, 61, 6) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (318, 60, 1) (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67,
4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (818, 61, 5) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 8) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (637, 60, 2) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68,
5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
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Queue Management

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Queue #9: (879, 57, 1) (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66,
6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (153, 60, 3) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (22, 62, 8) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (375, 60, 1) (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67,
7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (865, 60, 4) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (133, 58, 1) (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67,
6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (623, 60, 4) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 7) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (79, 62, 6) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (67, 61, 6) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (320, 59, 1) (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68,
3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (257, 60, 2) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
```



Queue Management

Service time interval: [3, 9]

Time: 165

All of the clients have already arrived.

Queue #1: (93, 61, 4) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (201, 61, 2) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (324, 61, 2) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (471, 61, 5) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (143, 62, 5) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (818, 61, 4) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (830, 61, 7) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (637, 60, 1) (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (252, 62, 7) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)

Queue #10: (153, 60, 2) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)

Queue #11: (22, 62, 7) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)

Queue #12: (259, 62, 3) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)

Queue #13: (865, 60, 3) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,



Queue Management

```
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 8) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (623, 60, 3) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 6) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (79, 62, 5) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (67, 61, 5) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 7) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (257, 60, 1) (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69,
6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 166
All of the clients have already arrived.

Queue #1: (93, 61, 3) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (201, 61, 1) (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69,
4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (324, 61, 1) (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68,
3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (471, 61, 4) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
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Queue Management

```
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (143, 62, 4) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (818, 61, 3) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 6) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (722, 62, 8) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (252, 62, 6) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (153, 60, 1) (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68,
6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79,
8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93,
6) (798, 95, 7) (408, 97, 8)
Queue #11: (22, 62, 6) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (259, 62, 2) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (865, 60, 2) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 7) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (623, 60, 2) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 5) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (79, 62, 4) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
```



Queue Management

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Queue #18: (67, 61, 4) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 6) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 7) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 167
All of the clients have already arrived.
```

```
Queue #1: (93, 61, 2) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 7) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (943, 62, 6) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (471, 61, 3) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (143, 62, 3) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (818, 61, 2) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 5) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (722, 62, 7) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
```



Queue Management

```
8) (633, 96, 8) (892, 97, 7)
Queue #9: (252, 62, 5) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (995, 62, 6) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (22, 62, 5) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (259, 62, 1) (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69,
5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79,
5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93,
5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (865, 60, 1) (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68,
6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 6) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (623, 60, 1) (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67,
3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 4) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (79, 62, 3) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (67, 61, 3) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 5) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 6) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
```



Queue Management

Service time interval: [3, 9]

Time: 168

All of the clients have already arrived.

```
Queue #1: (93, 61, 1) (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68,
8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 6) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (943, 62, 5) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (471, 61, 2) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (143, 62, 2) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (818, 61, 1) (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69,
6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80,
8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94,
4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 4) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (722, 62, 6) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (252, 62, 4) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (995, 62, 5) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (22, 62, 4) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (997, 62, 6) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (113, 63, 8) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
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Queue Management

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3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 5) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (189, 63, 5) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 3) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (79, 62, 2) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (67, 61, 2) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 4) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 5) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 169
All of the clients have already arrived.

Queue #1: (210, 63, 3) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 5) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (943, 62, 4) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (471, 61, 1) (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67,
8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
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Queue Management

```
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (143, 62, 1) (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68,
8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79,
6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88,
3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96,
4) (262, 97, 6) (745, 98, 7)
Queue #6: (300, 63, 8) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 3) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (722, 62, 5) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (252, 62, 3) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (995, 62, 4) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (22, 62, 3) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (997, 62, 5) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (113, 63, 7) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 4) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (189, 63, 4) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 2) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (79, 62, 1) (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67,
8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
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Queue Management

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Queue #18: (67, 61, 1) (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67,
5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 3) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 4) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 170
All of the clients have already arrived.

Queue #1: (210, 63, 2) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 4) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (943, 62, 3) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (564, 63, 5) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (567, 63, 3) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (300, 63, 7) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 2) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (722, 62, 4) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
```



Queue Management

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8) (633, 96, 8) (892, 97, 7)
Queue #9: (252, 62, 2) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (995, 62, 3) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (22, 62, 2) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (997, 62, 4) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (113, 63, 6) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 3) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (189, 63, 3) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (65, 61, 1) (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67,
8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (613, 63, 5) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (715, 63, 3) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 2) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 3) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
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Queue Management

Service time interval: [3, 9]

