

Exercise on Queues

For all the questions below you can use the following operations:

- `enqueue(Q, x)`: insert x in Q i.e. place x as the last element in Q
- `dequeue(Q)`: return the first element of Q ; this element is removed from Q
- `isEmpty(Q)`: will return 'true' if Q is empty and 'false' if it is not

You can also use other temporary data structures.

1. KJU is an initially empty queue. What will it contain after the following operations:

```
enqueue (KJU, 7)
enqueue (KJU, 3)
enqueue (KJU, 4)
a = dequeue (KJU)
b = dequeue (KJU)
enqueue (a+b)
```

2. Write an algorithm that empties a queue Q .
3. Write an algorithm that finds how many elements are present in queue Q .
4. Write an algorithm that enters an element x in a queue and puts x as the first element.
5. Write an algorithm that deletes an element x from a queue Q