EAST WEST UNIVERSITY

Lab Report 7

Course Title :Data Structure

Course Code: CSE207

Course Instructor :Dr. Anup Kumar Paul

Semester:Spring 2024

Section:03

Experiment Name:Write a program to implement push and pop operations on the stack.

Submitted by-

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Node class :

```
package StackOperations;
public class Node {
        int data;
        Node next;
        public Node(int data) {
          this.data = data;
          this.next = null;
        }
  }
```

Main Class:

```
package StackOperations;
public class Main {
      public static void main(String[] args) {
            StackOperations stack = new StackOperations(0);
            stack.pop();
            stack.push(5);
            stack.push(39);
            stack.push(78);
            stack.push(12);
            stack.printStack();
            stack.pop();
            stack.printStack();
            stack.pop();
            stack.printStack();
            stack.pop();
            stack.printStack();
            stack.pop();
            stack.printStack();
      }
}
```

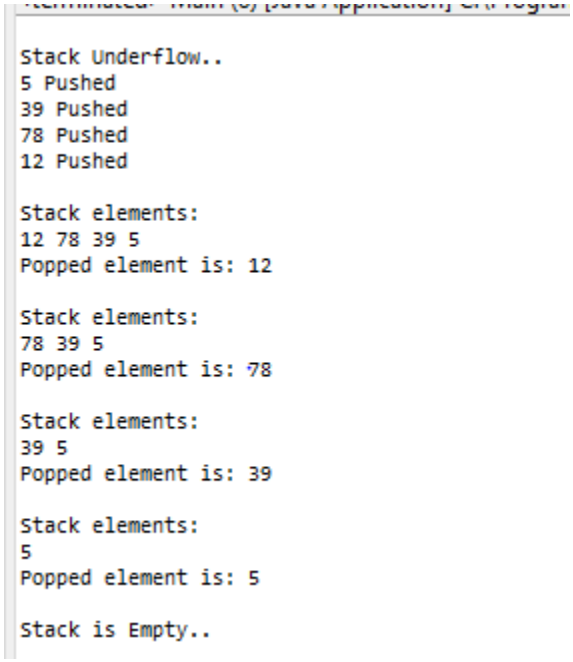
StackOperations :

```
package StackOperations;
public class StackOperations {

	private Node top;
	public StackOperations(int maxSize) {
		top = null;
	}
	public void push(int data) {
		Node newNode = new Node(data);
		newNode.next=top;
		top=newNode;
		System.out.println(data + " Pushed");
	}
	public void pop() {
		if (top == null) {
			System.out.println("\nStack Underflow..");
			return;
		} else {
			int poppedData = top.data;
      top = top.next;
      System.out.println("\nPopped element is: " + poppedData);
    }
  }
	public void printStack() {
		if (top == null) {
			System.out.println("\nStack is Empty..");
			return;
		} else {
			System.out.println("\nStack elements:");
			Node current = top;
      while (current != null) {
        System.out.print(current.data + " ");
        current = current.next;
      }
```

```
    }
  }
}
```

Output :



```
Stack Underflow..
5 Pushed
39 Pushed
78 Pushed
12 Pushed

Stack elements:
12 78 39 5
Popped element is: 12

Stack elements:
78 39 5
Popped element is: 78

Stack elements:
39 5
Popped element is: 39

Stack elements:
5
Popped element is: 5

Stack is Empty..
```