**Operating system course**

Lab 2 (helping material)

CPU Scheduling algorithms

Pif\_1.txt

1000,0,10

1001,5,5

1002,5,10

1003,5,15

1004,10,5

Output results:

**FCFS:**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 10 |
| 1001 | 5 | 10 |
| 1002 | 10 | 20 |
| 1003 | 20 | 35 |
| 1004 | 30 | 35 |

Average waiting time: 13 ms

Average turnaround time: 22 ms

**SJF:**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 10 |
| 1001 | 5 | 10 |
| 1002 | 15 | 25 |
| 1003 | 25 | 40 |
| 1004 | 5 | 10 |

Average waiting time: 10 ms

Average turnaround time: 19 ms

**RR (Time quantum = 2):**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 14 | 24 |
| 1001 | 15 | 20 |
| 1002 | 23 | 33 |
| 1003 | 25 | 40 |
| 1004 | 17 | 22 |

Average waiting time: 18.8 ms

Average turnaround time: 27.8 ms

Pif\_2.txt

1000,3,4

1001,5,3

1002,0,2

1003,5,1

1004,4,3

Results:

**FCFS:**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 2 |
| 1001 | 0 | 4 |
| 1002 | 3 | 6 |
| 1003 | 5 | 8 |
| 1004 | 8 | 9 |

Average waiting time: 3.2 ms

Average turnaround time: 5.8 ms

**SJF:**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 2 |
| 1001 | 0 | 4 |
| 1002 | 4 | 7 |
| 1003 | 6 | 9 |
| 1004 | 2 | 3 |

Average waiting time: 2.4 ms

Average turnaround time: 5 ms

**RR (Time quantum = 2):**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 2 |
| 1001 | 5 | 9 |
| 1002 | 6 | 9 |
| 1003 | 6 | 9 |
| 1004 | 4 | 5 |

Average waiting time: 4.2 ms

Average turnaround time: 6.8 ms

Pif\_3.txt

1000,7,5

1001,5,5

1002,9,7

1003,11,10

1004,17,15

Results:

**FCFS:**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 5 |
| 1001 | 3 | 8 |
| 1002 | 6 | 13 |
| 1003 | 11 | 21 |
| 1004 | 15 | 30 |

Average waiting time: 7 ms

Average turnaround time: 15.5 ms

**SJF:**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 0 | 5 |
| 1001 | 3 | 8 |
| 1002 | 6 | 13 |
| 1003 | 11 | 21 |
| 1004 | 15 | 30 |

Average waiting time: 7ms

Average turnaround time: 15.4 ms

**RR (Time quantum = 2):**

|  |  |  |
| --- | --- | --- |
| PID | Waiting Time | Turnaround Time |
| 1000 | 8 | 13 |
| 1001 | 9 | 14 |
| 1002 | 16 | 23 |
| 1003 | 19 | 29 |
| 1004 | 15 | 30 |

Average waiting time: 13.4 ms

Average turnaround time: 21.8 ms