**Practice Questions**

**Formulas:**

*Turnaround time = Completion – Arrival*

*Waiting time = Turnaround – Burst*

*Average (time) = (time)/n, where time is turnaround or waiting time and n is number of processes*

**Process:**

* Make process queue
* Note down completion time
* Compute average wait time
* Compute average turnaround time

**Q1. Solve the following using FCFS.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Processes** | **Arrival Time** | **Burst Time** | **Turnaround Time** | **Waiting time** |
| P1 | 0 | 3 | 3 | 0 |
| P2 | 1 | 2 | 4 | 2 |
| P3 | 3 | 1 | 9 | 8 |
| P4 | 2 | 6 | 9 | 3 |

P1 P2 P4 P3

P1 = 3

P2 = 5

P3 = 12

P4 = 11

Average wait time = 3.25 unit

Average turnaround time = 6.25 unit

**Q2. Solve the following using SJF**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Processes** | **Arrival Time** | **Burst Time** | **Turnaround Time** | **Waiting time** |
| P1 | 1 | 3 | 5 | 2 |
| P2 | 2 | 4 | 8 | 4 |
| P3 | 1 | 2 | 2 | 0 |
| P4 | 4 | 4 | 10 | 6 |

P3 P1 P2 P4

P3 = 1+2 = 3

P1 = 3+3 = 6

P2 = 6+4 = 10

P4 = 10+4 = 14

Average wait time = 3 unit

Average turnaround time = 6.25 unit

**Q3. Solve using SRTF**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Processes** | **Arrival Time** | **Burst Time** | **Turnaround Time** | **Waiting time** |
| P1 | 0 | 5 | 9 | 4 |
| P2 | 1 | 3 | 3 | 0 |
| P3 | 2 | 4 | 11 | 7 |
| P4 | 4 | 1 | 1 | 0 |

P1 P2 P2 P2 P4 P1 P3

P1 = 9

P2 = 4

P3 = 13

P4 = 5

Average wait time = 2.75 unit

Average turnaround time = 6 unit