Introduction to Java 1

Exercise

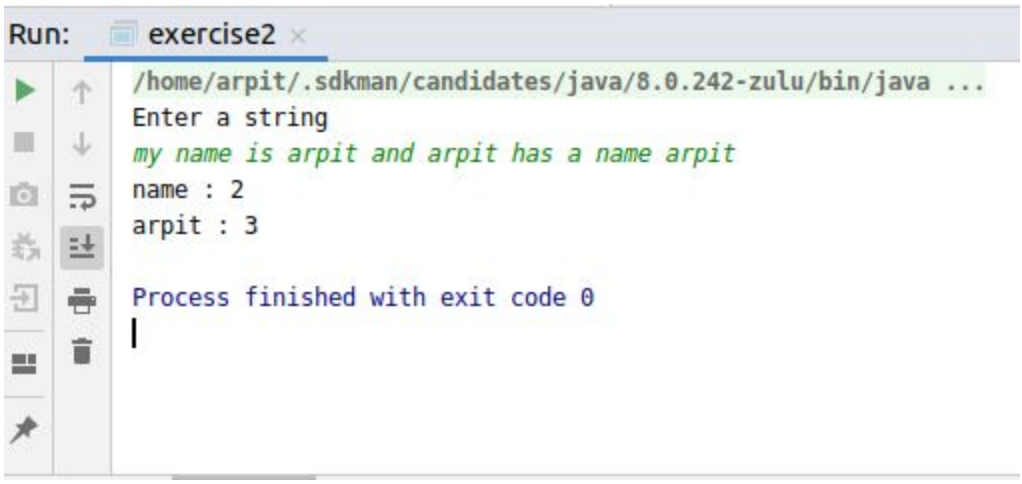
Q1. Write a program to replace a substring inside a string with other string ?

```
/home/arpit/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Enter the String
my name is arpit and age is 21
Enter the substring to replace
21
Enter the new String
22
my name is arpit and age is 22
```

Code:-

```
package javaAssesment1;

import java.util.Scanner;

public class exercise {
  public static void main(String[] args) {
     Scanner scanner = new Scanner(System.in);
     System.out.println("Enter the String");
     String string = scanner.nextLine();
     System.out.println("Enter the substring to replace");
     String old= scanner.nextLine();
     System.out.println("Enter the new String");
     String  add = scanner.nextLine();
     System.out.println(string.replace(old,add));
  }
}
```

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



Code:-

```
package javaAssesment1;

import java.util.Scanner;

public class exercise2 {

  public static void main(String[] args) {
     Scanner sc = new Scanner(System.in);
     System.out.println("Enter a string");
     String string = sc.nextLine();
     int wordcount=1;
     String[] arr = string.split(" ");
     for (int i = 0; i < arr.length; i++) {
        for (int j = i+1; j <arr.length ; j++) {
           if(arr[i].equals(arr[j])) {
              wordcount = wordcount + 1;
              arr[j] = "0";
           }
        }
        if(arr[i]!="0" && wordcount!=1)
           System.out.println(arr[i]+" : "+wordcount);
        wordcount=1;
     }

  }
}
```

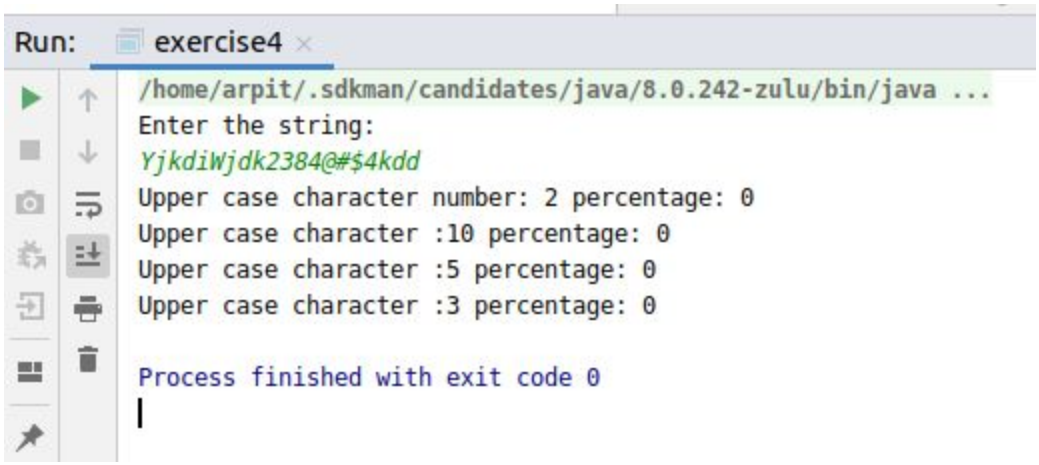
Q3. Write a program to find the number of occurrences of a character in a string without using loop?

```
/home/arpit/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Enter a string
assessment
Enter the character to check occurrences
s
4

Process finished with exit code 0
```

