Guess??????

Queue

Queue

Operation

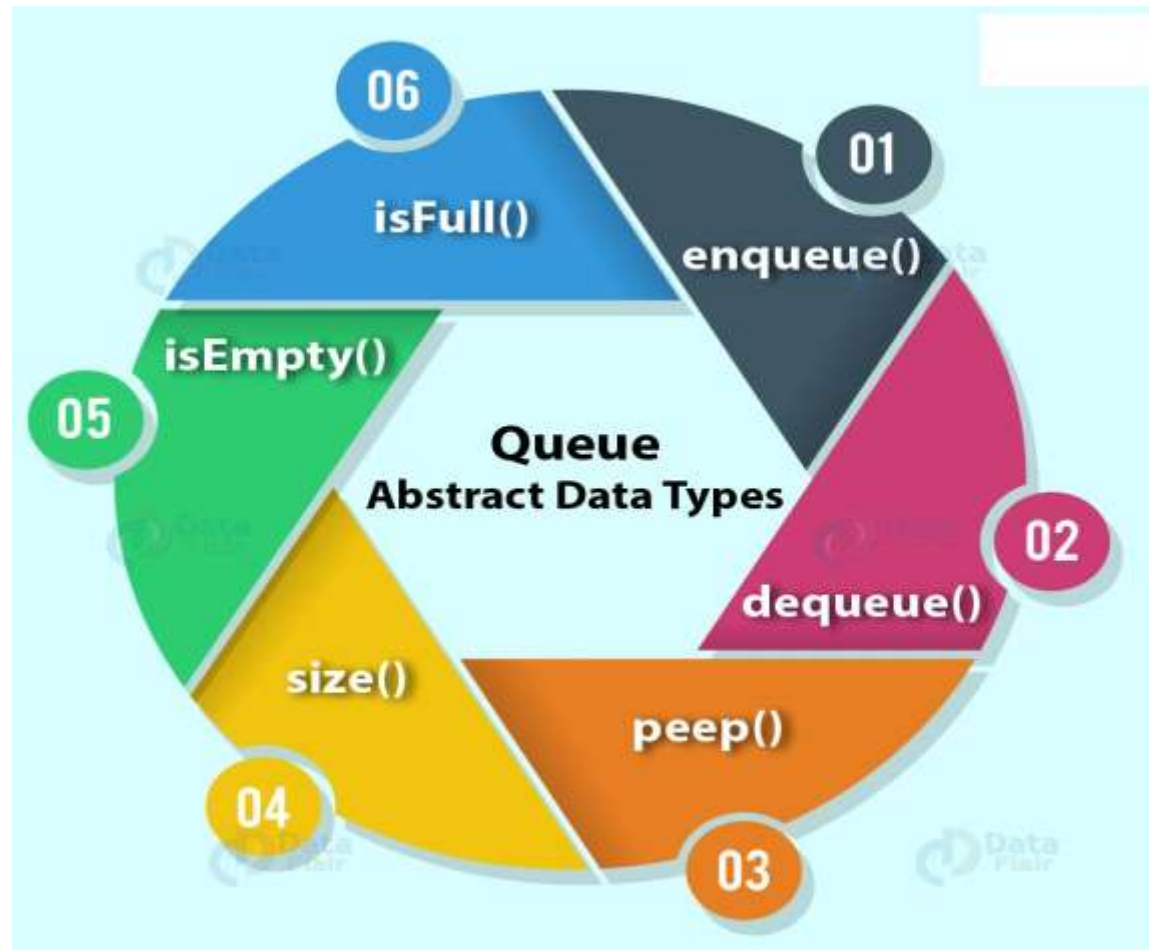- Enqueue

- Dequeue

Implementation of Stack Using

- Linked List

- Array

Queue ADT

Implementation of Queu Using Array

Definition :

[Queue](#) is a linear data structure that follows a particular order in which the operations are performed for storing data. The order is First In First Out **(FIFO)**.

