Lab work report: Lab 2

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Objectives:

The objective of this lab work is to implement stack data structure using array as well as linked list. The following methods have been included in the program:

- push(element): Adds an element into the stack
- pop(): Removes an element from the stack
- isEmpty(): Checks if the stack is empty
- isFull(): Checks if the stack is full
- top(): Gives the element at the top

Implementation:

The above instructed methods have been implemented in the program displaying desired output. Additional methods have also been used to create a user friendly interface of the program. The above mentioned functions with their corresponding tasks are seen used in the program in various instances through both linked list as well as array implementation. The interface for displaying elements of the linked list as well as the array have been chosen quite orthodox to be able to differentiate between them.

Output:

Array Implementation

```
PS C:\Users\hp\Desktop\labwork\lab 2> ./a.exe
Which implementation you want to see?


 1. Array
 2. Linkedlist
1
```

```
  Impelementing stack using array


Checking stack is empty or not

 The stack is empty

 How many elements you want to push into the stack?
2

Pushing elements into stack...
Checking is full or not
The stack is not full
Popping an element from the stack

 how many items you want to pop? (should be less than or equal to 40)
2

 Item popped 18467

 Item popped 41

 Checking stack is empty or not
The stack is empty
```

Linked list

```
PS C:\Users\hp\Desktop\labwork\lab 2> ./a.exe
Which implementation you want to see?


 1. Array
 2. Linkedlist
2
```

```
                    Implementing stack using linked list


 Checking whether the stack is empty or not.
                              The stack is empty

 Pushing an element into the stack

  How many elements you want to push into the stack?
 2

 Pushing elements into stack...



 Checking whether the stack is full or not

                  The stack is not full.
 Popping an element from the stack
          How many items you want to pop? (should be less than or equal to 40)
 2

  Item popped 18467

  Item popped 41
  Stack is empty !!
```