Code:-

```
package javaAssesment1;

import java.util.Scanner;

public class exercise3  {
  public static void main(String[] args) {
     Scanner sc = new Scanner(System.in);
     System.out.println("Enter a string");
     String string = sc.nextLine();
     System.out.println("Enter the character to check occurrences");
     String ch = sc.nextLine();
     System.out.println(string.length()-(string.replace(ch,"")).length());
  }
}
```

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

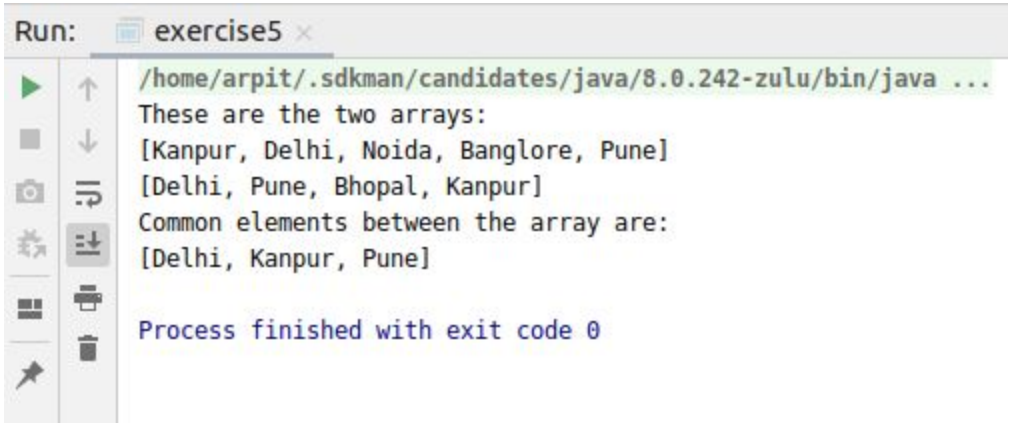


Code:-

```
package javaAssesment1;

import java.util.Scanner;
```

```
public class exercise4 {
  public static void main(String[] args) {
     Scanner sc= new Scanner(System.in);
     System.out.println("Enter the string:");
     String string = sc.nextLine();
     int upper=0,lower=0,digit=0,special=0;
     for (int i = 0; i <string.length() ; i++) {
        char ch = string.charAt(i);
        if(Character.isUpperCase(ch)){
           upper++;
        }
        else if(Character.isLowerCase(ch)){
           lower++;
        }
        else if(Character.isDigit(ch)){
           digit++;
        }
        else{
           special++;
        }
     }
     int total=upper+lower+digit+special;
     System.out.println("Upper case character number: "+upper+" percentage: "+(upper/total)*100);
     System.out.println("Upper case character :"+lower+" percentage: "+(lower/total)*100);
     System.out.println("Upper case character :"+digit+" percentage: "+(digit/total)*100);
     System.out.println("Upper case character :"+special+" percentage: "+(special/total)*100);
  }
}
```

Q5. Find common elements between two arrays.