Time: 171

All of the clients have already arrived.

```
Queue #1: (210, 63, 1) (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70,
4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79,
8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91,
6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 3) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (943, 62, 2) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (564, 63, 4) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (567, 63, 2) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (300, 63, 6) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (830, 61, 1) (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70,
3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79,
3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89,
5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98,
3) (751, 99, 6)
Queue #8: (722, 62, 3) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (252, 62, 1) (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68,
3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (995, 62, 2) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (22, 62, 1) (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69,
6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78,
7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90,
5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (997, 62, 3) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (113, 63, 5) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
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Queue Management

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3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 2) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (189, 63, 2) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (849, 63, 4) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (613, 63, 4) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (715, 63, 2) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (673, 62, 1) (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69,
8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80,
8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93,
8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 2) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 172
All of the clients have already arrived.

Queue #1: (936, 63, 7) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 2) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (943, 62, 1) (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69,
7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82,
7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93,
8) (491, 96, 8) (860, 97, 7)
Queue #4: (564, 63, 3) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
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Queue Management

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8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (567, 63, 1) (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70,
7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80,
3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89,
3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97,
6) (745, 98, 7)
Queue #6: (300, 63, 5) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (275, 64, 7) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (722, 62, 2) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (383, 64, 3) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (995, 62, 1) (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70,
7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81,
3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95,
7) (408, 97, 8)
Queue #11: (445, 64, 4) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (997, 62, 2) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (113, 63, 4) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (556, 62, 1) (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69,
4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (189, 63, 1) (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68,
3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (849, 63, 3) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (613, 63, 3) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (715, 63, 1) (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69,
4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
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Queue Management

```
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (500, 64, 5) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (770, 62, 1) (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70,
3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80,
7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93,
6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 173
All of the clients have already arrived.

Queue #1: (936, 63, 6) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (856, 62, 1) (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70,
5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79,
7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92,
4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 8) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (564, 63, 2) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 8) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (300, 63, 4) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (275, 64, 6) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (722, 62, 1) (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69,
8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80,
7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93,
8) (633, 96, 8) (892, 97, 7)
Queue #9: (383, 64, 2) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
```




Queue Management

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Queue #10: (944, 64, 7) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (445, 64, 3) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (997, 62, 1) (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70,
8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80,
7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95,
8) (265, 97, 8) (847, 99, 3)
Queue #13: (113, 63, 3) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (25, 65, 3) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (45, 65, 3) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (849, 63, 2) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (613, 63, 2) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (175, 65, 5) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (500, 64, 4) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (205, 65, 6) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 174
All of the clients have already arrived.

Queue #1: (936, 63, 5) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
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Queue Management

```
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 7) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 7) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (564, 63, 1) (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70,
6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80,
8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91,
8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 7) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (300, 63, 3) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (275, 64, 5) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (342, 65, 6) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (383, 64, 1) (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69,
7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (944, 64, 6) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (445, 64, 2) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 7) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (113, 63, 2) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (25, 65, 2) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (45, 65, 2) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
```



Queue Management

```
Queue #16: (849, 63, 1) (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69,
4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (613, 63, 1) (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69,
5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80,
8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95,
4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (175, 65, 4) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (500, 64, 3) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (205, 65, 5) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 175
All of the clients have already arrived.

Queue #1: (936, 63, 4) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 6) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 6) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (508, 65, 5) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 6) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (300, 63, 2) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (275, 64, 4) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
```



Queue Management

```
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (342, 65, 5) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (546, 65, 4) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (944, 64, 5) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (445, 64, 1) (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71,
7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79,
7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91,
6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 6) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (113, 63, 1) (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70,
6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80,
3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94,
4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (25, 65, 1) (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69,
8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80,
5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94,
6) (362, 96, 8) (737, 97, 5)
Queue #15: (45, 65, 1) (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69,
8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (588, 65, 3) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (777, 65, 3) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (175, 65, 3) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (500, 64, 2) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (205, 65, 4) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)
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Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 176
All of the clients have already arrived.
```

```
Queue #1: (936, 63, 3) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 5) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 5) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (508, 65, 4) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 5) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (300, 63, 1) (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71,
7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82,
8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95,
7) (391, 97, 6) (312, 99, 3)
Queue #7: (275, 64, 3) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (342, 65, 4) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (546, 65, 3) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (944, 64, 4) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 8) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 5) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (66, 66, 4) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
```



Queue Management

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8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (137, 66, 5) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (195, 66, 5) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (588, 65, 2) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (777, 65, 2) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (175, 65, 2) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (500, 64, 1) (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71,
6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84,
4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96,
3) (100, 97, 4) (799, 97, 6)
Queue #20: (205, 65, 3) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 177
All of the clients have already arrived.

Queue #1: (936, 63, 2) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 4) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 4) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (508, 65, 3) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
```



