1. **Calculate the turn around time and waiting time of the processes on the basis of round robin scheduling algorithm. Assume Time Quantum is set to 2 units. Also calculate the average waiting time and turn around time.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Process** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** |
| **Arrival Time** | **0** | **1** | **2** | **3** | **4** | **6** |
| **Burst Time** | **4** | **5** | **2** | **1** | **6** | **3** |

1. **Calculate the turn around time and waiting time of the processes on the basis of round robin scheduling algorithm. Assume Time Quantum is set to 3 units. Also calculate the average waiting time and turn around time.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Process** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** |
| **Arrival Time** | **5** | **4** | **3** | **1** | **2** | **6** |
| **Burst Time** | **5** | **6** | **7** | **9** | **2** | **3** |

1. **Consider the following set of processes, with the length of the CPU burst given in milliseconds.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Process** | **P1** | **P2** | **P3** | **P4** | **P5** |
| **Burst Time** | **10** | **1** | **2** | **1** | **5** |
| **Priority** | **3** | **1** | **3** | **4** | **2** |

**The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 all at time 0.**

**a) Draw four Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF, non-preemptive priority (a smaller priority number implies a higher priority), and RR (quantum = 1).**

**b) What is the turnaround time of each process for each of the scheduling algorithms in part a?**

**c) What is the waiting time of each process for each of the scheduling algorithms in part a?**

**d) Which of the algorithms results is the minimum average waiting time (over all processes)?**