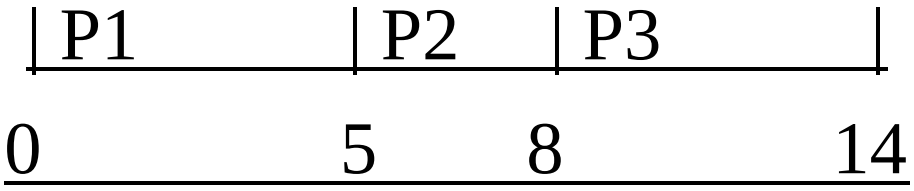
Part-E

Q1) FCFS-

Process	Arrival Time	Burst Time
P1	0	5
P2	1	3
P3	2	6

⇒ Solution:

Process Number	Arrival Time	Burst Time	Completion Time	Turnaround Time	Waiting Time
P1	0	5	5	5	0
P2	1	3	8	7	4
P3	2	6	14	12	6

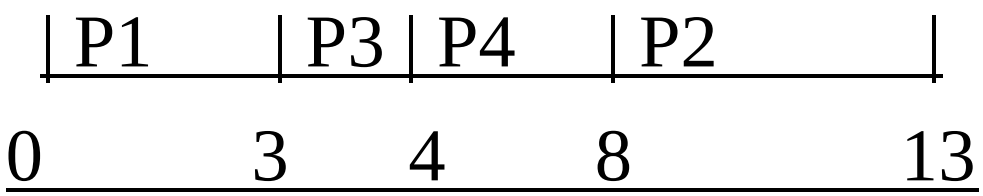


Average Waiting Time: 3.33

Q2) SJF-

Process	Arrival Time	Burst Time
P1	0	3
P2	1	5
P3	2	1
P4	3	4

Process Number	Arrival Time	Burst Time	Completion Time	Turnaround Time	Waiting Time
P1	**0**	**3**	**3**	**3**	**0**
P3	**2**	**1**	**4**	**2**	**1**
P4	**3**	**4**	**8**	**5**	**1**
P2	**1**	**5**	**13**	**12**	**7**

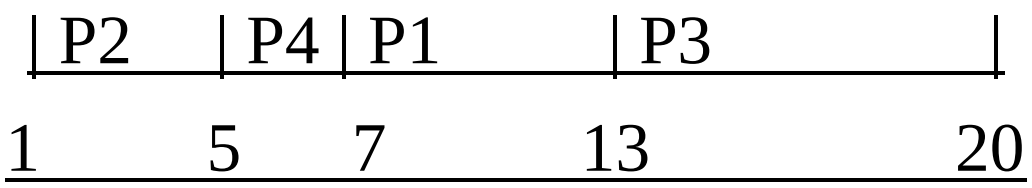


Average Turnaround Time**:** 5.5

Q3) PS-

Process	Arrival Time	Burst Time	Priority
P1	0	6	3
P2	1	4	1
P3	2	7	4
P4	3	2	2

Process Number	Arrival Time	Burst Time	Priority	Completion Time	Turnaround Time	Waiting Time
P2	**1**	**4**	**1**	**5**	**4**	**0**
P4	**3**	**2**	**2**	**7**	**4**	**2**
P1	**0**	**6**	**3**	**13**	**13**	**7**
P3	**2**	**7**	**4**	**20**	**18**	**11**



Average Waiting Time**:** 5

Q4) RR-

Process	Arrival Time	Burst Time
P1	0	4
P2	1	5
P3	2	2
P4	3	3

Process Number	Arrival Time	Burst Time	Completion Time	Turnaround Time	Waiting Time
P1	0	4	9	9	5
P2	1	5	10	9	4
P3	2	2	4	2	0
P4	3	3	11	8	5

| P1 | P2 | P3 | P4 | P1 | P2 | P4 |

0 2 4 6 8 9 10 11

Average Turnaround Time: 7

Q5) Consider a program that uses the fork() system call to create a child process. Initially, the parent process has a variable x with

a value of 5. After forking, both the parent and child processes increment the value of x by 1. What will be the final values of x in the parent and child processes after the fork() call?

⇒ Parent

/ \

x = 5 x = 5

(Before Increment)

(Child Process)

Parent

/ \

x = 6 x = 6

(After Increment)

(Child Process)

Final Values

- Parent Process: x = 6
- Child Process: x = 6