Queue Management

```
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 4) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 8) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (275, 64, 2) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (342, 65, 3) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (546, 65, 2) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (944, 64, 3) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 7) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 4) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (66, 66, 3) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (137, 66, 4) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (195, 66, 4) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (588, 65, 1) (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70,
5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79,
7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90,
8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (777, 65, 1) (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71,
4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82,
7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96,
4) (466, 97, 3) (352, 98, 4)
Queue #18: (175, 65, 1) (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70,
6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80,
5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91,
5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
```



Queue Management

```
Queue #19: (449, 66, 7) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (205, 65, 2) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 178
All of the clients have already arrived.

Queue #1: (936, 63, 1) (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71,
3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81,
6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93,
5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 3) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 3) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (508, 65, 2) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 3) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 7) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (275, 64, 1) (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71,
4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80,
7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91,
5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (342, 65, 2) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (546, 65, 1) (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71,
3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79,
8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91,
4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (944, 64, 2) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
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Queue Management

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3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 6) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 3) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (66, 66, 2) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (137, 66, 3) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (195, 66, 3) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (590, 66, 3) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (681, 66, 5) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (785, 66, 5) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (449, 66, 6) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (205, 65, 1) (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71,
4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81,
7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95,
6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 179

All of the clients have already arrived.

```
Queue #1: (800, 66, 8) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
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Queue Management

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5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 2) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 2) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (508, 65, 1) (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71,
6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83,
4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93,
8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 2) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 6) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (855, 66, 6) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (342, 65, 1) (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72,
8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82,
5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96,
8) (892, 97, 7)
Queue #9: (918, 66, 6) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (944, 64, 1) (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72,
3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82,
6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 5) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 2) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (66, 66, 1) (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72,
8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81,
6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95,
4) (713, 96, 8) (683, 98, 7)
Queue #14: (137, 66, 2) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (195, 66, 2) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (590, 66, 2) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
```



Queue Management

```
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (681, 66, 4) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (785, 66, 4) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (449, 66, 5) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (930, 66, 8) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 180
All of the clients have already arrived.

Queue #1: (800, 66, 7) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (341, 65, 1) (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71,
3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81,
8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93,
5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (682, 64, 1) (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70,
6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84,
4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96,
8) (860, 97, 7)
Queue #4: (934, 66, 4) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (755, 64, 1) (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72,
8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81,
3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91,
3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 5) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (855, 66, 5) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
```



Queue Management

```
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (15, 67, 6) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (918, 66, 5) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 7) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 4) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (412, 65, 1) (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72,
5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82,
8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97,
8) (847, 99, 3)
Queue #13: (51, 67, 7) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (137, 66, 1) (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72,
3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82,
8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96,
8) (737, 97, 5)
Queue #15: (195, 66, 1) (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71,
3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81,
5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93,
8) (367, 96, 7) (651, 97, 7)
Queue #16: (590, 66, 1) (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71,
3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80,
5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92,
3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (681, 66, 3) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (785, 66, 3) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (449, 66, 4) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (930, 66, 7) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
```

Maximum simulation time: 200
Number of clients: 1000



Queue Management

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 181

All of the clients have already arrived.

```
Queue #1: (800, 66, 6) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 7) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (279, 67, 4) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (934, 66, 3) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (364, 67, 4) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 4) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (855, 66, 4) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (15, 67, 5) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (918, 66, 4) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 6) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 3) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (518, 67, 7) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (51, 67, 6) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (549, 67, 6) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
```



Queue Management

```
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (557, 67, 3) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (691, 67, 8) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (681, 66, 2) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (785, 66, 2) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (449, 66, 3) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (930, 66, 6) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 182
All of the clients have already arrived.

Queue #1: (800, 66, 5) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 6) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (279, 67, 3) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (934, 66, 2) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (364, 67, 3) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 3) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
```



Queue Management

```
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (855, 66, 3) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (15, 67, 4) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (918, 66, 3) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 5) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 2) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (518, 67, 6) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (51, 67, 5) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (549, 67, 5) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (557, 67, 2) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (691, 67, 7) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (681, 66, 1) (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72,
6) (117, 74, 3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85,
7) (198, 87, 7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97,
3) (352, 98, 4)
Queue #18: (785, 66, 1) (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71,
4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81,
4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92,
4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (449, 66, 2) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (930, 66, 5) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
```



Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 183
All of the clients have already arrived.
```

```
Queue #1: (800, 66, 4) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 5) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (279, 67, 2) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (934, 66, 1) (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73,
8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84,
3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96,
5) (314, 97, 6) (766, 98, 4)
Queue #5: (364, 67, 2) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 2) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (855, 66, 2) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (15, 67, 3) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (918, 66, 2) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 4) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (848, 65, 1) (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73,
3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81,
8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94,
6) (285, 96, 8) (688, 97, 7)
Queue #12: (518, 67, 5) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (51, 67, 4) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
```




