**Working with CPU Scheduling algorithms**

1. Given the list of processes, their CPU burst times and display/print the Gantt chart for Priority scheduling. Compute the waiting time and turnaround time for each processor. Print the Gantt chart and table of information which contains process name, execution time, waiting time and turnaround time. Finally print the average waiting time and average turnaround time.

| Process | Burst Time | Priority |
|---|---|---|
| P1 | 12 | 2 |
| P2 | 25 | 1 |
| P3 | 13 | 3 |
| P4 | 7 | 5 |
| P5 | 11 | 4 |

2. Write a C program to implement Round Robin CPU scheduling algorithm with quantum time – 2 time units. Processes do not arrive at the same time. Display the following results in a table format.

   Arrival time and Burst time of every process.

   Waiting time and turnaround time of every process.

   Average waiting time and turnaround time.

   Total idle time of the processor

| Process | Burst Time | Arrival Time |
|---|---|---|
| P1 | 12 | 2 |
| P2 | 2 | 0 |
| P3 | 3 | 1 |
| P4 | 7 | 3 |
| P5 | 11 | 5 |

3. Consider the four processes listed in the table below under multilevel queue scheduling. The queue number denotes the process's queue.

| Process | Arrival Time | CPU Burst Time | Queue Number |
|---|---|---|---|
| P1 | 0 | 4 | 1 |
| P2 | 0 | 3 | 1 |
| P3 | 0 | 8 | 2 |
| P4 | 10 | 5 | 1 |

Queue 1 has a higher priority than queue 2. Round Robin is used in queue 1 (Time quantum = 2), while FCFS is used in queue 2. Print the Gantt chart and table of information which contains process name, execution time, waiting time and turnaround time.