

## Helper.java

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

```
public class Helper {
```

***//Q1. Write a program to replace a substring inside a string with another string ?***

```
public void question1() {  
    System.out.println("Q1. Write a program to replace a substring inside a string with another string ?");  
    String s1 = "Hello World";  
    System.out.println("The original sting is " + s1);  
    String m = s1.replace("Hello", "Hi");  
    System.out.println("the new string replaced by substring - hi is :" + m);  
    System.out.println("");  
    System.out.println("");  
}
```

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

```
public void question2() {  
    System.out.println("Q2 Write a program to find the number of occurrences of the duplicate words in a string and print them ?");  
    System.out.println("the input sting is :");  
    String input = "Welcome to Java Session Session Session";  
    System.out.println(input);  
    String[] words = input.split(" ");  
    int wrc = 1;  
  
    for (int i = 0; i < words.length; i++) {  
        for (int j = i + 1; j < words.length; j++) {  
  
            if (words[i].equals(words[j])) {  
                wrc = wrc + 1;  
                words[j] = "0";  
            }  
        }  
        if (!words[i].equals("0") && wrc > 1)  
            System.out.println(words[i] + "--" + wrc);  
        wrc = 1;  
    }  
    System.out.println("");  
    System.out.println("");  
}
```

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

```
public void question3() {
    System.out.println("Q3. Write a program to find the number of occurrences of a character in a string without using loop?");
    System.out.println("Enter the string ");
    Scanner scanner = new Scanner(System.in);
    String str = scanner.next();
    char[] arr = str.toCharArray();
    System.out.println("Enter the character for which occurrence is to be found ");
    char a = scanner.next().charAt(0);
    int wc = 0;
    int wrc = count(a, 0, str, wc);
    System.out.println("The occurrences of character '" + a + "' is : " + wrc);
    System.out.println("");
    System.out.println("");
}

int count(char a, int position, String str, int wrc) {
    int index = str.indexOf(a, position);
    if (index >= 0) {
        wrc++;
        return count(a, index + 1, str, wrc);
    } else
        return wrc;
}
```

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

```
public void question4(){
    System.out.println("Q4. Calculate the number & Percentage Of Lowercase Letters, Uppercase Letters, Digits And Other Special Characters In A String");
    System.out.println("Enter the string ");
    Scanner scanner = new Scanner(System.in);
    String str = scanner.next();
    float u=0,l=0,d=0,s=0;
    for(int i=0;i<str.length();i++){
        if(Character.isDigit(str.charAt(i)))d++;
        else if(Character.isUpperCase(str.charAt(i)))u++;
        else if(Character.isLowerCase(str.charAt(i)))l++;
        else s++;
    }
    System.out.println("The percentage of Digit Characters in the string '" + str + "' is : " + d/str.length()*100);
    System.out.println("The percentage of Uppercase Characters in the string '" + str + "' is : " + u/str.length()*100);
    System.out.println("The percentage of Lowercase Characters in the string '" + str + "' is : " + l/str.length()*100);
    System.out.println("The percentage of Other special Characters in the string '" + str + "' is : " + s/str.length()*100);
    System.out.println("");
    System.out.println("");
}
```

**// Q5. Find common elements between two arrays.**

```
public void question5(){
    System.out.println("Q5. Find common elements between two arrays.");
    Integer[] a=new Integer[]{1,2,3,4,5};
    Integer[] b=new Integer[]{5,2,3,7,9};
    System.out.println("The elements of first array are :");
    for(int i=0;i<a.length;i++) System.out.println(a[i]);
    System.out.println("The elements of second array are :");
    for(int i=0;i<a.length;i++) System.out.println(b[i]);
    for(int i=0;i<a.length;i++){
        for(int j=0;j<b.length;j++){
            if(a[i].equals(b[j])){
                System.out.println("the common element between two array is :"+a[i]);
            }
        }
    }
    System.out.println("");
    System.out.println("");
}
```