Queue Management

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8) (683, 98, 7)
Queue #14: (549, 67, 4) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (557, 67, 1) (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71,
5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83,
8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96,
7) (651, 97, 7)
Queue #16: (691, 67, 6) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 8) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (789, 67, 5) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (449, 66, 1) (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72,
7) (221, 75, 3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84,
4) (640, 86, 6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97,
4) (799, 97, 6)
Queue #20: (930, 66, 4) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 184

All of the clients have already arrived.

```
Queue #1: (800, 66, 3) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 4) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (279, 67, 1) (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72,
8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86,
4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 8) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (364, 67, 1) (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74,
3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83,
7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91,
```



Queue Management

```
3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (394, 66, 1) (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73,
7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85,
3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97,
6) (312, 99, 3)
Queue #7: (855, 66, 1) (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72,
4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82,
4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93,
3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (15, 67, 2) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (918, 66, 1) (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71,
4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81,
4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92,
8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 3) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (21, 68, 6) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (518, 67, 4) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (51, 67, 3) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (549, 67, 3) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (95, 68, 3) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (691, 67, 5) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 7) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (789, 67, 4) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (104, 68, 3) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (930, 66, 3) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
```



Queue Management

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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```
Time: 185
All of the clients have already arrived.
```

```
Queue #1: (800, 66, 2) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 3) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (215, 68, 3) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 7) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (227, 68, 8) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (308, 68, 4) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (333, 68, 8) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (15, 67, 1) (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74,
3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84,
8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (339, 68, 3) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 2) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (21, 68, 5) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (518, 67, 3) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (51, 67, 2) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (549, 67, 2) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
```



Queue Management

```
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (95, 68, 2) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (691, 67, 4) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 6) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (789, 67, 3) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (104, 68, 2) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (930, 66, 2) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 186
All of the clients have already arrived.
```

```
Queue #1: (800, 66, 1) (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73,
5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84,
6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95,
5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 2) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (215, 68, 2) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 6) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (227, 68, 7) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (308, 68, 3) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
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Queue Management

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Queue #7: (333, 68, 7) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (354, 68, 5) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (339, 68, 2) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (42, 67, 1) (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73,
5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84,
7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (21, 68, 4) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (518, 67, 2) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (51, 67, 1) (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74,
4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84,
8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96,
8) (683, 98, 7)
Queue #14: (549, 67, 1) (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73,
7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86,
5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (95, 68, 1) (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73,
8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86,
4) (54, 87, 5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (691, 67, 3) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 5) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (789, 67, 2) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (104, 68, 1) (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75,
3) (635, 76, 8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86,
6) (41, 88, 7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (930, 66, 1) (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72,
5) (896, 73, 6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84,
6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97,
5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```



Queue Management

Time: 187

All of the clients have already arrived.

```
Queue #1: (417, 68, 8) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (76, 67, 1) (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72,
3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84,
5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95,
3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (215, 68, 1) (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75,
8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87,
7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 5) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (227, 68, 6) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (308, 68, 2) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (333, 68, 6) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (354, 68, 4) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (339, 68, 1) (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73,
4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84,
7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96,
3) (68, 97, 4) (610, 97, 7)
Queue #10: (742, 68, 6) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (21, 68, 3) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (518, 67, 1) (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74,
7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85,
8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (756, 68, 6) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (20, 69, 4) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 8) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (691, 67, 2) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
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Queue Management

```
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 4) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (789, 67, 1) (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73,
7) (824, 75, 3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83,
7) (644, 85, 7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94,
8) (815, 96, 3) (282, 97, 8)
Queue #19: (187, 69, 8) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (400, 69, 6) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 188
All of the clients have already arrived.

Queue #1: (417, 68, 7) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (410, 69, 4) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (431, 69, 7) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 4) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (227, 68, 5) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (308, 68, 1) (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75,
6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86,
7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (333, 68, 5) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (354, 68, 3) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
```



Queue Management

```
Queue #9: (532, 69, 7) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (742, 68, 5) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (21, 68, 2) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (569, 69, 5) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (756, 68, 5) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (20, 69, 3) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 7) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (691, 67, 1) (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72,
7) (119, 75, 5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81,
3) (949, 83, 8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94,
4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 3) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (616, 69, 4) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (187, 69, 7) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (400, 69, 5) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 189

All of the clients have already arrived.

```
Queue #1: (417, 68, 6) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (410, 69, 3) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
```




