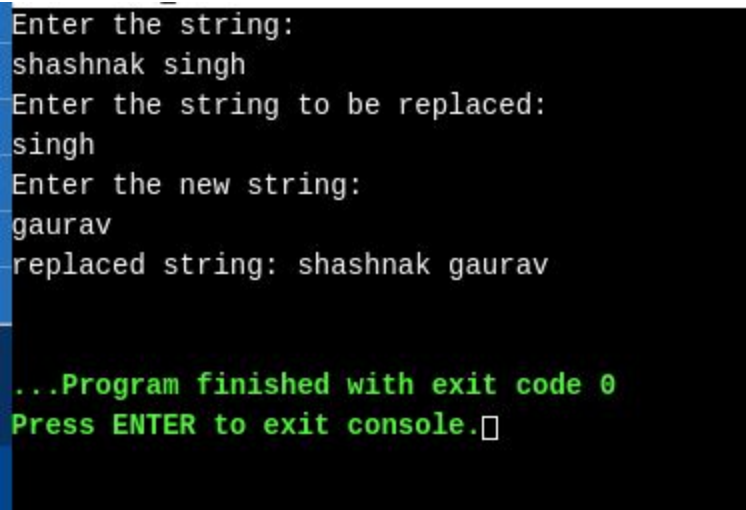


JVM EXERCISE :

By- Shashank G Singh

Q1. Write a program to replace a substring inside a string with other string ?

```
import java.util.Scanner;
import java.util.*;
public class Main
{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the string: ");
        String str = sc.nextLine();
        System.out.println("Enter the string to be replaced: ");
        String old_str = sc.nextLine();
        System.out.println("Enter the new string: ");
        String new_str = sc.nextLine();
        String replaced = str.replace(old_str, new_str);
        System.out.println("replaced string: " + replaced);
    }
}
```

A screenshot of a terminal window with a black background and white text. It shows the execution of a Java program. The program prompts the user to enter a string, then a substring to be replaced, and finally a new string to replace it with. The input provided is 'shashnak singh', 'singh', and 'gaurav' respectively. The output shows the resulting string 'shashnak gaurav'.

```
Enter the string:
shashnak singh
Enter the string to be replaced:
singh
Enter the new string:
gaurav
replaced string: shashnak gaurav
```

```
...Program finished with exit code 0
Press ENTER to exit console.□
```

Q2. Write a program to find the number of occurrences of the duplicate words in a string and print them ?

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

public class occurrence
{

    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the string: ");
        String str1 = sc.nextLine();

        String[] words=str1.split(" ");
        int c=1;

        for(int i=0;i<words.length;i++)
        {
            for(int j=i+1;j<words.length;j++)
            {
                if(words[i].equals(words[j]))
                {
                    c=c+1;
                    words[j]="0";
                }
            }
            if(words[i]!="0")
                System.out.println(words[i]+"--"+c);
            c=1;
        }
    }
}
```

```
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin,  
Enter the string:  
shashank singh shashank gaurav singh gaurav  
shashank--2  
singh--2  
gaurav--2  
  
Process finished with exit code 0  
|
```

Q3. Write a program to find the number of occurrences of a character in a string without using loop?

```
import java.util.Scanner;
```

```
public class occwithoutloop {
```

```
    public static void main(String[] args)
```

```
    { Scanner sc = new Scanner(System.in);
```

```
      System.out.println("Enter the string: ");
```

```
      String str = sc.nextLine();
```

```
      System.out.println("Enter the character of which occurrence is to be find ");
```

```
      String s = sc.nextLine();
```

```
      int count = str.length() - str.replace("s", "").length();
```

```
      System.out.println("Number of occurrences of 'a' in "+s+" = "+count);
```

```
    }
```

```
}
```

```
Run: occwithoutloop x
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin/java -jav
Enter the string:
shashank gaurav singh
Enter the character of which occurrence is to be find
a
Number of occurrences of 'a' in a = 3
Process finished with exit code 0
```

Q4. Calculate the number & Percentage Of Lowercase Letters, Uppercase Letters, Digits And Other Special Characters In A String

