Sardar Vallabhbhai National Institute of Technology, Surat
Department of Artificial Intelligence
Data Structure (AI102)
B.Tech I - II Semester

Assignment-8

Note: Input should be taken from the user

Question 1: Implement a priority queue using a linked list. The queue has the following basic operations:

- **enqueue()** – Insert an element in the queue.
- **dequeue()** – Remove the element from the queue.
- **peek()** – Return the element at the front node of the queue
- **isFull()** – Validates if the queue is full or not.
- **isEmpty()** – Checks if the queue is empty.

Question 2: Implement a Circular queue using a linked list. The queue has the following basic operations:

- **enqueue()** – Insert an element in the queue.
- **dequeue()** – Remove the element from the queue.
- **peek()** – Return the element at the front node of the queue
- **isFull()** – Validates if the queue is full or not.
- **isEmpty()** – Checks if the queue is empty.