WORKLOAD 1

Our Multilevel Feedback Queue is best described by the following table:

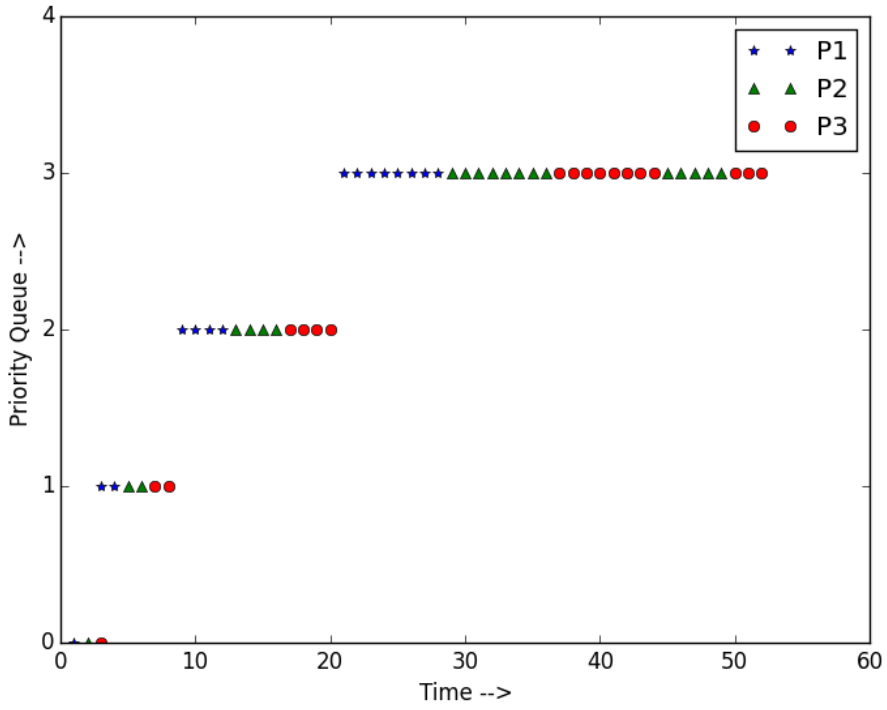
Priority Queue Level	Number of timer ticks
Q-0	1
Q-1	2
Q-2	4
Q-3	8

Processes in Q-0 have the highest priority and are executed first for 1 clock tick and processes in Q-3 have the least priority and are executed for 8 clock ticks. When the process arrives first, it is placed in the Q-0 and after the stipulated time for that particular queue expires, it is subsequently demoted to the lower -priority queues (from Q0->Q1->Q2->Q3).

At the same priority queue level, the processes are executed in Round Robin fashion.

Once a process reaches Q-3, it stays in that queue until it runs to completion.

Graph 1



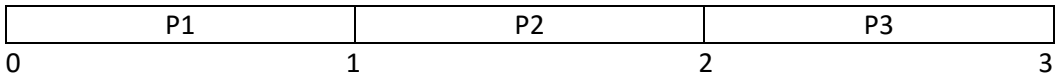
Workload Description

The workload consists of three processes (P1, P2, P3) arriving at the same time. The run times (in clock ticks) of the process are:

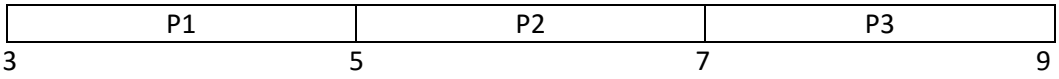
- P1 – 15
- P2 – 20
- P3 – 18

The processes initially are in high priority queue Q-0 and each process gets executed for 1 clock tick. After that, they are demoted to Q-1 wherein they are executed for 2 clock ticks. Subsequently, they are demoted to Q-3 (execute for 4 clock ticks) and then to Q-4 (execute for 8 clock ticks). The Gantt chart distribution of the processes are shown below:

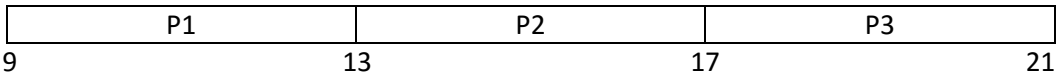
Q-0



Q-1



Q-2



Q-3