```
import java.text.DecimalFormat;
import java.util.Scanner;

public class four {
    static void charPerc(String str)
    {
        int tc = str.length();
        int ucl = 0, lcl = 0, d = 0, spc = 0;
        for (int i = 0; i < str.length(); i++)
        {
            char ch = str.charAt(i);
            if (Character.isUpperCase(ch))
            {
                ucl++;
            }
            else if (Character.isLowerCase(ch))
            {
                lcl++;
            }
            else if (Character.isDigit(ch))
            {
                d++;
            }
            else if (Character.isWhitespace(ch))
            {
                spc++;
            }
        }
        DecimalFormat df = new DecimalFormat("0.00");
        double uclPerc = (ucl * 100) / tc;
        double lclPerc = (lcl * 100) / tc;
        double dPerc = (d * 100) / tc;
        double spcPerc = (spc * 100) / tc;
        System.out.println("Uppercase Letters: " + ucl + " (" + df.format(uclPerc) + "%)");
        System.out.println("Lowercase Letters: " + lcl + " (" + df.format(lclPerc) + "%)");
        System.out.println("Digits: " + d + " (" + df.format(dPerc) + "%)");
        System.out.println("Other Special Characters: " + spc + " (" + df.format(spcPerc) + "%)");
    }
}
```

```

        lcl++;
    }
    else if (Character.isDigit(ch))
    {
        d++;
    }
    else
    {
        spc++;
    }
}

double ucp=(ucl*100.0)/tc;
double lcp=(lcl*100.0)/tc;
double dp=(d*100.0)/tc;
double spcp=(spc*100.0)/tc;

System.out.println("Uppercase letters are "+ucl+" and "+ucp+"% ");
System.out.println("Lowercase letters are "+lcl+" and "+lcp+"%");
System.out.println("Digits Are "+d+" and "+dp+"%");
System.out.println("Special Characters Are "+spc+" and "+spcp+"%");

}

public static void main(String[] args)
{
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the string: ");
    String str = sc.nextLine();
    charPerc(str);
}
}

```



```
Run: four x
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin/java -javaagent:/hom
Enter the string:
SinghShashank123@gmail.com
Uppercase letters are 2 and 7.6923076923076925%
Lowercase letters are 19 and 73.07692307692308%
Digits Are 3 and 11.538461538461538%
Special Characters Are 2 and 7.6923076923076925%











Process finished with exit code 0
```

Q5. Find common elements between two arrays.

```
import java.util.Scanner;
public class common {
    public static void main(String a[]){
        Scanner s = new Scanner(System.in);
        int n;
        System.out.print("Enter no. of elements you want in array:");
        n = s.nextInt();
        int a1[] = new int[n];
        int a2[]=new int[n];
        System.out.println("Enter elements of 1st array : ");
        for(int i = 0; i < n; i++)
        {
            a1[i] = s.nextInt();
        }
        System.out.println("Enter elements of 2nd array : ");
        for(int i = 0; i < n; i++)
        {
            a2[i] = s.nextInt();
        }
        for(int i=0;i<a1.length;i++){
```