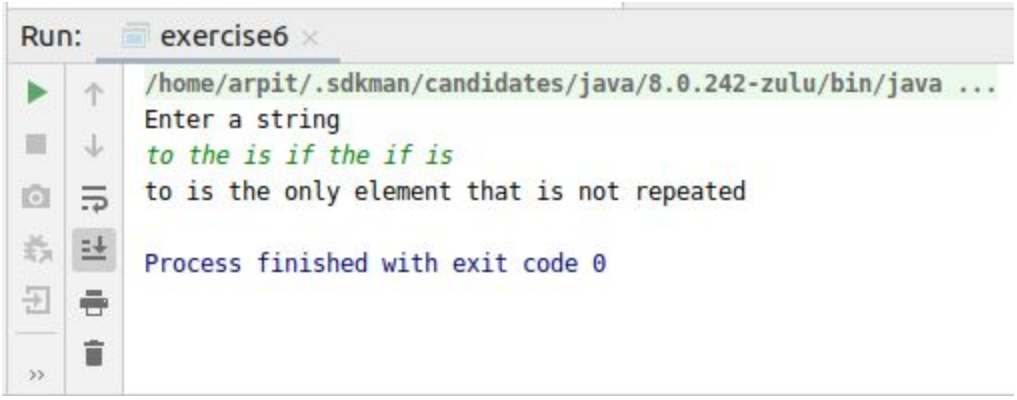


Code:-

```
package javaAssesment1;

import java.util.Arrays;
```

```java
import java.util.HashSet;

public class exercise5 {
  public static void main(String[] args) {
     String[] str = {"Kanpur","Delhi","Noida","Banglore","Pune"};
     String[] str1 = {"Delhi","Pune","Bhopal","Kanpur"};
     System.out.println("These are the two arrays:");
     System.out.println(Arrays.toString(str));
     System.out.println(Arrays.toString(str1));
     HashSet<String> set = new HashSet<String>();

     for (int i = 0; i < str.length; i++)
     {
        for (int j = 0; j < str1.length; j++)
        {
           if(str[i].equals(str1[j]))
           {
              set.add(str[i]);
           }
        }
     }
     System.out.println("Common elements between the array are:");
     System.out.println(set);
  }
}
```

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

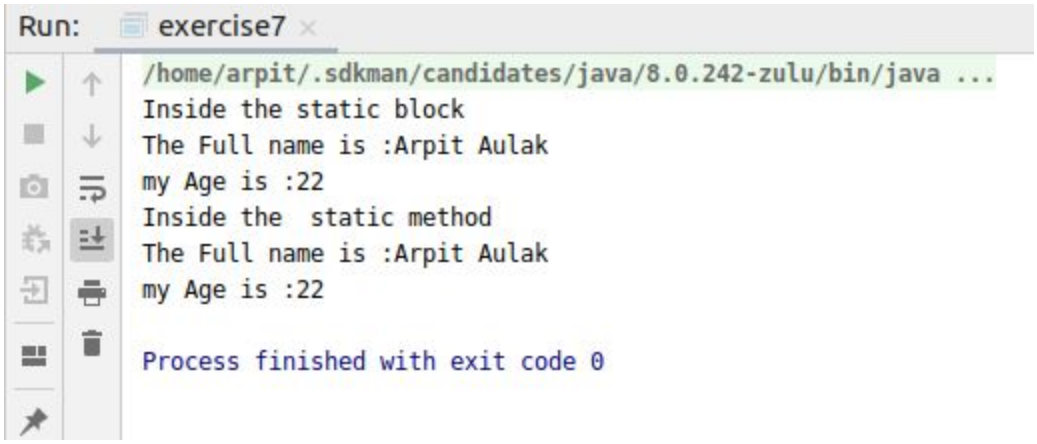


Code:-

```java
package javaAssesment1;

import java.util.Scanner;

public class exercise6 {
  public static void main(String[] args) {
     Scanner sc = new Scanner(System.in);
     System.out.println("Enter a string");
     String string = sc.nextLine();
```

```
        int wordcount=0;
        String[] arr = string.split(" ");
        for (int i = 0; i < arr.length; i++) {
            wordcount=1;
            for (int j = i+1; j <arr.length ; j++) {
                if(arr[i].equals(arr[j])) {
                    wordcount = wordcount + 1;
                    arr[j] = "0";
                }
            }
            if(arr[i]!="0" && wordcount==1)
                System.out.println(arr[i]+" is the only element that is not repeated");
        }
    }
}
```

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



Code:-

```
package javaAssesment1;

public class exercise7 {
    static String Firstname,Lastname;
    static int age;
    static{
        Firstname="Arpit";
        Lastname="Aulak";
        age = 22;
        System.out.println("Inside the static block");
        System.out.println("The Full name is :" + Firstname + " "+ Lastname);
        System.out.println("my Age is :" + age);
    }
    static void PrintMethod()
    {
        System.out.println("Inside the  static method");
        System.out.println("The Full name is :" + Firstname + " "+ Lastname);
```

