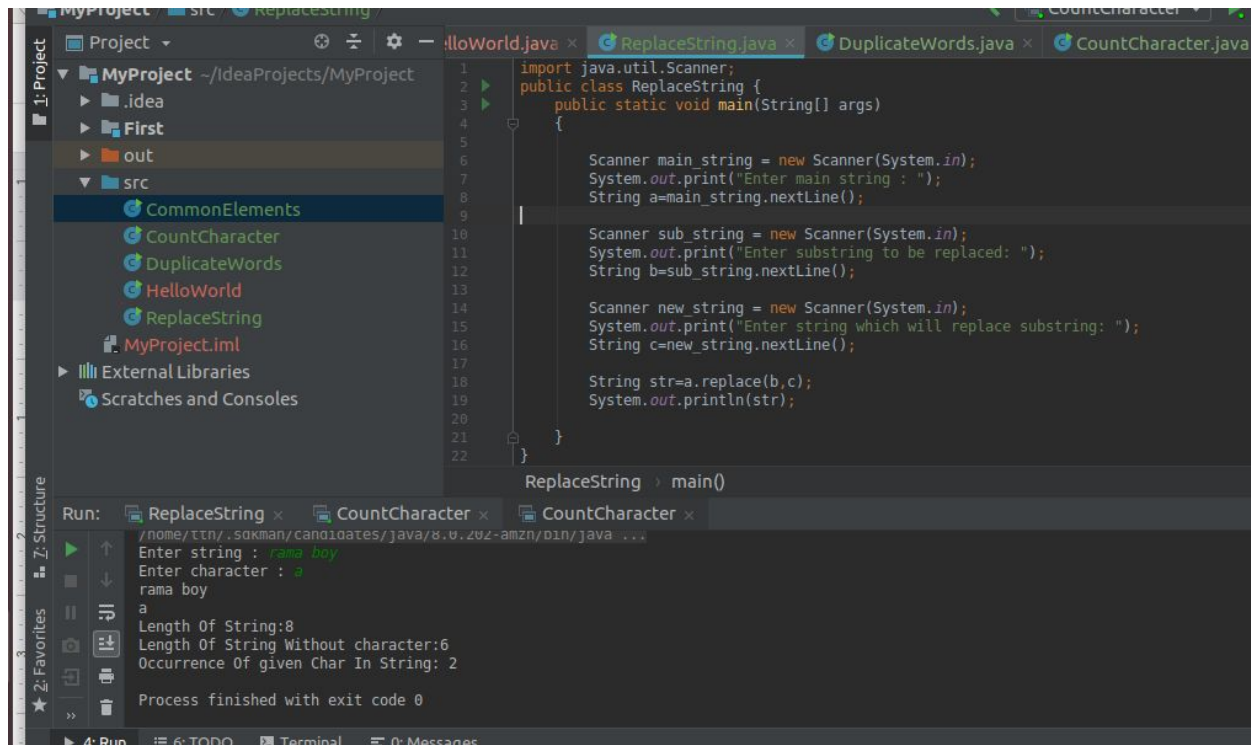


ASSESSMENT - 1

INTRODUCTION TO JAVA - 1

Q . 1) Write a program to replace a substring inside a string with other string ?

Solution :



```
1 import java.util.Scanner;
2 public class ReplaceString {
3     public static void main(String[] args)
4     {
5
6         Scanner main_string = new Scanner(System.in);
7         System.out.print("Enter main string : ");
8         String a=main_string.nextLine();
9
10
11         Scanner sub_string = new Scanner(System.in);
12         System.out.print("Enter substring to be replaced: ");
13         String b=sub_string.nextLine();
14
15         Scanner new_string = new Scanner(System.in);
16         System.out.print("Enter string which will replace substring: ");
17         String c=new_string.nextLine();
18
19         String str=a.replace(b,c);
20         System.out.println(str);
21     }
22 }
```

ReplaceString > main()

Run: ReplaceString x CountCharacter x CountCharacter x

/home/ttn/.sdkman/candidates/java/8.0.202-amzn/bin/java ...