```
        for(int j=0;j<a2.length;j++){
            if(a1[i]==a2[j]){
                System.out.println(a1[i]);
            }
        }
    }
}
```

Run: common x



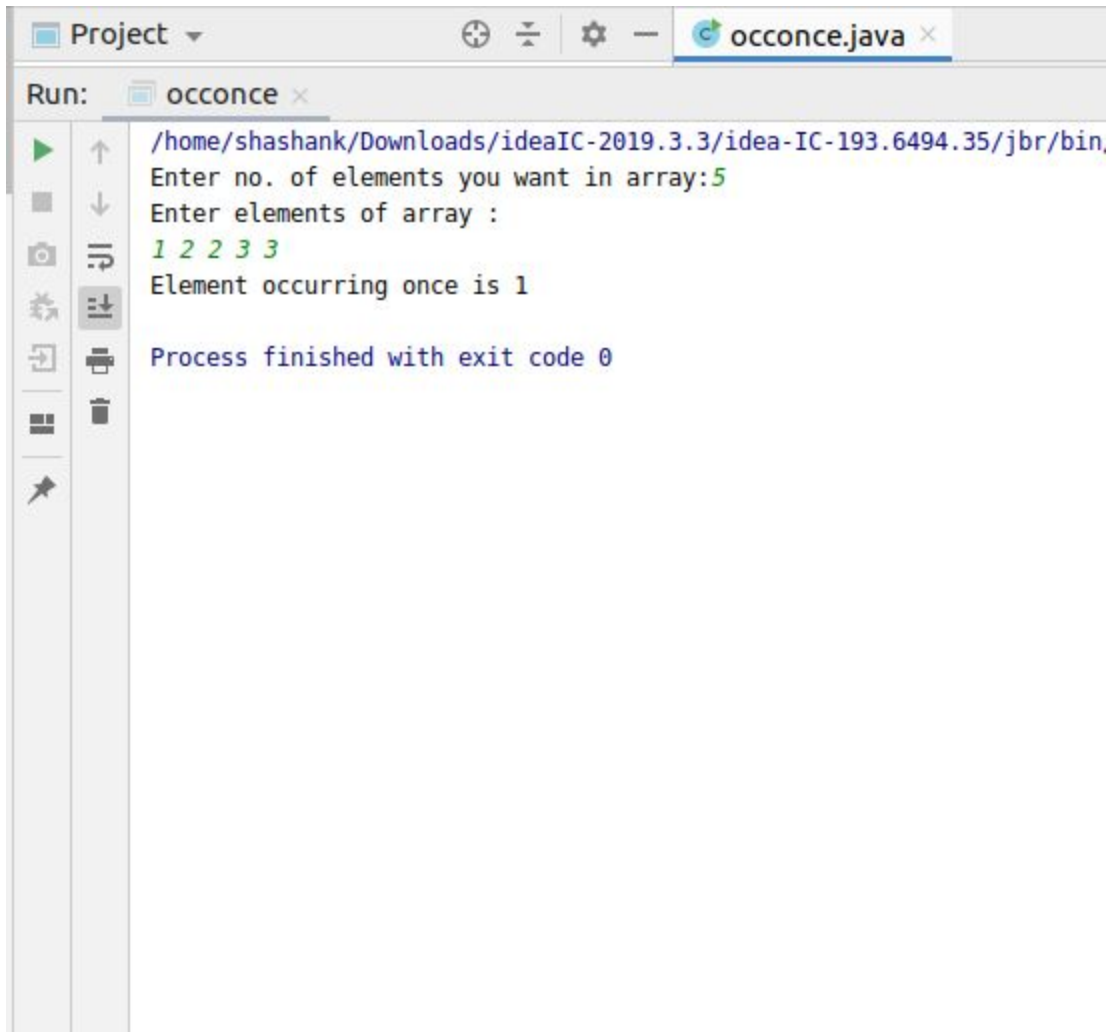
```
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35
Enter no. of elements you want in array:5
Enter elements of 1st array :
1 2 3 4 5
Enter elements of 2nd array :
2 3 4 6 7
2
3
4

Process finished with exit code 0
|
```

Q6. There is an array with every element repeated twice except one. Find that element

```
import java.util.Scanner;
```

```
public class occonce {
    static int once(int a[],int s)
    {
        int r=a[0];
        for(int i=1;i<s;i++)
            r=r^a[i];
        return r;
    }
    public static void main (String[] args)
    {
        Scanner s = new Scanner(System.in);
        int n;
        System.out.print("Enter no. of elements you want in array:");
        n = s.nextInt();
        int a[] = new int[n];
        System.out.println("Enter elements of array : ");
        for(int i = 0; i < n; i++)
        {
            a[i] = s.nextInt();
        }
        System.out.println("Element occurring once is " +once(a,n) + " ");
    }
}
```

The screenshot shows an IDE window with a tab for 'occonce.java'. Below the tab is a 'Run:' section with a sub-tab for 'occonce'. To the left of the console output is a vertical toolbar with icons for running, stepping through, and other debugging actions. The console output shows the program's execution path and user input.

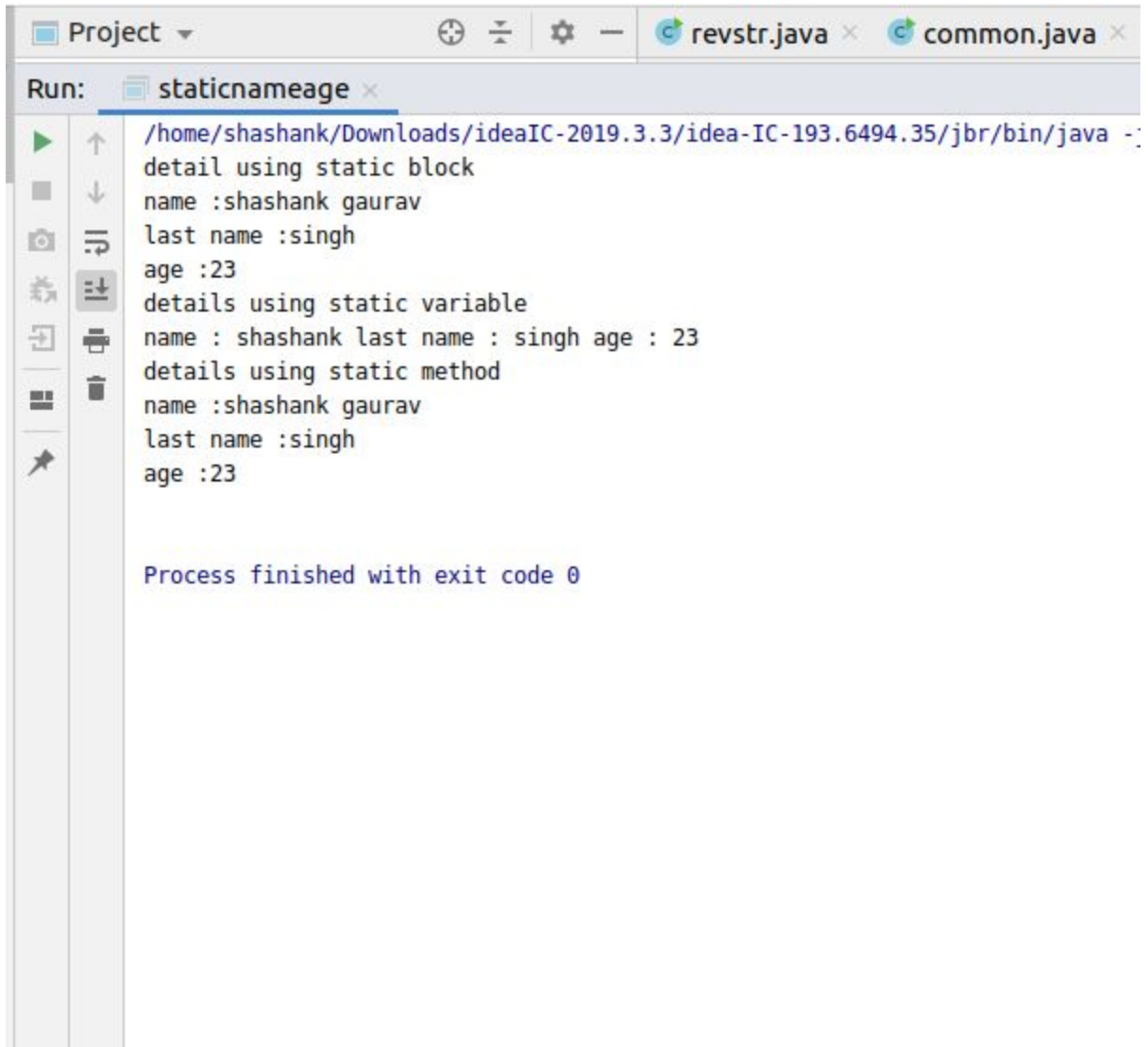
```
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin,  
Enter no. of elements you want in array:5  
Enter elements of array :  
1 2 2 3 3  
Element occurring once is 1  
  
Process finished with exit code 0
```

Q7. Write a program to print your Firstname,LastName & age using static block,static method & static variable respectively

```
public class staticnameage {
static {
    System.out.println("detail using static block ");
    String s="shashank gaurav";
    String s1="singh";
    int age=23;
    System.out.println("name :"+s);
    System.out.println("last name :"+s1);
    System.out.println("age :"+age);
}
public static void meth(){
    System.out.println("details using static method ");
    String s="shashank gaurav";
    String s1="singh";
    int age=23;
    System.out.println("name :"+s);
    System.out.println("last name :"+s1);
    System.out.println("age :"+age);
    System.out.println();
    static String name="shashank";
    static String lname="singh";
    static int age1=23;
public static void main(String[] args)
{

    System.out.println("details using static variable ");
    System.out.println("name : "+name+" last name : "+lname+" age : "+age1);
    meth();
}

}
```



```
Project ▾
revstr.java × common.java ×
Run: staticnameage ×
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin/java -:
detail using static block
name :shashank gaurav
last name :singh
age :23
details using static variable
name : shashank last name : singh age : 23
details using static method
name :shashank gaurav
last name :singh
age :23

Process finished with exit code 0
```

Q8. Write a program to reverse a string and remove character from index 4 to index 9 from the reversed string using String Buffer

```
import java.util.Scanner;
```

```
public class revstr {
```

```
    public static void main(String args[]) {
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.println("Enter the string: ");
```

```
        String str = sc.nextLine();
```

```
        StringBuffer rev= new StringBuffer(str);
```

```
        rev.reverse();
```

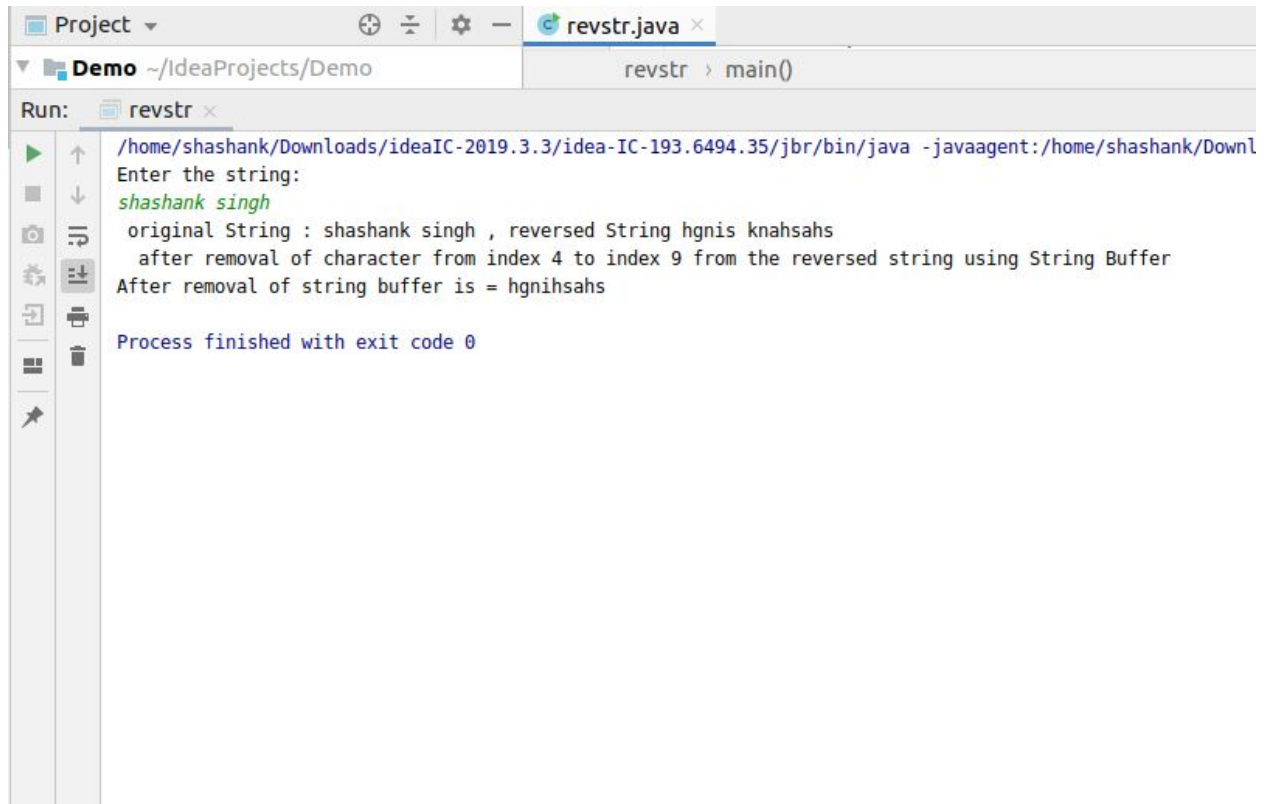
```
        System.out.printf(" original String : %s , reversed String %s %n ", str, rev);
```

```
System.out.print(" after removal of character from index 4 to index 9 from the  
reversed string using String Buffer\n");
```

```
rev.delete(4,9);
```

```
System.out.println("After removal of string buffer is = " +rev);
```

```
}  
}
```

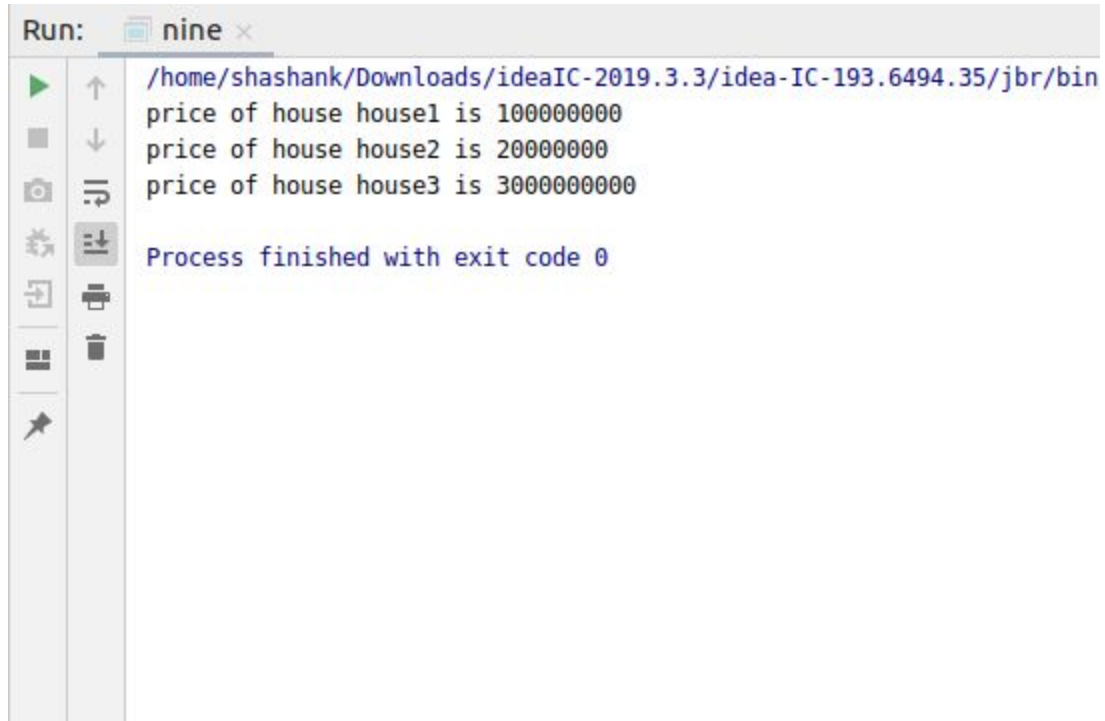


```
Project ▾ revstr.java ×  
Demo ~/IdeaProjects/Demo revstr > main()  
Run: revstr ×  
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin/java -javaagent:/home/shashank/Downl  
Enter the string:  
shashank singh  
original String : shashank singh , reversed String hgnis knahsahs  
after removal of character from index 4 to index 9 from the reversed string using String Buffer  
After removal of string buffer is = hgnihsahs  
Process finished with exit code 0
```

Q9. Write a program to display values of enums using a constructor & getPrice() method (Example display house & their prices)

```
public class nine {  
    public static void main(String[] args)  
    {  
        for(SampleEnum sampleEnum : SampleEnum.values()){  
            System.out.println("price of house "+sampleEnum+" is "+sampleEnum.getPrice());  
        }  
    }  
}  
  
enum SampleEnum{  
    house1("100000000"),house2("200000000"),house3("3000000000");  
    String price;  
    SampleEnum(String price){  
        this.price=price;  
    }  
}
```

```
public String getPrice()  
{  
    return price;  
}  
}
```



```
Run: nine x  
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin  
price of house house1 is 100000000  
price of house house2 is 20000000  
price of house house3 is 3000000000  
  
Process finished with exit code 0
```

Q10. Write a single program for following operation using overloading

- A) Adding 2 integer number**
- B) Adding 2 double**
- C) multiplying 2 float**
- D) multiplying 2 int**
- E) concatenate 2 string**
- F) Concatenate 3 String**

```
import java.util.Scanner;
public class tenth {
    public static Scanner sc = new Scanner(System.in);
    public static void add(int a, int b) {
        System.out.println(a + b);
    }

    public static void add(double a, double b) {
        System.out.println(a + b);
    }

    public static void mul(float a, float b) {
        System.out.println(a * b);
    }

    public static void mul(int a, int b) {
        System.out.println(a * b);
    }

    public static void con(String s1, String s2){
        System.out.println(s1+s2);
    }
    public static void con(String s1, String s2, String s3) {
        System.out.println(s1+s2+s3);
    }

}
public static void main(String[] args) {
    System.out.println("Enter the integer value 1 : ");
    int a1 = sc.nextInt();
    System.out.println("Enter the integer value 2 : ");
    int b1 = sc.nextInt();
    System.out.println("Enter the float value 1 :");
    float a2 = sc.nextFloat();
    System.out.println("Enter the float value 2 :");
```

```

float b2 = sc.nextFloat();
System.out.println("Enter the double value 1 :");
double a3 = sc.nextDouble();
System.out.println("Enter the double value 2 : ");
double b3 = sc.nextDouble();
System.out.println("Enter the string 1: ");
String ch1 = sc.next();
System.out.println("Enter the string 2: ");
String ch2 = sc.next();
System.out.println("Enter the string: 3");
String ch3 = sc.next();
System.out.println("\n1) Adding 2 integer number\n" +
    " 2) Adding 2 double\n" +
    " 3) multiplying 2 float\n" +
    " 4) multiplying 2 int\n" +
    " 5) concate 2 string\n" +
    " 6) Concate 3 String\n ");

int d;
do { System.out.println("\n\nenter any choice from given below : ");
    int c = sc.nextInt();
    switch (c) {
        case 1:
            System.out.println("you have entered for adding 2 int no :");
            add(a1, b1);
            break;
        case 2:
            System.out.println("you have entered for adding 2 double no :");
            add(a3, b3);
            break;
        case 3:
            System.out.println("you have entered for multiply 2 float no :");
            mul(a2, b2);
            break;
        case 4:
            System.out.println("you have entered for multiply 2 int no :");
            mul(a1, b1);
            break;
        case 5:
            System.out.println("you have entered for concate 2 string no :");
            con(ch1, ch2);
            break;
        case 6:

```

```
System.out.println("you have entered for concatenate 3 strings :");  
con(ch1, ch2, ch3);  
break;
```

default:

```
    System.out.println("you have entered wrong choice");  
}  
System.out.println("enter 0 for exit and 1 for again ");  
d = sc.nextInt();
```