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

```
public void question6(){
    System.out.println("Q6. There is an array with every element repeated twice except one. Find that element");
    Integer[] arr = new Integer[]{2,2,3,4,4,5,5,6,6};
    System.out.println("The array is :");
    for (int i=0;i<arr.length;i++) System.out.println(arr[i]);
    int wrd=1;
    for (int i = 0; i < arr.length; i++) {
        for (int j = i + 1; j < arr.length; j++) {
            if (arr[i].equals(arr[j])) {
                wrd = wrd + 1;
                arr[j] = 0;
            }
        }
        if (arr[i]!=0 && wrd == 1)
            System.out.println("THE ELEMENT WITH ONLY ONE OCCURENCE IS :"+ arr[i]);
        wrd = 1;
    }
    System.out.println("");
    System.out.println("");
}
```

## Main.java

```
public class Main {  
    public static void main(String[] args) {  
        Helper helper = new Helper();  
        helper.question1();  
        helper.question2();  
        helper.question3();  
        helper.question4();  
        helper.question5();  
        helper.question6();  
    }  
}
```

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

The screenshot shows the IntelliJ IDEA interface with the following details:

- Project Structure:** Innerclasses [~/IdeaProjects/Innerclasses] - .../src/Question7.java [Innerclasses] - IntelliJ IDEA
- Code Editor:**

```

1 public class Question7 {
2     //static variables
3     static String FirstName;
4     static String LastName;
5     static int Age;
6
7     //static block
8     static {
9
10        FirstName="Vidit";
11        LastName="Sharma";
12        Age=22;
13    }
14    public static void main(String[] args) {
15        System.out.println("Using static block");
16        System.out.println("First Name is : "+FirstName+" Last Name is : "+ LastName+" Age is : "+Age);
17    }
18 }
19

```
- Run Output:**

```

Run: Main x Question7 x
/usr/lib/jvm/java-8-oracle/bin/java ...
Using static block
First Name is : Vidit Last Name is : Sharma Age is : 22
Process finished with exit code 0

```
- Status Bar:** Compilation completed successfully in 1 s 785 ms (moments ago) 10:27 LF UTF-8 4 spaces Git: master

The screenshot shows the IntelliJ IDEA interface with the following details:

- Project Structure:** Innerclasses [~/IdeaProjects/Innerclasses] - .../src/Question7.java [Innerclasses] - IntelliJ IDEA
- Code Editor:**

```

1 public class Question7 {
2     //static variables
3     static String FirstName="Vanshika";
4     static String LastName="garg";
5     static int Age=20;
6
7     //static methods
8     public static void printInfo(){
9         System.out.println("First Name is "+FirstName+" Last Name is "+ LastName+" and age is "+ Age );
10    }
11
12    public static void main(String[] args) {
13        System.out.println("using static method");
14        Question7.printInfo();
15        System.out.println("");
16        System.out.println("");
17        System.out.println("using static variables");
18        Question7.FirstName="Vartika";
19        Question7.LastName="Sahrma";
20        Question7.Age=21;
21        System.out.println("First Name is : "+FirstName+" Last Name is : "+ LastName+" Age is : "+Age);
22    }
23 }
24

```
- Run Output:**

```

Run: Main x Question7 x
/usr/lib/jvm/java-8-oracle/bin/java ...
using static method
First Name is Vanshika Last Name is garg and age is 20

using static variables
First Name is : Vartika Last Name is : Sahrma Age is : 21
Process finished with exit code 0

```
- Status Bar:** Compilation completed successfully in 1 s 824 ms (moments ago) 6:1 LF UTF-8 4 spaces Git: master



**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 Question8 {
    public void q8(){
        System.out.println("Q8. Write a program to reverse a string and remove character from index 4 to index 9 from the reversed string using String Buffer");
        System.out.println("Enter the string to be reversed ");
        Scanner scanner=new Scanner(System.in);
        str.append(scanner.nextLine());
        str.reverse();
        System.out.println("The reversed string is : "+str);
        str.replace( start: 4, end: 9, str: "");
        System.out.println("The string with character removed from 4th index to 9th is : "+str);
    }

    public static void main(String[] args) {
        Question8 question8 = new Question8();
        question8.q8();
    }
}

```

Run: Main x Question8 x

```

/usr/lib/jvm/java-8-oracle/bin/java ...
Q8. Write a program to reverse a string and remove character from index 4 to index 9 from the reversed string using String Buffer
Enter the string to be reversed
vanshikagarg

The reversed string is : 'gragakihsnav'
The string with character removed from 4th index to 9th is : 'gragnav'