Enter string : rama boy

Enter character : a

rama boy

a

Length Of String:8

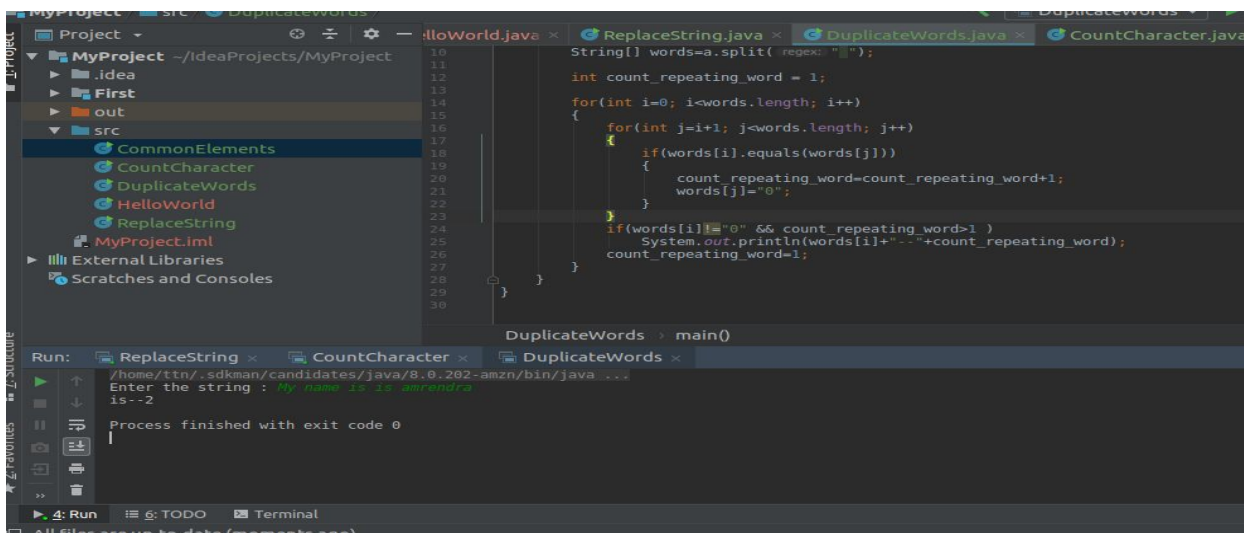
Length Of String Without character:6

Occurrence Of given Char In String: 2

Process finished with exit code 0

Q. 2) Write a program to find the number of occurrences of the duplicate words in a string and print them ?

Solution :



```
10 String[] words=a.split(" ");
11
12 int count_repeating_word = 1;
13
14 for(int i=0; i<words.length; i++)
15 {
16     for(int j=i+1; j<words.length; j++)
17     {
18         if(words[i].equals(words[j]))
19         {
20             count_repeating_word=count_repeating_word+1;
21             words[j]="0";
22         }
23     }
24     if(words[i]!="0" && count_repeating_word>1 )
25     {
26         System.out.println(words[i]+"--"+count_repeating_word);
27         count_repeating_word=1;
28     }
29 }
30 }
```

DuplicateWords > main()

Run: ReplaceString x CountCharacter x DuplicateWords x

/home/ttn/.sdkman/candidates/java/8.0.202-amzn/bin/java ...

Enter the string : My name is is arendra

is--2

Process finished with exit code 0

```

import java.util.Scanner;

public class DuplicateWords {
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the string : ");
        String a=input.nextLine();

        String[] words=a.split(" ");

        int count_repeating_word = 1;

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

```

Q.3) Write a program to find the number of occurrences of a character in a string without using loop?

Solution :

```

import java.util.Scanner;
public class CountCharacter {
    public static void main(String[] args) {
        Scanner sc1 = new Scanner(System.in);
        System.out.print("Enter string : ");
        String string1 = sc1.nextLine();

        Scanner sc2 = new Scanner(System.in);
        System.out.print("Enter character : ");
        String word = sc2.next();

        //System.out.println(string1);
    }
}

```

```
// System.out.println(word);
```

```
//System.out.println("Length Of String:" + string1.length());
```

```
//System.out.println("Length Of String Without character:" + string1.replace(word, "").length());
```

```
int charcount = string1.length() - string1.replaceAll(word, "").length();
```

```
System.out.println("Occurrence Of given Char In String: " + charcount);
```

```
}  
}
```

Q.4) Calculate the number & Percentage Of Lowercase Letters,Uppercase Letters, Digits And Other Special Characters In A String.