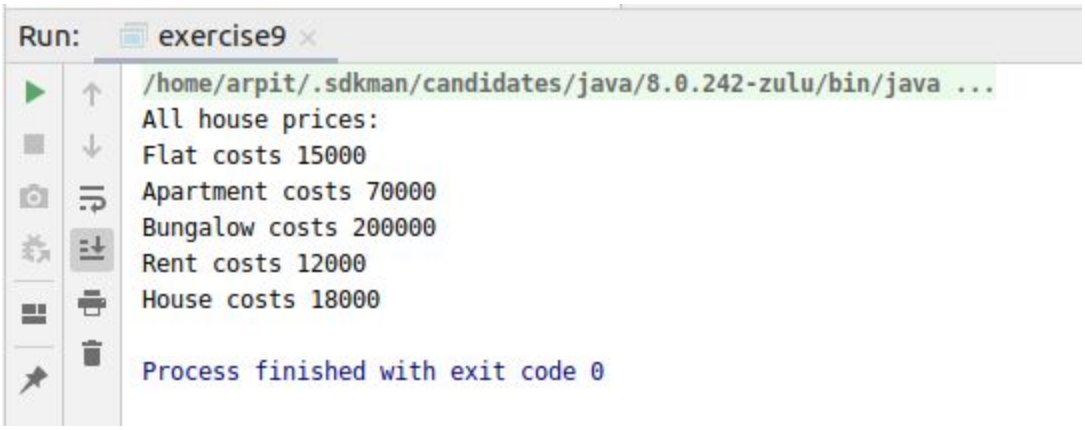
```
    System.out.println("my Age is :" + age);
  }

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

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

Code:-

```
package javaAssesment1;

import java.util.Scanner;

public class exercise8 {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter a string");
    String string = sc.nextLine();
    StringBuffer sb = new StringBuffer(string);
    System.out.println("The old string = " + sb);

    System.out.println("The reverse string = " + sb.reverse());
    System.out.println("The reversed string after replacing characters" +" "+ sb.replace(4,10,""));

  }
}
```

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

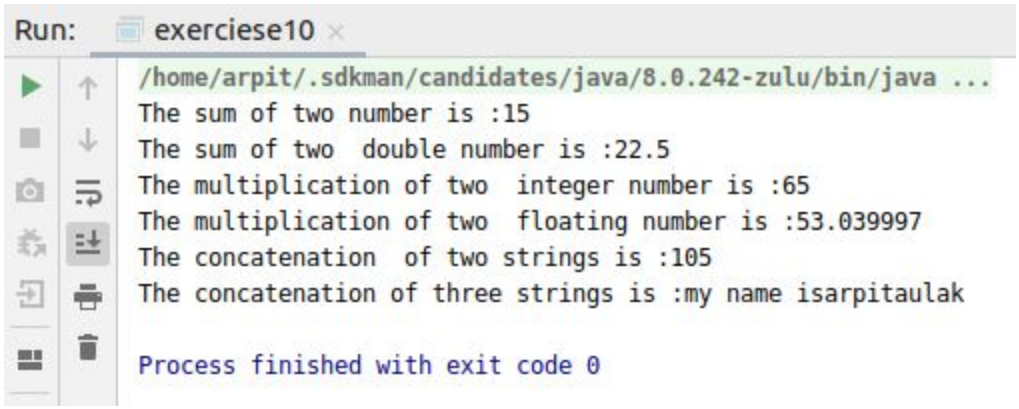


Code:-

```
package javaAssesment1;

enum House {

  Flat(15000),Apartment(70000),Bungalow(200000),Rent(12000),House(18000);
  private int price;
  House(int p) {
     price = p;
  }
  int getPrice() {
     return price;
  }
}