Process finished with exit code 0

```

Compilation completed successfully in 1 s 778 ms (moments ago) 10:1 LF UTF-8 4 spaces Git: master

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

```

public class Question9 {
    //Q9. Write a program to display values of enums using a constructor & getPrice() method (Example display house & their prices)
    enum House {
        oneBHK( p: 15000), twoBHK( p: 25000), threeBHK( p: 30000);
        private int price;
        House(int p) {
            price = p;
        }
        @Contract(pure = true) int getPrice() {
            return price;
        }
    }

    public static void main(String args[]){
        System.out.println("All car prices:");
        for (House house : House.values()) System.out.println(
            "House type : "+house + " , cost is : " + house.getPrice());
    }
}

```

Run: Main x Question9 x

```

/usr/lib/jvm/java-8-oracle/bin/java ...
All car prices:
House type : oneBHK , cost is :15000
House type : twoBHK , cost is :25000
House type : threeBHK , cost is :30000

Process finished with exit code 0

```

Compilation completed successfully in 5 s 208 ms (moments ago) 18:76 LF UTF-8 4 spaces Git: master

**Q10. Write a single program for following operation using overloading**

**A) Adding 2 integer number**

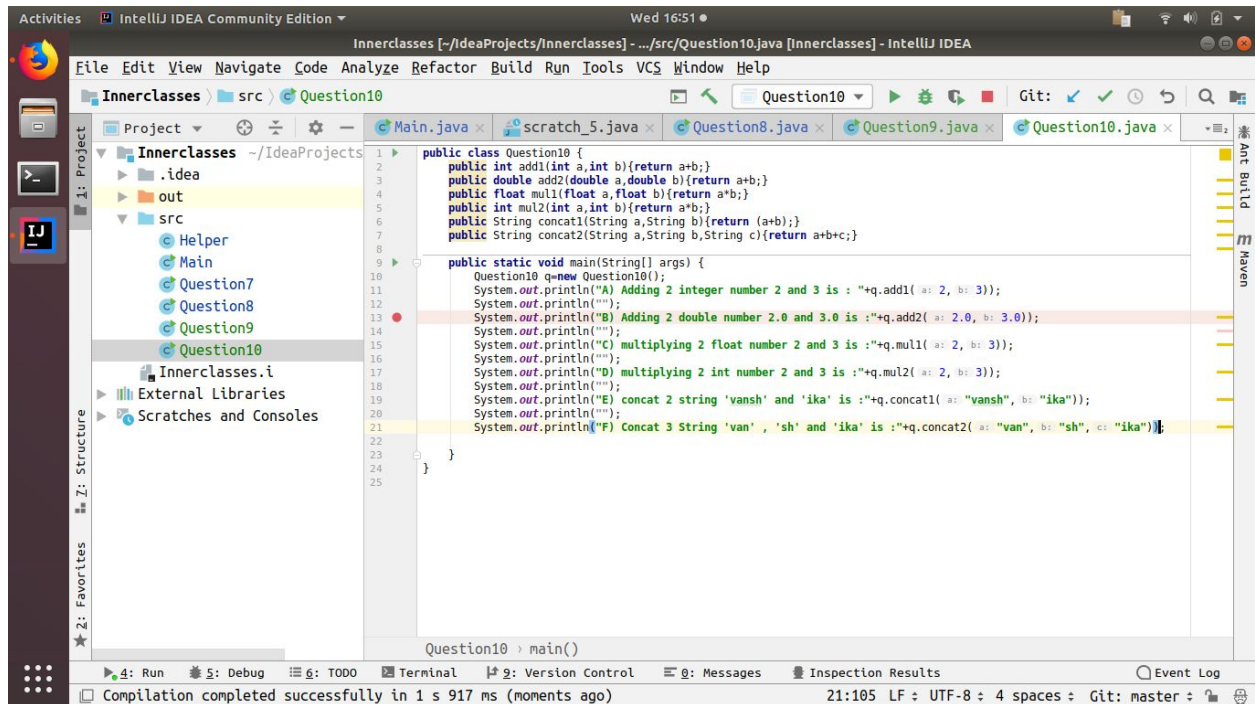
**B) Adding 2 double**

**C) multiplying 2 float**

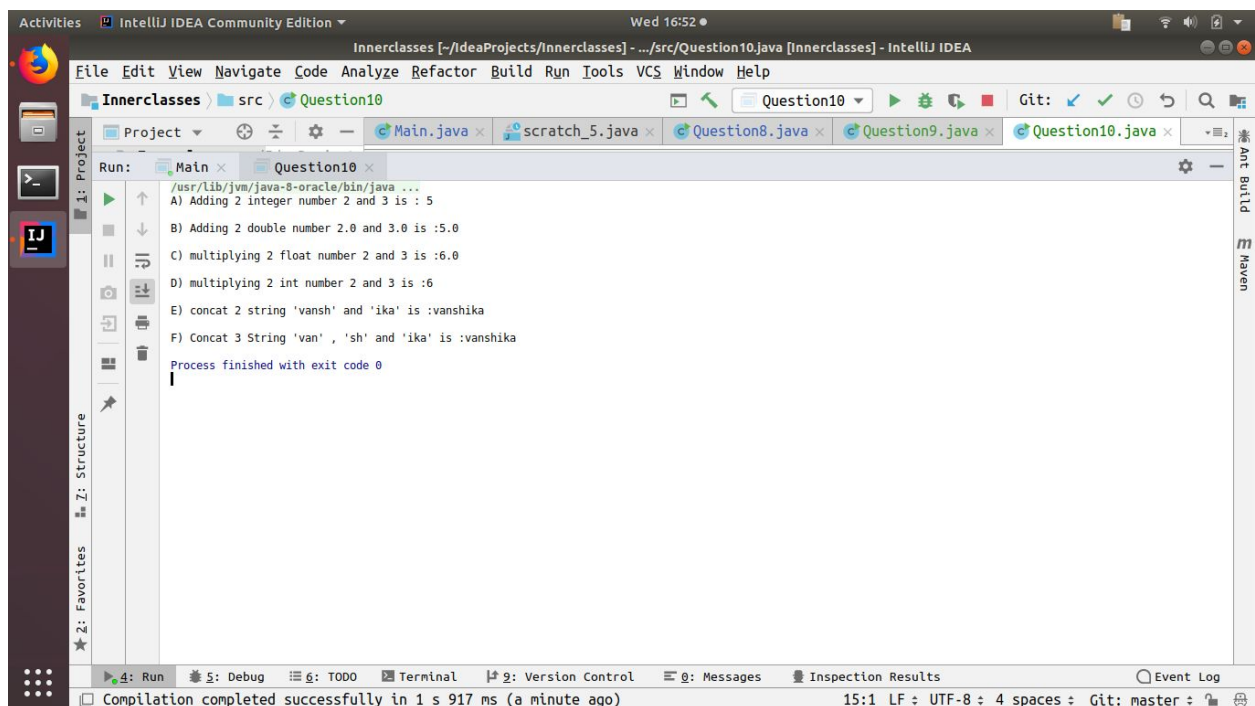
**D) multiplying 2 int**

**E) concat 2 string**

**F) Concat 3 String**

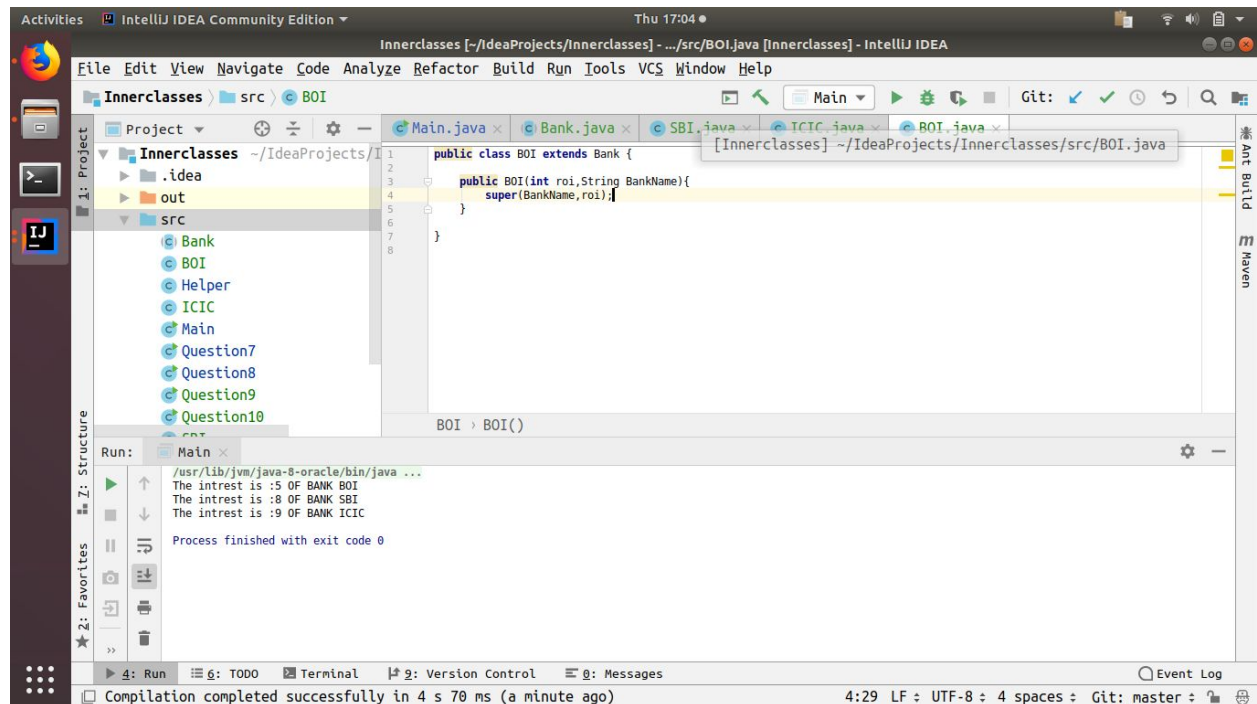


```
1 public class Question10 {
2     public int add1(int a, int b) { return a+b; }
3     public double add2(double a, double b) { return a+b; }
4     public float mul1(float a, float b) { return a*b; }
5     public int mul2(int a, int b) { return a*b; }
6     public String concat1(String a, String b) { return (a+b); }
7     public String concat2(String a, String b, String c) { return a+b+c; }
8
9     public static void main(String[] args) {
10        Question10 q = new Question10();
11        System.out.println("A) Adding 2 integer number 2 and 3 is : "+q.add1(2, 3));
12        System.out.println("");
13        System.out.println("B) Adding 2 double number 2.0 and 3.0 is : "+q.add2(2.0, 3.0));
14        System.out.println("");
15        System.out.println("C) multiplying 2 float number 2 and 3 is : "+q.mul1(2, 3));
16        System.out.println("");
17        System.out.println("D) multiplying 2 int number 2 and 3 is : "+q.mul2(2, 3));
18        System.out.println("");
19        System.out.println("E) concat 2 string 'vansh' and 'ika' is : "+q.concat1("vansh", "ika"));
20        System.out.println("");
21        System.out.println("F) Concat 3 String 'van', 'sh' and 'ika' is : "+q.concat2("van", "sh", "ika"));
22    }
23 }
24
25
```