Solution

```
7  
8 int Upper=0, Lower=0, Digit=0, Special=0;  
9 int total=string.length();  
10 for(int i=0; i<string.length(); i++)  
11 {  
12     char ch = string.charAt(i);  
13     if (ch >= 'A' && ch <= 'Z')  
14         Upper++;  
15     else if (ch >= 'a' && ch <= 'z')  
16         Lower++;  
17     else if (ch >= '0' && ch <= '9')  
18         Digit++;  
19     else  
20         Special++;  
21 }  
22 System.out.println("Lower case letters : " + Lower);  
23 System.out.println("Upper case letters : " + Upper);  
24 System.out.println("Number : " + Digit);  
25 System.out.println("Special characters : " + Special);  
26 System.out.println("total length of string is: "+total);  
27 System.out.println("Percentage of upper case letters: "+(float)(Upper*100)/total);  
28 System.out.println("Percentage of lower case letters: "+(float)(Lower*100)/total);  
29 System.out.println("Percentage of digit : "+(float)(Digit*100)/total);  
30 System.out.println("Percentage of special characters: "+(float)(Special*100)/total);  
31  
ques4 : main()  
Run: ReplaceString x CountCharacter x CountCharacter x ques4 x  
total length of string is: 13  
Percentage of upper case letters: 23.076923  
Percentage of lower case letters: 23.076923  
Percentage of digit : 23.076923  
Percentage of special characters: 30.76923  
Process finished with exit code 0
```

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

```
public class ques4 {
```

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

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

```
        System.out.println("enter a string : ");
```

```
        String string=sc.next();
```

```
        int Upper=0, Lower=0, Digit=0, Special=0;
```

```
        int total=string.length();
```

```
        for(int i=0; i<string.length(); i++)
```

```
        {
```

```
            char ch = string.charAt(i);
```

```
            if (ch >= 'A' && ch <= 'Z')
```

```
                Upper++;
```

```
            else if (ch >= 'a' && ch <= 'z')
```

```

        Lower++;
    } else if (ch >= '0' && ch <= '9')
        Digit++;
    } else
        Special++;
    }

    System.out.println("Lower case letters : " + Lower);
    System.out.println("Upper case letters : " + Upper);
    System.out.println("Number : " + Digit);
    System.out.println("Special characters : " + Special);
    System.out.println("total length of string is: "+total);
    System.out.println("Percentage of upper case letters: "+(float)(Upper*100)/total);
    System.out.println("Percentage of lower case letters: "+(float)(Lower*100)/total);
    System.out.println("Percentage of digit : "+(float)(Digit*100)/total);
    System.out.println("Percentage of special characters: "+(float)(Special*100)/total);

}
}

```

Q.5) Find common elements between two arrays.

Solution:

The screenshot shows the IntelliJ IDEA interface with a project named 'MyProject'. The file 'CommonElements.java' is open, containing the following code:

```

import java.util.Scanner;

public class CommonElements {
    public static void main(String[] args)
    {
        int[] arr1 = {4, 7, 3, 9, 2};
        int[] arr2 = {3, 2, 12, 9, 40, 32, 4};
        for (int i = 0; i < arr1.length; i++)
        {
            for (int j = 0; j < arr2.length; j++)
            {
                if (arr1[i] == arr2[j])
                {
                    System.out.println(arr1[i]);
                }
            }
        }
    }
}

