

Name: Amit Bandu Swami

Roll: 2221018

Batch: A

Assignment 1

Stack.java

```
import java.io.*;
import java.util.*;
public class Stack{
    int top;
    int[] s=new int[5];

    Stack() {
        top = -1;
    }

    public static void main(String args[]) {
        Stack st= new Stack();
        int ch,val;

        do{

            System.out.println("1.Push");
            System.out.println("2.Pop");
            System.out.println("3.Display");
            System.out.println("4.Exit");
            System.out.println("Enter choice=");
            Scanner c=new Scanner(System.in);
            ch=c.nextInt();

            switch(ch){
            case 1:
                System.out.println("Enter value to push: ");
                val=c.nextInt();
                st.push(val);
                break;
            case 2:
                st.pop();
                break;
            case 3: st.display();
                break;
            }

        }
```

```

        }while(ch!=4);
    }

    public void push(int val) {
        if (top==4)
        {
            System.out.println("Stack is full");

        }
        else{
            top++;
            System.out.println("insert element"+val);

            s[top]=val;
        }
    }

    public void pop() {
        int x;
        if (top == -1)
        {
            System.out.println("Stack is empty");

        }
        else{
            x=s[top];
            System.out.println("the element is pop"+s[top]);
            top--;
        }
    }

    public void display() {
        int i;
        if(top==-1)
        {
            System.out.println("Stack is empty");

        }
        else
        {
            System.out.println("Stack=");
            for (i =0; i<=top; i++)
            {
                System.out.println(s[i]+"");
            }
        }
    }
}

```

```
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
1
Enter value to push:
1
insert element1
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
1
Enter value to push:
2
insert element2
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
1
Enter value to push:
3
insert element3
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
1
Enter value to push:
4
insert element4
1.Push
2.Pop
```

```
Enter choice=
1
Enter value to push:
4
insert element4
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
1
Enter value to push:
5
insert element5
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
1
Enter value to push:
6
Stack is full
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
3
Stack=
1
2
3
4
5
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
```

```
Enter choice=
3
Stack=
1
2
3
4
5
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
2
the element is pop5
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
2
the element is pop4
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
3
Stack=
1
2
3
1.Push
2.Pop
3.Display
4.Exit
Enter choice=
4
```