

**Class name:**

We are implementing a class called Number\_bucket that contains a dynamic sized LIFO(Last In First Out) data structure.

**Class Functions;**

The class Number\_bucket will have the following functions:

1. isEmpty()
2. push(int n)
3. pop()
4. get\_size()
5. top()

**Description of the functions:**

1. isEmpty() checks whether or not the stack is empty
2. push(int n) adds an integer into the stack.
3. pop() removes the integer from the top of the stack.
4. get\_size() shows the number of elements currently added to the stack.
5. top() will return the int that is currently at the top of the stack.

**Test cases:**

1. isEmpty() has two possible test cases:
  - a. Returns true if the stack is empty.
  - b. Returns false if the stack is not empty.
2. push(int n) has three possible test cases:
  - a. An int gets pushed into the stack
  - b. A non-integer gets pushed into the stack such as a string or char.
  - c. Nothing gets pushed to the stack
3. pop() has two possible test cases:
  - a. The element at top of the stack is removed.
  - b. Nothing gets removed from the stack.
4. get\_size() has one possible test case:
  - a. An integer that is the size of the stack will be returned.
5. top() has two possible test cases:
  - a. An integer at the top of the stack will be returned.
  - b. Nothing gets returned from the stack.