Queue Management

```
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (431, 69, 6) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 3) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (227, 68, 4) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (649, 69, 6) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (333, 68, 4) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (354, 68, 2) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (532, 69, 6) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (742, 68, 4) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (21, 68, 1) (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73,
3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85,
3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96,
8) (688, 97, 7)
Queue #12: (569, 69, 4) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (756, 68, 4) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (20, 69, 2) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 6) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (705, 69, 4) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 2) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (616, 69, 3) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
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Queue Management

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3) (282, 97, 8)
Queue #19: (187, 69, 6) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (400, 69, 4) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 190
All of the clients have already arrived.

Queue #1: (417, 68, 5) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (410, 69, 2) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (431, 69, 5) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 2) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
Queue #5: (227, 68, 3) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (649, 69, 5) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (333, 68, 3) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (354, 68, 1) (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75,
3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87,
7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (532, 69, 5) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (742, 68, 3) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (759, 69, 6) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
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Queue Management

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7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (569, 69, 3) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (756, 68, 3) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86,
3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (20, 69, 1) (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75,
8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87,
4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 5) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (705, 69, 3) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (699, 67, 1) (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74,
3) (718, 75, 8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87,
7) (632, 90, 8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (616, 69, 2) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (187, 69, 5) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (400, 69, 3) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 191
All of the clients have already arrived.
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Queue #1: (417, 68, 4) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (410, 69, 1) (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73,
6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86,
6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96,
5) (513, 97, 6) (586, 99, 7)
Queue #3: (431, 69, 4) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (870, 67, 1) (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76,
5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85,
4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97,
6) (766, 98, 4)
```



Queue Management

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Queue #5: (227, 68, 2) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76,
8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85,
3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92,
3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (649, 69, 4) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (333, 68, 2) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73,
7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84,
4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94,
4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (792, 69, 8) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (532, 69, 4) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
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Queue #10: (742, 68, 2) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74,
7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87,
8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (759, 69, 5) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (569, 69, 2) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76,
3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87,
5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (756, 68, 2) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76,
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3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (857, 69, 8) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 4) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (705, 69, 2) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (959, 69, 5) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (616, 69, 1) (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75,
3) (804, 76, 8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85,
7) (601, 87, 4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96,
3) (282, 97, 8)
Queue #19: (187, 69, 4) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (400, 69, 2) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

Maximum simulation time: 200



Queue Management

Number of clients: 1000

Number of queues: 20

Arrival time interval: [10, 100]

Service time interval: [3, 9]

Time: 192

All of the clients have already arrived.

Queue #1: (417, 68, 3) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)

Queue #2: (114, 70, 5) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)

Queue #3: (431, 69, 3) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)

Queue #4: (199, 70, 6) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)

Queue #5: (227, 68, 1) (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)

Queue #6: (649, 69, 3) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)

Queue #7: (333, 68, 1) (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)

Queue #8: (792, 69, 7) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)

Queue #9: (532, 69, 3) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)

Queue #10: (742, 68, 1) (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)

Queue #11: (759, 69, 4) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)

Queue #12: (569, 69, 1) (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)

Queue #13: (756, 68, 1) (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)

Queue #14: (857, 69, 7) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)

Queue #15: (80, 69, 3) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,



Queue Management

```
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (705, 69, 1) (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75,
5) (92, 77, 3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83,
8) (498, 86, 4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95,
6) (91, 97, 8) (493, 99, 7)
Queue #17: (959, 69, 4) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (299, 70, 6) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (187, 69, 3) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (400, 69, 1) (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73,
6) (743, 76, 8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86,
6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 193
All of the clients have already arrived.
```

```
Queue #1: (417, 68, 2) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (114, 70, 4) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (431, 69, 2) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (199, 70, 5) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (414, 70, 7) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (649, 69, 2) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (430, 70, 3) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (792, 69, 6) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
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Queue Management

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Queue #9: (532, 69, 2) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (582, 70, 7) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (759, 69, 3) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (634, 70, 8) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (808, 70, 6) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (857, 69, 6) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 2) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (867, 70, 5) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (959, 69, 3) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (299, 70, 5) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (187, 69, 2) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (978, 70, 3) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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```
Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
```

```
Time: 194
All of the clients have already arrived.
```

```
Queue #1: (417, 68, 1) (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74,
6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85,
3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96,
4) (475, 97, 6) (495, 99, 5)
Queue #2: (114, 70, 3) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
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Queue Management

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6) (586, 99, 7)
Queue #3: (431, 69, 1) (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77,
8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90,
5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (199, 70, 4) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (414, 70, 6) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (649, 69, 1) (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77,
3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89,
7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (430, 70, 2) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76,
7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86,
6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95,
3) (49, 97, 7) (598, 98, 3) (751, 99, 6)
Queue #8: (792, 69, 5) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (532, 69, 1) (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73,
8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86,
7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97,
4) (610, 97, 7)
Queue #10: (582, 70, 6) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (759, 69, 2) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75,
4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86,
7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (634, 70, 7) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (808, 70, 5) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (857, 69, 5) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (80, 69, 1) (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76,
5) (474, 77, 8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87,
5) (87, 89, 8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (867, 70, 4) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (959, 69, 2) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (299, 70, 4) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (187, 69, 1) (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76,
8) (145, 79, 8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88,
7) (611, 91, 7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (978, 70, 2) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
```




