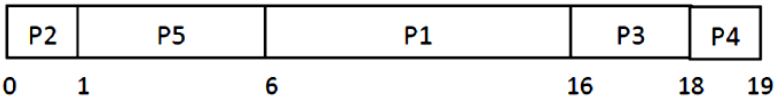
Sheet 6

1. In some systems, a priority is associated with each process and the CPU is allocated to the process with the highest priority (smallest value). Equal priority processes are scheduled in FIFO order.

Ex:	Process	Priority
	P1	3
	P2	1
	P3	3
	P4	4
	P5	2

They will be scheduled to CPU as follows:



Define a suitable data structure, and then write a simulation program for the system described above. The program should display the following menu:

1. Add a New Process.
2. Serve a Process.
3. Number of Waiting Processes.
4. Exit menu.

Hints:

- You have to adjust the **LINKED QUEUE ADT** in implementation level to be suitable for solving this problem.
- You have to track number of waiting processes "as integer **size**".
- The process should have the following fields: process ID and priority.