```

The 'Run' tab at the bottom shows the output of the program:

```

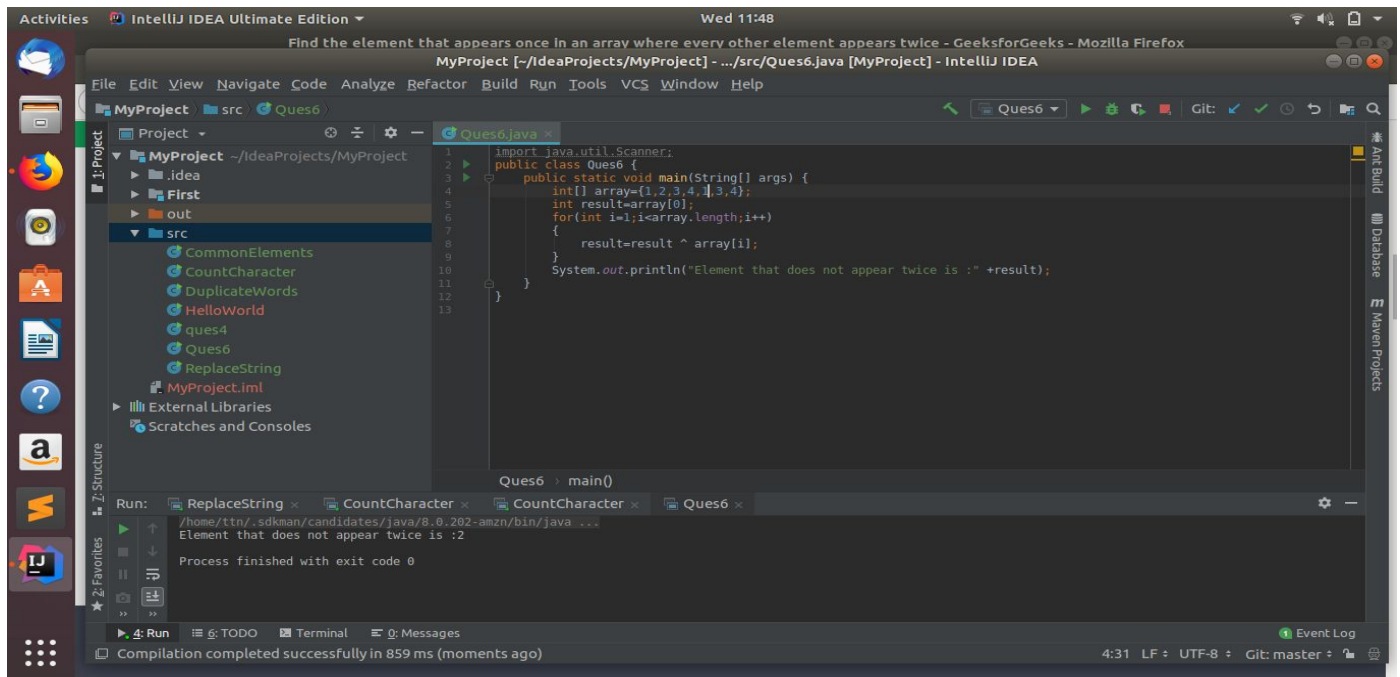
4
3
9
2

```

The status bar at the bottom indicates 'Process finished with exit code 0' and 'All files are up-to-date (moments ago)'.

Q .6) There is an array with every element repeated twice except one. Find that element.

Solution :

