Shaheed Zulfikar Ali Bhutto Institute of Science & Technology

COMPUTER SCIENCE DEPARTMENT

Total Marks: 7.5

Obtained Marks: _____

DATA STRUCTURE AND ALGORITHM

Lab Report # 05

Submitted To: Mam Tehreen

Submitted By: Hammad Qureshi

Reg. Numbers: 2112114

Question no 1:
Task 1: Modify the data type in the array stack code-block in order to be accepting char type
of data. Make required changes accordingly.
Task 2: Create a function to delete a complete stack and add this function into the above Link List code-block.
Code:

```
#include <iostream>
using namespace std;

#define SIZE 10


class stack {
  char stackData[SIZE];       // holds the stack
  int topOfStack;             // index of top-of-stack
public:
  stack() { topOfStack = 0; }
  void push(char ch)
  {
    if(topOfStack==SIZE) {
      cout << "Stack is full\n";
      return;
    }
    stackData[topOfStack] = ch;
    topOfStack++;
```

```
  }

  char pop()
  {
    if(topOfStack==0) {
      cout << "Stack is empty\n";
      return 0;              // return null on empty stack
    }
    topOfStack--;
    return stackData[topOfStack];
  }
};

int main()
{
  stack stackObject1, stackObject2;
  int i;

  stackObject1.push('a');
  stackObject1.push('x');
  stackObject1.push('b');
  stackObject2.push('y');
  stackObject2.push('c');
  stackObject2.push('z');

  for(i = 0; i <3; i++)
     cout << "Pop stackObject1: " << stackObject1.pop() <<
endl;
  for(i = 0; i <3; i++)
```

```
    cout << "Pop stackObject2: " << stackObject2.pop() <<
endl;

  return 0;
}
```

CONSOLE SCREEN: