**LAB REPORT ON**

**Data Structures**



**Lab No. ...........**

**Date 2020/09/18**

**Topic: Queue**

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**INTRODUCTION**

**Queue:** Queue is an ordered list in which insertions are done at one end called rear and deletions are done at other end called front. The first element inserted is the first one to be deleted. Hence, it is called First in First Out (FIFO) list.

A real-world example of queue can be a single-lane one-way road, where the vehicle enters first, exits first.

Basic queue operations involve initializing or defining the queue, utilizing it, and then completely erasing it from the memory. Some terms are:

1. enqueue : It stores an item to the queue.
2. dequeue: It removes an item from the queue.
3. Front/peek: It gets the element at the front of the queue without removing it.
4. isfull: It checks if the queue is full.
5. Isempty: It checks if the queue is empty.

All these operations have time complexity O(1).

Stack is a Last in First Out structure whereas queue is First in First Out structure. In queue insertion and deletion happens from different side whereas in stack both operations happen from same side.