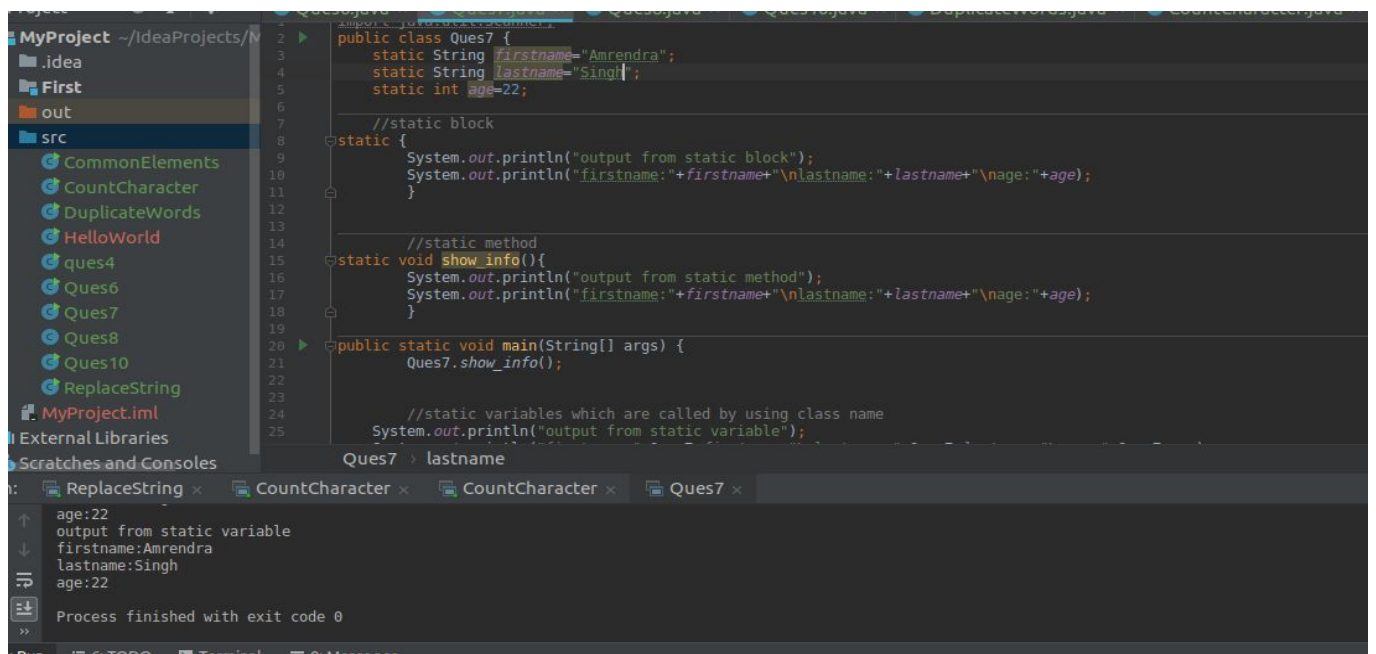


```
1 import java.util.Scanner;
2 public class Ques6 {
3     public static void main(String[] args) {
4         int[] array={1,2,3,4,1,3,4};
5         int result=array[0];
6         for(int i=1;i<array.length;i++)
7         {
8             result=result ^ array[i];
9         }
10        System.out.println("Element that does not appear twice is :"+result);
11    }
12 }
13 }
```

Run: ReplaceString x CountCharacter x CountCharacter x Ques6 x
/home/ttn/.sdkman/candidates/java/8.0.202-amzn/bin/java ...
Element that does not appear twice is :2
Process finished with exit code 0
Compilation completed successfully in 859 ms (moments ago)

Q. 7) Write a program to print your Firstname,LastName & age using static block,static method & static variable respectively.

Solution :



```
1 import java.util.Scanner;
2 public class Ques7 {
3     static String firstname="Amrendra";
4     static String lastname="Singh";
5     static int age=22;
6
7     //static block
8     static {
9         System.out.println("output from static block");
10        System.out.println("firstname:"+firstname+"\nlastname:"+lastname+"\nage:"+age);
11    }
12
13     //static method
14     static void show_info(){
15        System.out.println("output from static method");
16        System.out.println("firstname:"+firstname+"\nlastname:"+lastname+"\nage:"+age);
17    }
18
19     public static void main(String[] args) {
20        Ques7.show_info();
21    }
22
23     //static variables which are called by using class name
24     System.out.println("output from static variable");
25 }
```

Run: ReplaceString x CountCharacter x CountCharacter x Ques7 x
age:22
output from static variable
firstname:Amrendra
lastname:Singh
age:22
Process finished with exit code 0


```

import java.util.Scanner;
public class Ques7 {
    static String firstname="Amrendra";
    static String lastname="Singh";
    static int age=22;

    //static block
    static {
        System.out.println("output from static block");
        System.out.println("firstname:"+firstname+"\nlastname:"+lastname+"\nage:"+age);
    }

    //static method
    static void show_info(){
        System.out.println("output from static method");
        System.out.println("firstname:"+firstname+"\nlastname:"+lastname+"\nage:"+age);
    }

    public static void main(String[] args) {
        Ques7.show_info();

        //static variables which are called by using class name
        System.out.println("output from static variable");
        System.out.println("firstname:"+Ques7.firstname+"\nlastname:"+Ques7.lastname+"\nage:"+Ques7.age);
    }
}

```

Q. 8) Write a program to reverse a string and remove character from index 4 to index 9 from the reversed string using String Buffer.

