

**Objectives:**

- Stack, Queue

**Question 1:** Write a program to build Stack data structure using Queue data structure. And write proper functions for the Stack operations. Functions are:

- `empty()` : Returns whether the Stack is empty or not. If it is empty return true otherwise false.
- `size()` : Returns the size of the Stack. Means that how many elements in Stack meantime.
- `top()` : Returns a reference to the top element of the Stack.
- `push(i)` : Adds the element 'i' at the top of the Stack.
- `pop()` : Deletes the top most element of the Stack.
- `display ()` : Write Stack element from last in to first in.

You must think how each function can be implemented in order can be to operate correctly. Do a menu representation for function selection. For running stages:

1. Write stack implementation
2. Show the menu for operation selection.
3. Realize the selected operation from menu
4. Return menu (define a key etc. to exit from program)

**Question 2:** Write a program to build Queue data structure using Stack data structure. And write proper functions for the Queue operations. Functions are:

- `empty()` : Returns whether the Queue is empty or not. If it is empty return true otherwise false.
- `size()` : Returns the size of the Queue. Means that how many elements in Queue meantime.
- `front()` : Returns a reference to the first element of the Queue.
- `enqueue (i)` : Adds the element 'i' at the end of the Queue.
- `dequeue ()` : Deletes the first element of the Queue.
- `display ()` : Write Queue element from first in to last in.

You must think how each function can be implemented in order can be to operate correctly. Do a menu representation for function selection. For running stages:

1. Write Queue implementation
2. Show the menu for operation selection.
3. Realize the selected operation from menu
4. Return menu (define a key etc. to exit from program)