public class exercise9 {
  public static void main(String args[])
  {
     System.out.println("All house prices:");
     for (House h : House.values())
        System.out.println(h + " costs " + h.getPrice());
  }
}
```

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) concate 2 string
F) Concate 3 String

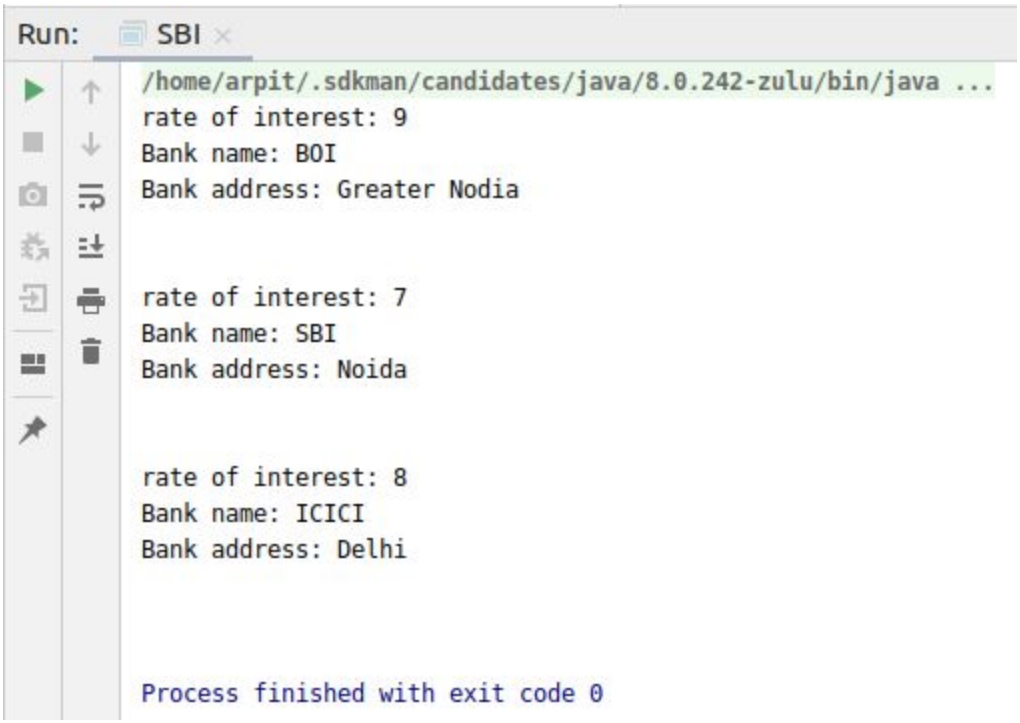


Code:-

```
package javaAssesment1;

public class exerciese10 {
  public  void sum(int a,int b)
  {
     System.out.println("The sum of two number is :"+ (a+b));
  }
  public  void sum(double a,double b)
  {
     System.out.println("The sum of two  double number is :"+ (a+b));
  }
  public  void mul(float a,float b)
  {
     System.out.println("The multiplication of two  floating number is :"+ a*b);
  }
  public  void mul(int a,int b)
  {
     System.out.println("The multiplication of two  integer number is :"+ a*b);
  }
  public  void con(String a,String b)
  {
     System.out.println("The concatenation  of two strings is :"+ a + b);
  }
  public  void con(String a,String b,String c)
  {
     System.out.println("The concatenation of three strings is :"+ a + b + c);
```

```
  }

  public static void main(String[] args)
  {
     exerciese10 ob=new exerciese10();
     ob.sum(10,5);
     ob.sum(10.5,12.0);
     ob.mul(13,5);
     ob.mul(10.2f,5.2f);
     ob.con("10","5");
     ob.con("my name is","arpit","aulak");

  }
}
```

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



Code:-

```
package javaAssesment1;

public class bank {
  int rateOfInterest;
  String bankName;
  String bankAddress;
```

```
  public static void main(String[] args) {
     SBI s1 = new SBI();
     s1.setDetails(7,"SBI","Noida");
     ICICI ic1 = new ICICI();
     ic1.setDetails(8,"ICICI","Delhi");
     BOI b1 = new BOI();
     b1.setDetails(9,"BOI","Greater Nodia");
     b1.getDetails();
     s1.getDetails();
     ic1.getDetails();
  }
}
class BOI extends bank{
  public void setDetails(int roi, String name, String add){
     this.rateOfInterest=roi;
     this.bankName = name;
     this.bankAddress = add;
  }

  public void getDetails(){
     System.out.println("rate of interest: " + this.rateOfInterest);
     System.out.println("Bank name: "+this.bankName);
     System.out.println("Bank address: " + this.bankAddress);
     System.out.println("\n");
  }
}

class ICICI extends bank{
  public void setDetails(int roi, String name, String add){
     this.rateOfInterest=roi;
     this.bankName = name;
     this.bankAddress = add;
  }

  public void getDetails(){
     System.out.println("rate of interest: " + this.rateOfInterest);
     System.out.println("Bank name: "+this.bankName);
     System.out.println("Bank address: " + this.bankAddress);
     System.out.println("\n");
  }

}

class SBI extends bank {
  public void setDetails(int roi, String name, String add) {
     this.rateOfInterest = roi;
     this.bankName = name;
     this.bankAddress = add;
  }
```

```
    public void getDetails() {
        System.out.println("rate of interest: " + this.rateOfInterest);
        System.out.println("Bank name: " + this.bankName);
        System.out.println("Bank address: " + this.bankAddress);
        System.out.println("\n");
    }
}
```