ALGORITHMS AND DATA STRUCTURES

CS106.3
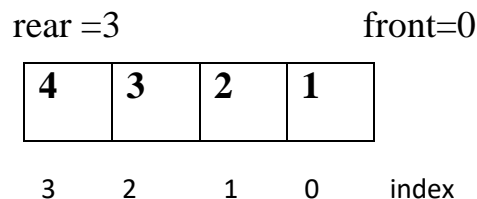
1. **What is queue?**
   - A queue is a linear data structure that is open at both ends and the operations are performed in First In First Out (FIFO) order.

2. **Give real time examples for queues.**

   - Task Scheduling
   - Resource Allocation
   - Batch Processing
   - Message Buffering
   - Event Handling
   - Traffic Management
   - Operating systems
   - Network protocols

3. **Draw the logical representation of queue.**

   rear =3   front=0

4	3	2	1

     3   2   1   0   index

4. **There are three instances in which queue could be empty. Mention those?**
   - Front is at -1
   - Front becomes greater than rear
   - Front is equal to rear