## Assignment I: Process Scheduling

In a system, five processes want to run. This table describes when they arrive, and their burst time:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **process** | A | B | C | D | E |
| **arrive time** | 0 | 1.99 | 4.01 | 5.99 | 7.99 |
| **burst time** | 3 | 6 | 4 | 5 | 2 |

Calculate the Gantt Chart, the average waiting time, and for each process: its finish time and turnaround time for the following scheduling algorithms. You can use the following table:

|  | process | A | B | | C | | D | E |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FCFS | average waiting time | 4.604 | | | | | | |
| finish time | 3 | 9 | 13 | | 18 | | 20 |
| turn around time | 0 + 3 = 3 | 1.01 + 6 = 6.01 | 4.99 + 4 =  8.99 | | 7.01 + 5 = 12.01 | | 10.01 + 2 = 12.01 |
| RR (q=1) | average waiting time | 7.004 | | | | | | |
| finish time | 4 | 18 | 17 | | 20 | | 15 |
| turn around time | 1 + 3 = 4 | 10.01 + 6 = 16.01 | 9.99 + 4 =  13.99 | | 10.01 + 5 = 15.01 | | 5.01 + 2 = 7.01 |
| RR (q=4) | average waiting time | 7.604 | | | | | | |
| finish time | 3 | 17 | 11 | | 20 | | 19 |
| turn around time | 0 + 3 = 3 | 9.01 + 6 = 15.01 | 2.99 + 4 = 6.99 | | 13.01 + 5 = 18.01 | | 9.01 + 2 = 11.01 |
| SJF (pre emptive) | average waiting time | 4.208 | | | | | | |
| finish time | 3 | 15 | 8.01 | | 20 | | 10.01 |
| turn around time | 0 + 3 = 3 | 7.01 + 6 = 13.01 | 0 + 4 = 4 | | 14.01 + 5 = 19.01 | | 0.02 + 2 = 2.02 |
| SJF (non pre emptive) | average waiting time | 5.604 | | | | | | |
| finish time | 3 | 9 | 15 | | 20 | | 11 |
| turn around time | 0 + 3 = 3 | 1.01 + 6 = 7.01 | 11.99 + 4 = 15.99 | | 14.01 + 5 = 19.01 | | 1.01 + 2 = 3.01 |