Example :

One can imagine a queue as a line of people waiting to receive something in sequential order which starts from the beginning of the line.
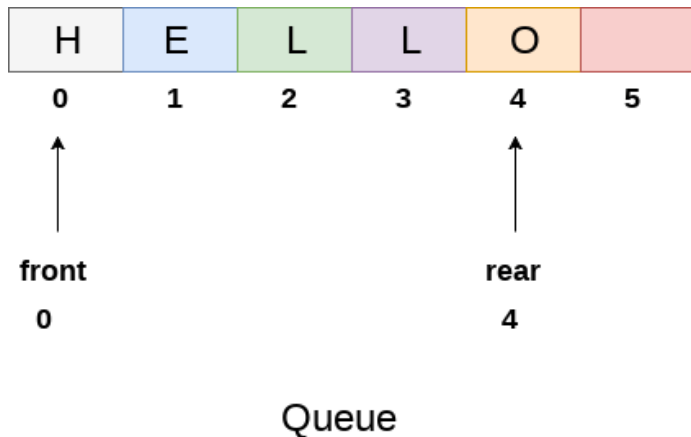
Queue

Basic Operations on Queue:

- **enqueue():** Inserts an element at the end of the queue i.e. at the rear end.

- **dequeue():** This operation removes and returns an element that is at the front end of the queue.

- **front():** This operation returns the element at the front end without removing it.

- **rear():** This operation returns the element at the rear end without removing it.

- **isEmpty():** This operation indicates whether the queue is empty or not.

- **isFull():** This operation indicates whether the queue is full or not.

- **size():** This operation returns the size of the queue i.e. the total number of elements it contains.
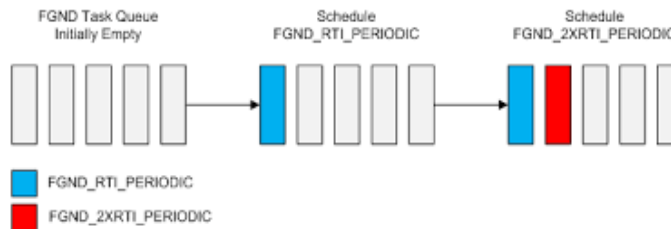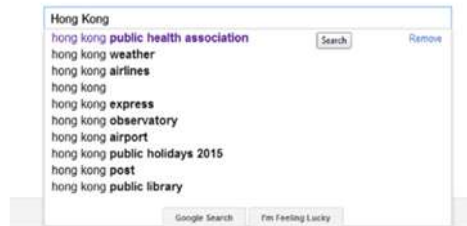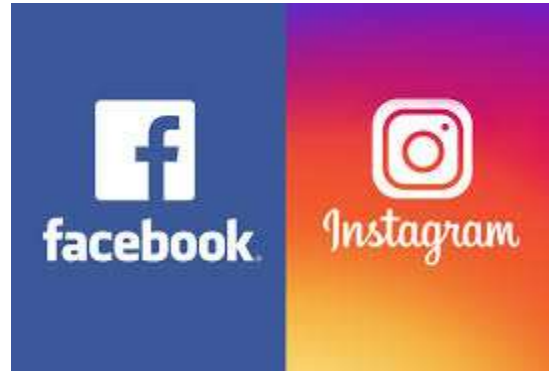
Steps for enqueue:

- Check the queue is full or not

- If full, print overflow and exit

- If queue is not full, increment tail and add the element.

Steps for dequeue:

- Check queue is empty or not
- if empty, print underflow and exit
- if not empty, print element at the head and increment head

Applications

Example for ADT Using Array

Push

8

6

3

1

Stack Operations
- Push
- Pop
- IsFull
- IsEmpty

a) Stack Implementation

Insert   6   3   Delete

8   1

Queue Operations
- Insert
- Delete
- IsFull
- IsEmpty

b) Queue Implementation