Queue Management

```
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
```

```
Maximum simulation time: 200  
Number of clients: 1000  
Number of queues: 20  
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Service time interval: [3, 9]
```

```
Time: 195  
All of the clients have already arrived.
```

```
Queue #1: (979, 70, 4) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)  
Queue #2: (114, 70, 2) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)  
Queue #3: (984, 70, 6) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79, 8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92, 3) (519, 93, 8) (491, 96, 8) (860, 97, 7)  
Queue #4: (199, 70, 3) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)  
Queue #5: (414, 70, 5) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79, 4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86, 5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94, 6) (631, 96, 4) (262, 97, 6) (745, 98, 7)  
Queue #6: (98, 71, 7) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78, 8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92, 6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)  
Queue #7: (430, 70, 1) (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78, 6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87, 5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97, 7) (598, 98, 3) (751, 99, 6)  
Queue #8: (792, 69, 4) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)  
Queue #9: (132, 71, 3) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)  
Queue #10: (582, 70, 5) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77, 8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91, 8) (900, 93, 6) (798, 95, 7) (408, 97, 8)  
Queue #11: (759, 69, 1) (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76, 5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88, 3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)  
Queue #12: (634, 70, 6) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77, 5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90, 8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)  
Queue #13: (808, 70, 4) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
```



Queue Management

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Queue #14: (857, 69, 4) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (156, 71, 3) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (867, 70, 3) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (959, 69, 1) (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75,
8) (172, 78, 8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90,
8) (294, 93, 6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (299, 70, 3) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (345, 71, 6) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (978, 70, 1) (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76,
8) (149, 79, 6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89,
3) (663, 90, 8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 196
All of the clients have already arrived.

Queue #1: (979, 70, 3) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (114, 70, 1) (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75,
6) (229, 77, 8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87,
5) (379, 90, 6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97,
6) (586, 99, 7)
Queue #3: (984, 70, 5) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (199, 70, 2) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (414, 70, 4) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (98, 71, 6) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (418, 71, 4) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
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Queue Management

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5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (792, 69, 3) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (132, 71, 2) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (582, 70, 4) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (459, 71, 7) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (634, 70, 5) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (808, 70, 3) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (857, 69, 3) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (156, 71, 2) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (867, 70, 2) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (574, 71, 4) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (299, 70, 2) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (345, 71, 5) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (721, 71, 4) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)
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Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]
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Time: 197
All of the clients have already arrived.
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```
Queue #1: (979, 70, 2) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
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Queue Management

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6) (495, 99, 5)
Queue #2: (757, 71, 3) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (984, 70, 4) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (199, 70, 1) (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78,
4) (202, 79, 6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87,
4) (109, 88, 5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (414, 70, 3) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (98, 71, 5) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (418, 71, 3) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (792, 69, 2) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (132, 71, 1) (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77,
4) (889, 78, 6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88,
4) (399, 90, 4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (582, 70, 3) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (459, 71, 6) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (634, 70, 4) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (808, 70, 2) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (857, 69, 2) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (156, 71, 1) (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77,
8) (861, 79, 5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89,
8) (112, 92, 3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (867, 70, 1) (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77,
3) (765, 77, 4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86,
4) (191, 87, 6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97,
8) (493, 99, 7)
Queue #17: (574, 71, 3) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (299, 70, 1) (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76,
8) (192, 79, 5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87,
4) (665, 89, 3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (345, 71, 4) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
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Queue Management

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7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (721, 71, 3) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 198
All of the clients have already arrived.

