

## Operating Systems task

### Process description

Each process has the following data

- Process number
- Process arrival time
- Process running time needed

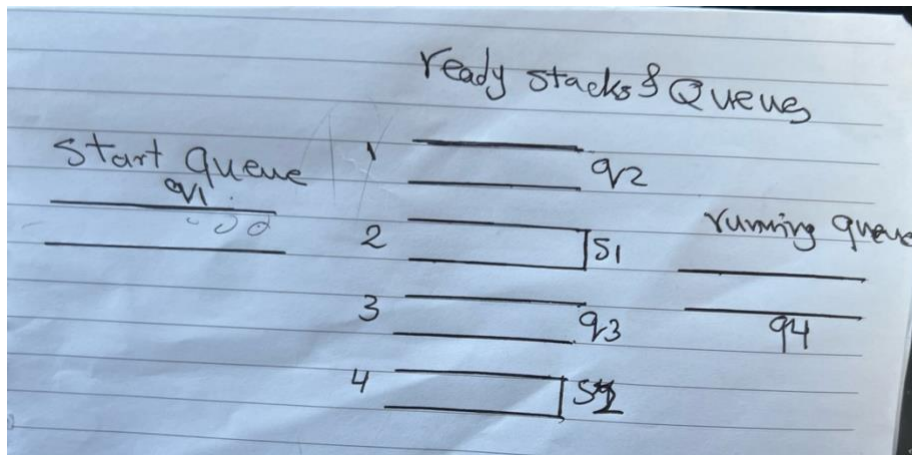
The system contains the following data structure

Phase 1: contains the start queue (q1)

Phase 2: Ready Subsystem processes

- Ready Queue 1(q2)
- Ready Stack 1(s1)
- Ready Queue 2(q3)
- Ready Stack(s2)

Phase 3: Contains only running queue (q4)



### Simulation steps

Step 1: Fill queue (q1)

Generate n number of processes, each process has a random arrival time ( from 1:20). In addition each process has a random running time

Step 2: Distributes the generated processes

Distribute the generated processes that located on the queue filled at step 1, the distribution stage will be on the two queues and two stacks as shown in previous figure

The mechanism of distribution

Generate a random number from 1 to 4

If the random number =1 , remove from q1 and add to q2

If the random number =2 , remove from q1 and add to s1

If the random number =3 , remove from q1 and add to q3

If the random number =4 , remove from q1 and add to s2

Finally, display table for each queue and each stack at Step2, the table contains the details of each process

As

Queue q2

	Process number	Arrival time	Running time
1	15	4	34
2	24	7	5
..	..	..	..
..	..	..	..

And so on.

Step 3: Fill the running queue

The mechanism of distribution

Generate a random number from 1 to 4

If the random number =1 , remove from q2 and add to q4

If the random number =2 , remove from sq and add to q4

If the random number =3 , remove from q3 and add to q4

If the random number =4 , remove from s2 and add to q4

Finally, display table for running queue

As

Queue q4

	Process number	Arrival time	Running time
1	43	7	6
2	2	45	56
..	15	5	13
..	..	..	..

