**Test Case: 1**

Sample Input:

|  |  |  |
| --- | --- | --- |
| Process | Arrival time | Burst time |
| P1 | 0 | 18 |
| P2 | 2 | 23 |
| P3 | 4 | 13 |
| P4 | 13 | 10 |

Expected Output:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Process | Arrival time | Burst time | Completion time | Turnaround time | Waiting time |
| P1 | 0 | 18 | 47 | 47 | 29 |
| P2 | 2 | 23 | 64 | 62 | 39 |
| P3 | 4 | 13 | 22 | 18 | 5 |
| P4 | 13 | 10 | 32 | 19 | 9 |

Average Turnaround time: 36.5 Average Waiting time: 20.5

Explanation: The time quantum of 1 iteration is 3 unit of time, the time quantum of 2 iteration is 6 unit of time and after 2 iteration provide CPU of that process which required less time to go terminated state.

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

0 3 9 22 32 47 64

**Test Case: 2**

Sample Input:

|  |  |  |
| --- | --- | --- |
| Process | Arrival time | Burst time |
| P1 | 0 | 20 |
| P2 | 3 | 36 |
| P3 | 13 | 19 |
| P4 | 20 | 42 |
| P5 | 36 | 69 |
| P6 | 41 | 35 |

Expected Output:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Process | Arrival time | Burst time | Completion time | Turnaround time | Waiting time |
| P1 | 0 | 20 | 26 | 26 | 6 |
| P2 | 3 | 36 | 75 | 72 | 36 |
| P3 | 13 | 19 | 45 | 32 | 13 |
| P4 | 20 | 42 | 152 | 132 | 90 |
| P5 | 36 | 69 | 221 | 185 | 116 |
| P6 | 41 | 35 | 110 | 69 | 34 |

Average Turnaround time: 86 Average Waiting time: 49.1667

Explanation: The time quantum of 1 iteration is 3 unit of time, the time quantum of 2 iteration is 6 unit of time and after 2 iteration provide CPU of that process which required less time to go terminated state.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| P1 | P2 | P1 | P3 | P2 | P6 | P4 | P5 |

0 3 9 26 45 75 110 152 221

**Test Case: 3**

Sample Input:

|  |  |  |
| --- | --- | --- |
| Process | Arrival time | Burst time |
| P1 | 0 | 6 |
| P2 | 3 | 16 |
| P3 | 5 | 2 |
| P4 | 9 | 8 |
| P5 | 10 | 7 |
| P6 | 22 | 5 |
| P7 | 14 | 13 |
| P8 | 26 | 4 |
| P9 | 17 | 19 |
| P10 | 28 | 3 |

Expected Output:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Process | Arrival time | Burst time | Completion time | Turnaround time | Waiting time |
| P1 | 0 | 6 | 14 | 14 | 8 |
| P2 | 3 | 16 | 51 | 48 | 32 |
| P3 | 5 | 2 | 11 | 6 | 4 |
| P4 | 9 | 8 | 29 | 20 | 12 |
| P5 | 10 | 7 | 21 | 11 | 4 |
| P6 | 22 | 5 | 41 | 19 | 14 |
| P7 | 14 | 13 | 64 | 50 | 37 |
| P8 | 26 | 4 | 36 | 10 | 6 |
| P9 | 17 | 19 | 83 | 66 | 47 |
| P10 | 28 | 3 | 32 | 4 | 1 |

Average Turnaround time: 24.8 Average Waiting time: 16.5

Explanation: The time quantum of 1 iteration is 3 unit of time, the time quantum of 2 iteration is 6 unit of time and after 2 iteration provide CPU of that process which required less time to go terminated state.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| P1 | P2 | P3 | P1 | P5 | P4 | P10 | P8 | P6 | P2 | P7 | P9 |

0 3 9 11 14 21 29 32 36 41 51 62 83