CS2700 : PROGRAMMING & DATA STRUCTURES

WEEK 7 : QUEUE ADT.

Goals :

(1) QUEUE ADT

(2) IMPLEMENTING QUEUE ADT

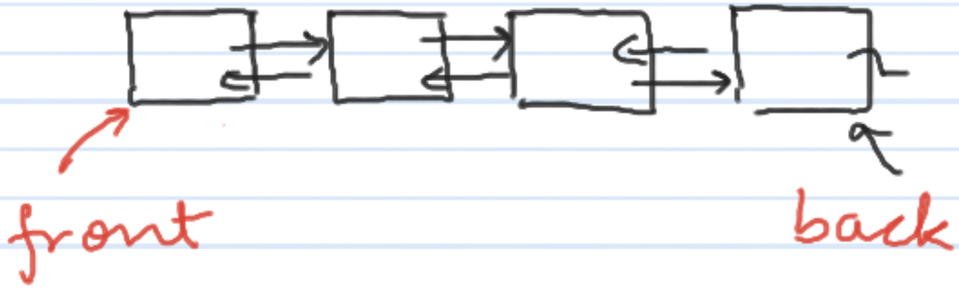
(3) APPLICATION.

A Q is a QUEUE is a Q

FIRST IN FIRST OUT (FIFO)

QUEUE : Again restricted list (yet very useful)

QUEUE ADT



- RESTRICTED LIST
- INSERTIONS AT ONE END
- DELETIONS FROM THE OTHER.
- CANNOT ACCESS INTERMEDIATE ELEMENTS.
  (typically)
- INTERFACE ;

  INSERT : enqueue (element)

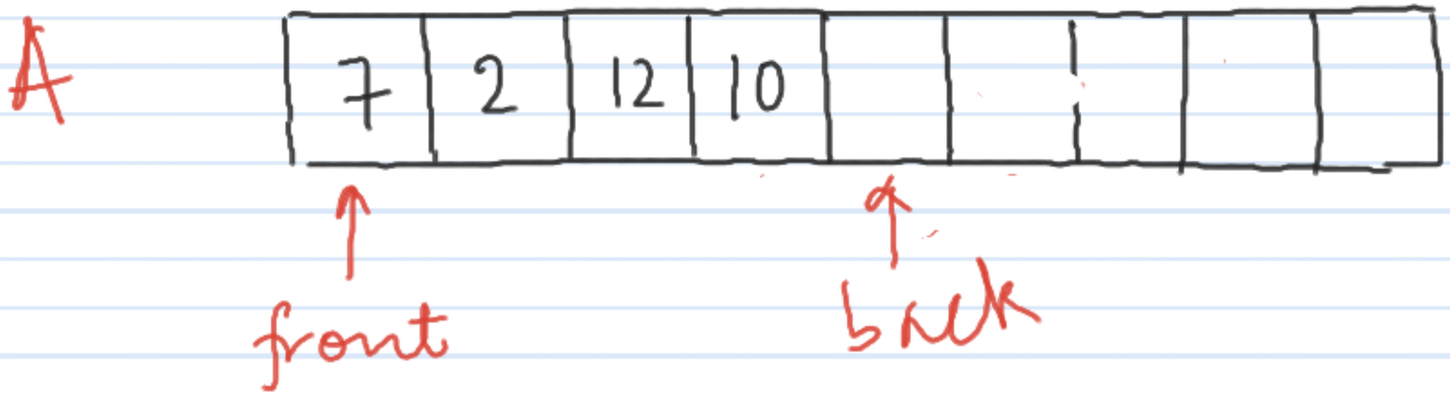
  DELETE ; dequeue
  ↳ returns the element at head

  SIZE :

IMPLEMENTING A QUEUE ADT

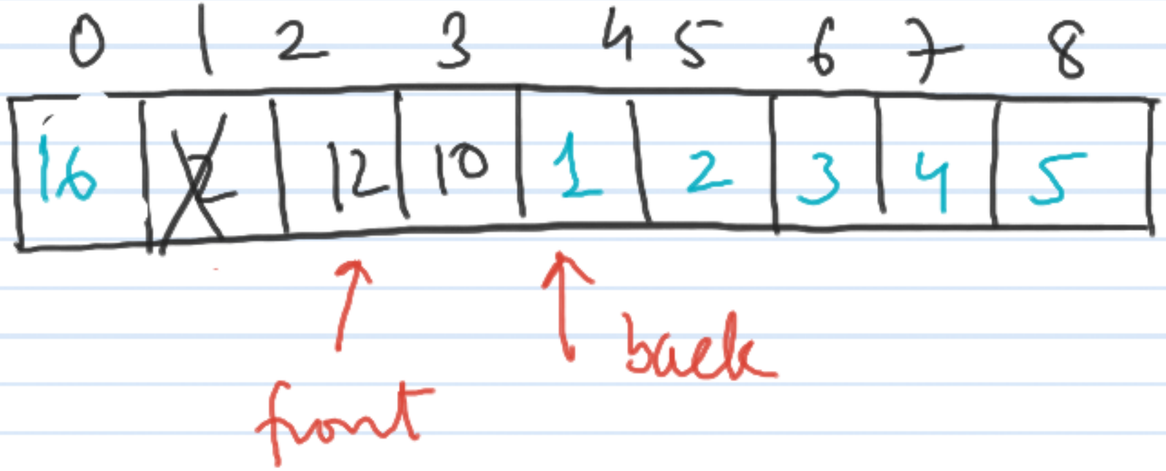
- DOUBLY LINKED LIST
- ARRAY.

ARRAY BASED IMPLEMENTATION OF Q



Write down code for enqueue / dequeue.

(assume array indices start with 0 and array size is SIZE)




```
A[back] = e;
back++;
if (back == N)
    back = 0;
```