Queue #1: (979, 70, 1) (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76,
4) (885, 77, 5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86,
8) (720, 89, 4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97,
6) (495, 99, 5)
Queue #2: (757, 71, 2) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (984, 70, 3) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (794, 71, 6) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (414, 70, 2) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (98, 71, 4) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (418, 71, 2) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
Queue #8: (792, 69, 1) (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76,
5) (796, 78, 8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90,
5) (693, 91, 5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (827, 71, 4) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (582, 70, 2) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (459, 71, 5) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (634, 70, 3) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (808, 70, 1) (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77,
7) (446, 79, 6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87,
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Queue Management

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8) (548, 91, 8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (857, 69, 1) (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78,
5) (450, 79, 7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88,
7) (951, 91, 6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (893, 71, 5) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (903, 71, 3) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (574, 71, 2) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (908, 71, 4) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (345, 71, 3) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (721, 71, 2) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Maximum simulation time: 200
Number of clients: 1000
Number of queues: 20
Arrival time interval: [10, 100]
Service time interval: [3, 9]

Time: 199
All of the clients have already arrived.

Queue #1: (989, 71, 3) (56, 73, 5) (700, 74, 6) (816, 76, 4) (885, 77,
5) (336, 79, 8) (167, 81, 6) (171, 84, 6) (727, 85, 3) (838, 86, 8) (720, 89,
4) (657, 91, 6) (413, 93, 5) (425, 95, 5) (958, 96, 4) (475, 97, 6) (495, 99, 5)
Queue #2: (757, 71, 1) (365, 72, 3) (185, 73, 6) (309, 75, 6) (229, 77,
8) (645, 79, 7) (335, 81, 8) (243, 84, 5) (101, 86, 6) (813, 87, 5) (379, 90,
6) (139, 92, 4) (940, 93, 5) (734, 95, 3) (698, 96, 5) (513, 97, 6) (586, 99, 7)
Queue #3: (984, 70, 2) (671, 72, 8) (451, 75, 8) (902, 77, 8) (873, 79,
8) (6, 82, 7) (731, 84, 4) (819, 86, 4) (219, 87, 7) (994, 90, 5) (456, 92,
3) (519, 93, 8) (491, 96, 8) (860, 97, 7)
Queue #4: (794, 71, 5) (660, 73, 8) (754, 76, 5) (38, 78, 4) (202, 79,
6) (678, 80, 8) (542, 83, 4) (380, 84, 3) (787, 85, 4) (2, 87, 4) (109, 88,
5) (155, 91, 8) (706, 93, 8) (617, 96, 5) (314, 97, 6) (766, 98, 4)
Queue #5: (414, 70, 1) (444, 72, 8) (928, 74, 3) (89, 76, 8) (28, 79,
4) (664, 79, 6) (954, 80, 3) (624, 81, 3) (677, 83, 7) (814, 85, 3) (864, 86,
5) (124, 88, 3) (946, 89, 3) (290, 91, 3) (982, 91, 3) (812, 92, 3) (919, 94,
6) (631, 96, 4) (262, 97, 6) (745, 98, 7)
Queue #6: (98, 71, 3) (64, 73, 7) (468, 75, 6) (230, 77, 3) (245, 78,
8) (401, 80, 8) (353, 82, 8) (894, 85, 3) (939, 86, 7) (485, 89, 7) (102, 92,
6) (921, 94, 4) (775, 95, 7) (391, 97, 6) (312, 99, 3)
Queue #7: (418, 71, 1) (533, 72, 4) (767, 73, 7) (209, 76, 7) (288, 78,
6) (805, 79, 3) (761, 80, 7) (544, 82, 4) (289, 84, 4) (75, 86, 6) (421, 87,
5) (960, 89, 5) (662, 91, 5) (710, 93, 3) (999, 94, 4) (862, 95, 3) (49, 97,
7) (598, 98, 3) (751, 99, 6)
```



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Queue #8: (197, 72, 8) (730, 74, 3) (831, 75, 3) (844, 76, 5) (796, 78,