Solution :

```

import java.util.Scanner;

public class Ques8 {

    public static void main(String[] args) {
        Ques8 object = new Ques8();
        object.string();
    }

    private void string() {
        StringBuffer stringBuffer=new StringBuffer();
        Scanner input_string=new Scanner(System.in);
        System.out.println("enter the string");
        String string=input_string.next();
        for(int i=string.length()-1;i>=0;i--)
        {
            stringBuffer.append(string.charAt(i));
        }

        System.out.println("reverse string is:"+stringBuffer);

        System.out.println("reverse string after deleting from index 4 to 9 is:"+stringBuffer.delete(4,9));
    }
}

```

Run: ReplaceString x CountCharacter x CountCharacter x Ques8 x

/home/ttn/.sdkman/candidates/java/8.0.202-amzn/bin/java ...

enter the string

AMRENDRASINGH

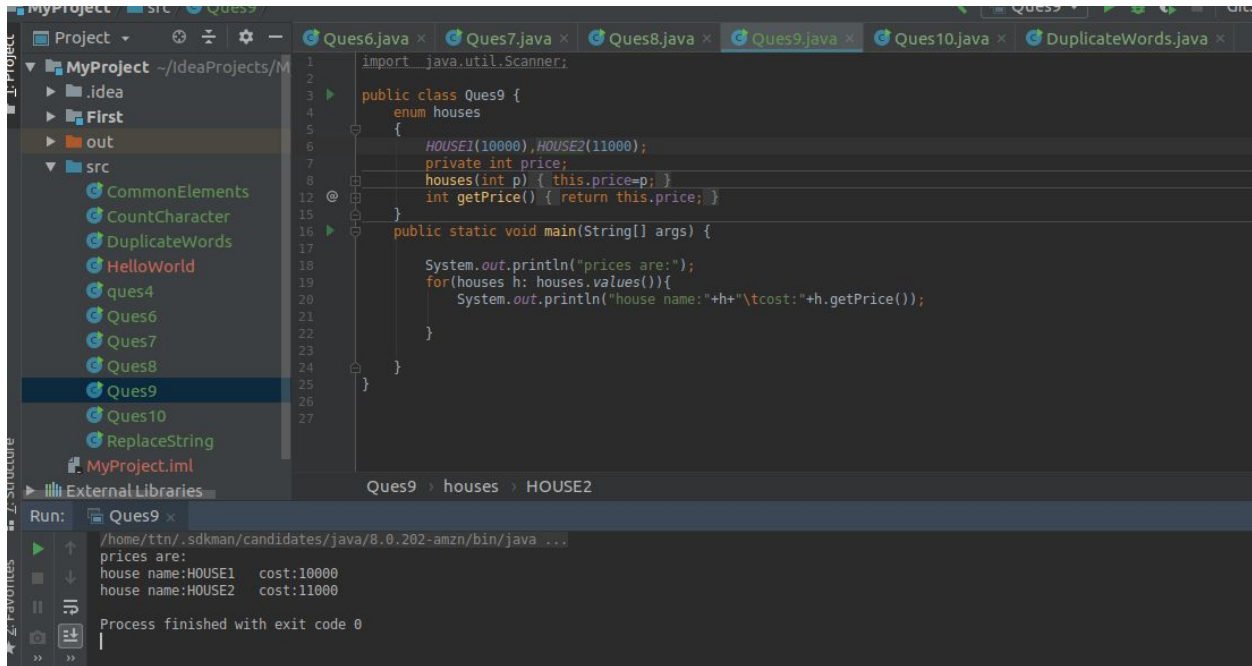
reverse string is:HGNISARDNERMA

reverse string after deleting from index 4 to 9 is:HGNISARDNERMA

Process finished with exit code 0

Q. 9) Write a program to display values of enums using a constructor & getPrice() method (Example display house & their prices).

