

Lab 6:

Write a Java program to create generic class Stack which hold 5 integer and double values

```
import java.util.*;
```

```
public class GenericStack<T> {
```

```
    private ArrayList<T> st;
```

```
    private int top;
```

```
    private int size;
```

```
    GenericStack(int size) {
```

```
        this.size = size;
```

```
        this.top = -1;
```

```
        st = new ArrayList<>();
```

```
    public void push(T val) {
```

```
        if (top >= size - 1) {
```

```
            System.out.println("Stack  
overflow");
```

```
        } else {
```

```
            top++;
```

```
            st.add(val);
```

```
    public T pop() {
```

```
        if (top < 0) {
```

```
            System.out.println("Stack underflow");
```

```
            return null;
```

```
        } else {
```

```
            T val = st.get(top);
```

```
            top--;
```

```
top--;  
return val;
```

```
}  
public void display() {  
    for (int i = top; i >= 0; i--) {  
        System.out.println(st.get(i));  
    }  
}
```

```
}  
public static void main(String[] args) {  
    GenericStk<Integer> intStk =  
        new GenericStk<>(5);
```

```
    intStk.push(1);  
    intStk.push(2);  
    intStk.push(3);  
    intStk.push(4);  
    intStk.push(5);
```

```
    GenericStk<Double> doubleStk = new  
        GenericStk<>(5);
```

```
    doubleStk.push(100.1);  
    doubleStk.push(100.2);  
    doubleStk.push(100.3);  
    doubleStk.push(100.4);  
    doubleStk.push(100.5);
```

```
    intStk.display();
```

```
    System.out.println("The element popped is"  
        + doubleStk.pop());
```

```
    doubleStk.display();  
}
```

Output :

5

4

3

2

1

The element popped is 100.5

100.4

100.3

100.2

100.1

Strings.

① ~~BMSCE~~

~~BMSCE~~

② newString.

abcd

hello

BMSCE

③ The string length : 10

Concat string : Shanilidhar B M

④ 9807

⑤ bmsce

⑥

s

h

a

s

h

i

d

n

a

r

115

104

97

115

104

105

100

104

97

114

⑦ true

false

false

true

⑧ String matches



8) false 11 ~~hello~~ str1 == str2  
true 11 str2.equals(str1)

9) true  
false  
true

10) true  
false

11) ~~was~~  
apple  
ball  
cat  
dog  
ent  
free - - -

12) Sorted numbers are  
1 2 3 4 5 6 7 8 9 10

13) There was a text, there was too

14) hello world

15) Commage

16) Hello friends.

17) Student: 1

name: shashidhar

Reg No: 1234685

semister: 3

CGPA: 9.03

18) charAt 3 is 'A'  
reverse of SAS = SAS

19) Eagle flying  
Eagle makes sound

Hawk is moving  
Hawk makes sound.

20) circle

$$\text{area} = 201.061$$

$$\text{perimeter} = 50.265$$

triangle

$$\text{area} = 6$$

$$\text{perimeter} = 12$$