8) (407, 80, 7) (71, 82, 5) (372, 84, 8) (52, 87, 7) (35, 90, 5) (693, 91,
5) (790, 93, 8) (633, 96, 8) (892, 97, 7)
Queue #9: (827, 71, 3) (105, 73, 4) (924, 73, 8) (142, 77, 4) (889, 78,
6) (854, 79, 8) (876, 81, 4) (184, 84, 7) (306, 86, 7) (351, 88, 4) (399, 90,
4) (843, 91, 4) (829, 92, 8) (249, 96, 3) (68, 97, 4) (610, 97, 7)
Queue #10: (582, 70, 1) (639, 72, 3) (366, 73, 5) (955, 74, 7) (346, 77,
8) (793, 79, 8) (457, 81, 3) (733, 82, 6) (826, 84, 7) (58, 87, 8) (232, 91,
8) (900, 93, 6) (798, 95, 7) (408, 97, 8)
Queue #11: (459, 71, 4) (387, 73, 3) (956, 73, 3) (540, 75, 4) (912, 76,
5) (890, 78, 7) (971, 79, 7) (880, 81, 8) (313, 85, 3) (409, 86, 7) (464, 88,
3) (251, 90, 5) (926, 91, 6) (371, 94, 6) (285, 96, 8) (688, 97, 7)
Queue #12: (634, 70, 2) (772, 72, 5) (16, 74, 7) (922, 76, 3) (472, 77,
5) (239, 79, 5) (636, 80, 7) (123, 82, 8) (558, 85, 8) (820, 87, 5) (403, 90,
8) (218, 93, 5) (384, 95, 8) (265, 97, 8) (847, 99, 3)
Queue #13: (266, 72, 8) (845, 74, 4) (436, 76, 4) (432, 77, 7) (446, 79,
6) (917, 80, 3) (496, 81, 6) (208, 84, 8) (976, 86, 3) (517, 87, 8) (548, 91,
8) (437, 94, 4) (470, 95, 4) (713, 96, 8) (683, 98, 7)
Queue #14: (307, 72, 3) (154, 73, 7) (573, 75, 8) (129, 78, 5) (450, 79,
7) (988, 80, 5) (778, 82, 8) (77, 86, 5) (96, 87, 4) (729, 88, 7) (951, 91,
6) (562, 94, 6) (362, 96, 8) (737, 97, 5)
Queue #15: (893, 71, 4) (511, 73, 8) (612, 76, 5) (474, 77, 8) (861, 79,
5) (106, 81, 5) (29, 83, 8) (94, 86, 4) (54, 87, 5) (87, 89, 8) (112, 92,
3) (280, 93, 8) (367, 96, 7) (651, 97, 7)
Queue #16: (903, 71, 2) (835, 72, 7) (119, 75, 5) (92, 77, 3) (765, 77,
4) (177, 79, 7) (763, 80, 5) (945, 81, 3) (949, 83, 8) (498, 86, 4) (191, 87,
6) (349, 90, 8) (597, 92, 3) (702, 94, 4) (526, 95, 6) (91, 97, 8) (493, 99, 7)
Queue #17: (574, 71, 1) (654, 72, 6) (117, 74, 3) (718, 75, 8) (172, 78,
8) (37, 80, 8) (225, 82, 7) (321, 85, 7) (198, 87, 7) (632, 90, 8) (294, 93,
6) (570, 95, 4) (780, 96, 4) (466, 97, 3) (352, 98, 4)
Queue #18: (908, 71, 3) (168, 73, 7) (824, 75, 3) (804, 76, 8) (192, 79,
5) (284, 80, 5) (455, 81, 4) (296, 83, 7) (644, 85, 7) (601, 87, 4) (665, 89,
3) (233, 91, 5) (594, 92, 4) (869, 94, 8) (815, 96, 3) (282, 97, 8)
Queue #19: (345, 71, 2) (858, 72, 7) (221, 75, 3) (635, 76, 8) (145, 79,
8) (825, 80, 8) (118, 84, 4) (462, 84, 4) (640, 86, 6) (41, 88, 7) (611, 91,
7) (907, 93, 8) (672, 96, 3) (100, 97, 4) (799, 97, 6)
Queue #20: (721, 71, 1) (659, 72, 5) (896, 73, 6) (743, 76, 8) (149, 79,
6) (292, 80, 7) (992, 81, 7) (606, 84, 6) (977, 86, 6) (480, 89, 3) (663, 90,
8) (376, 93, 6) (658, 95, 6) (241, 97, 5) (510, 98, 6)

Average wait time: 81.56
Average service time: 5.51
Peak time at: 99 (678 clients)

Queue Management Application by Eric Toader
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6. Concluzii

In urma realizarii acestei teme am reusit sa imi aprofundez cunostintele in Java (si implicit in Java Swing) si am deprins abilitatile necesare pentru a lucra cu mai multe thread-uri si a dezvolta aplicatii multi-threaded.

De asemenea, am invatat sa folosesc GitLab si produse similare Git pentru a partaja codul si ultimele modificari efectuate, ceea ce se va dovedi a fi o unealta foarte puternica atat pentru temele si proiectele ce vor urma, dar mai ales in cadrul mediului locului de munca, unde se va prefera o abordare similara pentru stocarea si distributia codului sursa.



Queue Management

În ceea ce privește o posibilă dezvoltare ulterioară, un buton de “New simulation” ar putea fi adăugat pe frame-ul de simulare, pentru ca utilizatorul să poată să initializeze o nouă simulare fără să închidă aplicația.

Implementarea unui asemenea sistem de management de cozi s-ar putea face doar dacă ar comunica cu un sistem de determinare a timpului de procesare pentru fiecare client, pe baza cantității și tipului de produse în coș, modalitatea de plată, vârsta, timpul petrecut în magazin, etc.

7. Bibliografie

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