Solution :



```
1 import java.util.Scanner;
2
3 public class Ques9 {
4     enum houses
5     {
6         HOUSE1(10000),HOUSE2(11000);
7         private int price;
8         houses(int p) { this.price=p; }
9         int getPrice() { return this.price; }
10    }
11
12    public static void main(String[] args) {
13
14        System.out.println("prices are:");
15        for(houses h: houses.values()){
16            System.out.println("house name:"+h+"\tcost:"+h.getPrice());
17        }
18    }
19 }
20
21
22
23
24
25
26
27
```

Run: Ques9 x

```
/home/ttn/.sdkman/candidates/java/8.0.202-amzn/bin/java ...
prices are:
house name:HOUSE1 cost:10000
house name:HOUSE2 cost:11000
Process finished with exit code 0
```

Q. 10) Q10.Write a single program for following operation using overloading

- A) Adding 2 integer numbe B) Adding 2 double C) multiplying 2 float**
- D) multiplying 2 int E) concat 2 string F) Concat 3 String**

Solution :

```
public class Ques10 {
    public static void main(String[] args) {
        double double1=100.9d,double2=101.65d;
        String string1="Amren",string2="dra",string3="Singh";
        int int1=16,int2=12;
        float float1=96.4f,float2=93.5f;
        Ques10 object=new Ques10();
        object.add(int1,int2);
        object.add(double1,double2);
        object.multiply(int1,int2);
        object.multiply(float1,float2);
        object.concatenate(string1,string2);
    }
}
```

```
object.concatenate(string1,string2,string3);
}
```

```
private void concatenate(String string1, String string2, String string3) {
```

```
System.out.println("concatenation of two string :"+string1.concat(string2).concat(string3));
}
```

```
private void concatenate(String string1, String string2) {
```

```
System.out.println("concatenation of two string :"+string1.concat(string2));
}
```

```
private void multiply(float float1, float float2) {
```

```
System.out.println("multiplication of two float numbers:"+(float1*float2));
}
```

```
private void multiply(int int1, int int2) {
```

```
System.out.println("multiplication of two integer numbers:"+(int1*int2));
```

```
}
```

```
private void add(double double1, double double2) {
```

```
System.out.println("addition of two double number:"+(double1+double2));
```

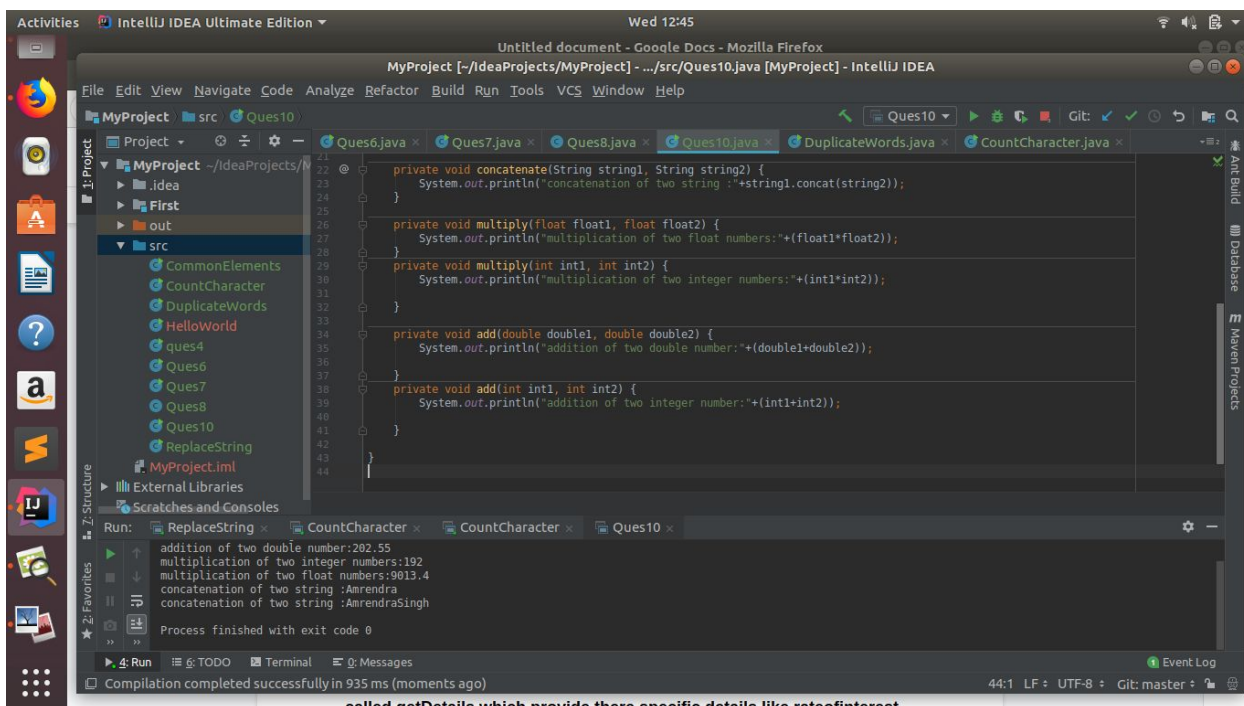
```
}
```

```
private void add(int int1, int int2) {
```

```
System.out.println("addition of two integer number:"+(int1+int2));
```

```
}
```

```
}
```