```
} while (d != 0);
```

```
}  
{  
}
```


Run: tenth x

```
/home/shashank/Downloads/ideaIC-2019.3.3/idea-IC-193.6494.35/jbr/bin/java -javaagent
Enter the integer value 1 :
12
Enter the integer value 2 :
23
Enter the float value 1 :
12.23
Enter the float value 2 :
34.56
Enter the double value 1 :
1223
Enter the double value 2 :
12321
Enter the string 1:
shashank
Enter the string 2:
gaurav
Enter the string: 3
singh

1) Adding 2 integer number
2) Adding 2 double
3) multiplying 2 float
4) multiplying 2 int
5) concate 2 string
6) Concate 3 String
```

Run: tenth x

```
enter any choice from given below :
1
you have entered for adding 2 int no :
35
enter 0 for exit and 1 for again
1

enter any choice from given below :
2
you have entered for adding 2 double no :
13544.0
enter 0 for exit and 1 for again
1

enter any choice from given below :
3
you have entered for multiply 2 float no :
422.6688
enter 0 for exit and 1 for again
1

enter any choice from given below :
4
you have entered for multiply 2 int no :
276
enter 0 for exit and 1 for again
```

```
Run: tenth x
you have entered for multiply 2 float no :
422.6688
enter 0 for exit and 1 for again
1

enter any choice from given below :
4
you have entered for multiply 2 int no :
276
enter 0 for exit and 1 for again
1

enter any choice from given below :
5
you have entered for concate 2 string no :
shashankgaurav
enter 0 for exit and 1 for again
1

enter any choice from given below :
6
you have entered for concate 3 string no :
shashankgauravsingh
enter 0 for exit and 1 for again
|
```

Q11.Create 3 sub class of bank SBI,BOI,ICICI all 4 should have method called getDetails which provide there specific details like rateofinterest etc,print details of every banks

```
public class eleven {
    public static void main(String[] args)
    {
        Bank ba= new Bank();
        System.out.println("\nbase class info"+ba.getd());
        SBI s=new SBI();
        System.out.println(".....");
        System.out.println("details of child class :\n"+s.getds()+"\nbelow details is from base
class \n"+s.getd());
        BOI b=new BOI();
        System.out.println(".....");
```

```

        System.out.println("details of child class :\n"+b.getdb()+"\nbelow details is from base
class \n"+s.getd());
        ICICI i=new ICICI();
        System.out.println(".....");
        System.out.println("details of child class :\n"+i.getdi()+"\nbelow details is from base
class \n"+s.getd());

```

```

    }
}
class Bank{
    float roi=4f;

    public float getd()
    {
        System.out.println("\nbase class ");
        System.out.println("\nName:Shashank \n Add: noida \n Phone NO. : 12345678");
        return roi;
    }
}
class BOI extends Bank{
    float roiboi=2.5f;
    public float getdb(){
        System.out.println("\n Rate of Interest of BOI ");
        return roiboi;}
}
class SBI extends Bank{
    float roisbi=3.5f;
    public float getds(){
        System.out.println("\n Rate of Interest of SBI");
        return roisbi;
    }
}
class ICICI extends Bank{
    float roiicici=1.5f;
    public float getdi(){
        System.out.println("\n Rate of Interest of ICICI ");
        return roiicici;
    }
}

```

```
Run: eleven x
base class
Name:Shashank
Add: noida
Phone NO. : 12345678
base class info4.0
.....
Rate of Interest of SBI

base class
Name:Shashank
Add: noida
Phone NO. : 12345678
details of child class :
3.5
below details is from base class
4.0
.....
Rate of Interest of B0I

base class
Name:Shashank
Add: noida
Phone NO. : 12345678
```

Run: eleven x



```
.....  
  
Rate of Interest of B0I  
  
base class  
  
Name:Shashank  
Add: noida  
Phone NO. : 12345678  
details of child class :  
2.5  
below details is from base class  
4.0  
  
.....  
  
Rate of Interest of ICICI  
  
base class  
  
Name:Shashank  
Add: noida  
Phone NO. : 12345678  
details of child class :  
1.5  
below details is from base class  
4.0  
  
Process finished with exit code 0
```