```
Run: Main x Question10 x
/usr/lib/jvm/java-8-oracle/bin/java ...
A) Adding 2 integer number 2 and 3 is : 5
B) Adding 2 double number 2.0 and 3.0 is : 5.0
C) multiplying 2 float number 2 and 3 is : 6.0
D) multiplying 2 int number 2 and 3 is : 6
E) concat 2 string 'vansh' and 'ika' is : vanshika
F) Concat 3 String 'van', 'sh' and 'ika' is : vanshika
Process finished with exit code 0
```

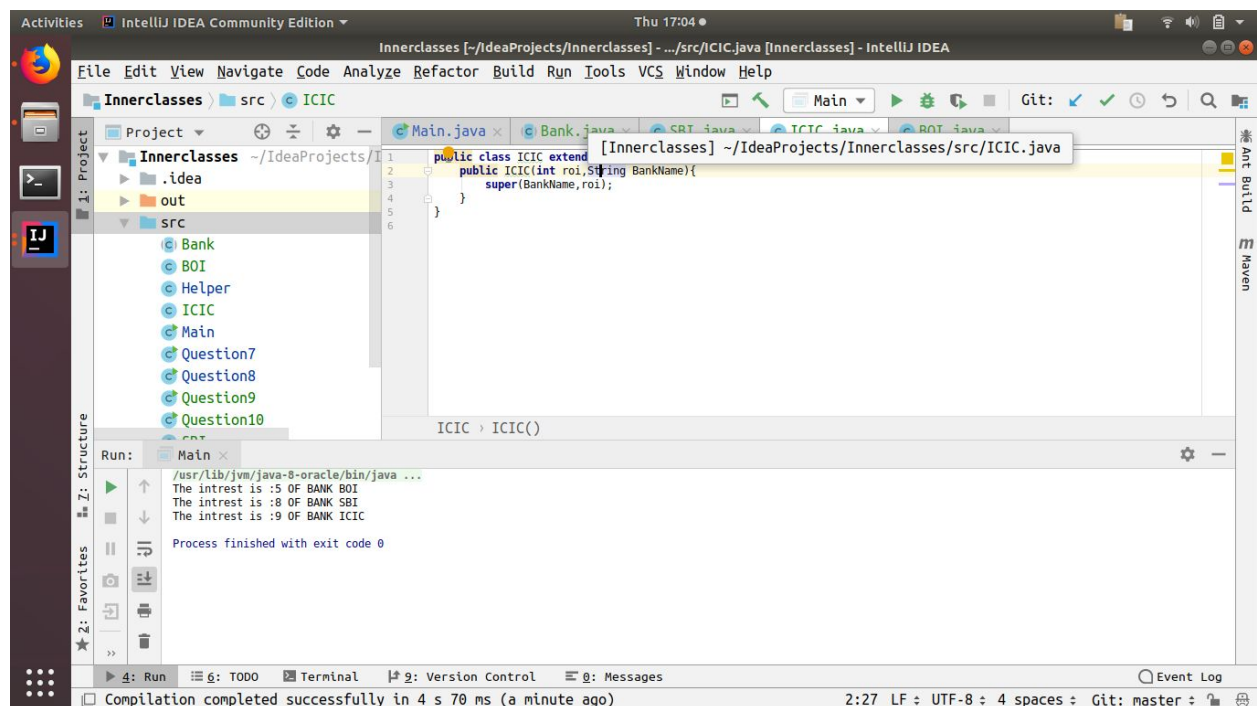
**Q11. Create 3 subclass of bank SBI, BOI, ICICI all 4 should have method called getDetails which provide there specific details like rate of interest etc, print details of every banks**



The screenshot shows the IntelliJ IDEA interface with the `BOI.java` file open. The code defines a `Bank` base class and a `BOI` subclass. The `BOI` class has a constructor that takes an interest rate and a bank name, and a `getDetails` method that prints the bank name and interest rate. The `Run` tab shows the output of the program, which prints the details for `BOI`, `SBI`, and `ICICI`.

```
public class BOI extends Bank {  
    public BOI(int roi, String BankName){  
        super(BankName, roi);  
    }  
    public void getDetails(){  
        System.out.println("The interest is : " + roi + " OF BANK " + BankName);  
    }  
}
```

Run: Main x  
/usr/lib/jvm/java-8-oracle/bin/java ...  
The interest is : 5 OF BANK BOI  
The interest is : 8 OF BANK SBI  
The interest is : 9 OF BANK ICICI  
Process finished with exit code 0



The screenshot shows the IntelliJ IDEA interface with the `ICIC.java` file open. The code defines a `ICIC` subclass of `Bank`. The `ICIC` class has a constructor that takes an interest rate and a bank name, and a `getDetails` method that prints the bank name and interest rate. The `Run` tab shows the output of the program, which prints the details for `BOI`, `SBI`, and `ICICI`.

```
public class ICIC extends Bank {  
    public ICIC(int roi, String BankName){  
        super(BankName, roi);  
    }  
    public void getDetails(){  
        System.out.println("The interest is : " + roi + " OF BANK " + BankName);  
    }  
}
```

Run: Main x  
/usr/lib/jvm/java-8-oracle/bin/java ...  
The interest is : 5 OF BANK BOI  
The interest is : 8 OF BANK SBI  
The interest is : 9 OF BANK ICICI  
Process finished with exit code 0