called getDetails which provide there specific details like rateofinterest

Q. 11) 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.

Solution :

```
import java.util.Scanner;
class SBI_bank
{
    public void getDetails(){
        System.out.println("\t\tbank name:SBI ");
        System.out.println("rate of interest: 4%");
        System.out.println("ifsc:SBIN0067400");
    }
}

class BOI_bank
{
    public void getDetails(){
        System.out.println("\t\tbank name:BOI ");
        System.out.println("rate of interest: 4%");
        System.out.println("ifsc:BOIN6740011");
    }
}

class ICICI_bank
{
    public void getDetails(){
        System.out.println("\t\tbank name: ICICI ");
        System.out.println("rate of interest: 5%");
        System.out.println("ifsc:ICICI0067400");
    }
}

//main class to get details of every class
public class Ques11 {

    public static void main(String[] args) {
        SBI_bank sbi=new SBI_bank();
        ICICI_bank icici=new ICICI_bank();
        BOI_bank boi=new BOI_bank();
        sbi.getDetails();
        icici.getDetails();
        boi.getDetails();
    }
}
```

The screenshot shows an IDE with a project named 'MyProject'. The 'src' folder contains several files, including 'Ques11.java'. The code in 'Ques11.java' defines three classes: 'SBI_bank', 'BOI_bank', and 'ICICI_bank', each with a 'getDetails()' method. The 'SBI_bank' method prints 'SBI' details, 'BOI_bank' prints 'BOI' details, and 'ICICI_bank' prints 'ICICI' details. The 'Run' console shows the output of the 'BOI_bank : getDetails()' method, which prints 'rate of interest: 5%', 'ifsc: ICICI0067400', and 'bank name: BOI'.

```
1 import java.util.Scanner;
2 class SBI_bank
3 {
4     public void getDetails(){
5         System.out.println("\t\tbank name:SBI ");
6         System.out.println("rate of interest: 4%");
7         System.out.println("ifsc:SBIIN0067400");
8     }
9 }
10
11 class BOI_bank
12 {
13     public void getDetails(){
14         System.out.println("\t\tbank name:BOI ");
15         System.out.println("rate of interest: 4%");
16         System.out.println("ifsc:BOIN6740011");
17     }
18 }
19
20 class ICICI_bank
21 {
22     public void getDetails(){
23         System.out.println("\t\tbank name: ICICI ");
24         System.out.println("rate of interest: 5%");
25         System.out.println("ifsc:ICICI0067400");
26     }
27 }
28
29 BOI_bank : getDetails()
```

Run: Ques11 x

```
↑
rate of interest: 5%
ifsc:ICICI0067400
↓
bank name:BOI
rate of interest: 4%
ifsc:BOIN6740011
||
Process finished with exit code 0
```