

## Java Programming – Phase II

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### Task 1:

#### CODE:

```
import java.util.*;

class College{

    College(){

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter the number of colleges");

        int n=sc.nextInt();

        String[] name=new String[n];

        String[] city=new String[n];

        int[] establish=new int[n];

        float[] pass=new float[n];

        for(int i=1;i<=n;i++){

            System.out.println("Enter the details of college "+i);

            System.out.println("Enter name");

            name[i-1]=sc.next();

            System.out.println("Enter city");

            city[i-1]=sc.next();

            System.out.println("Enter year of establishment");

            establish[i-1]=sc.nextInt();

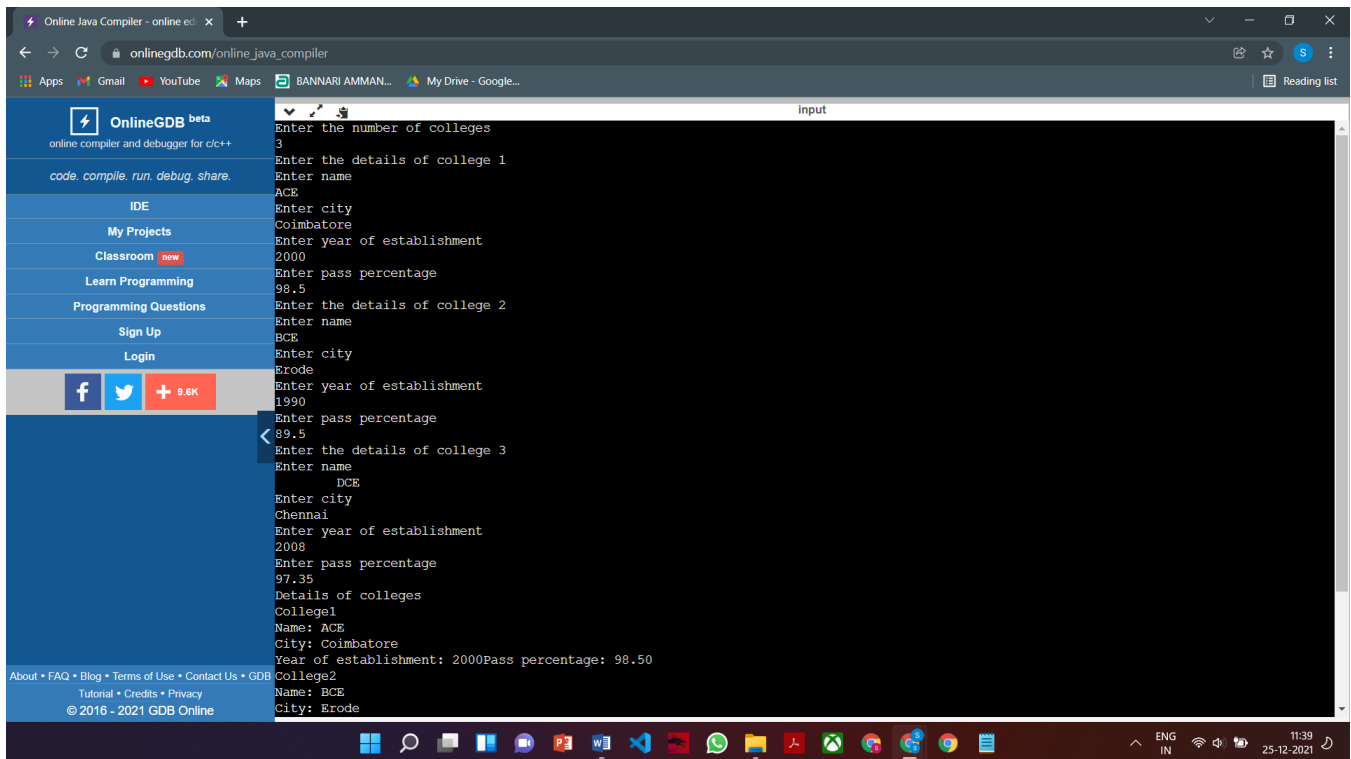
            System.out.println("Enter pass percentage");
```

```

pass[i-1]=sc.nextFloat();
}
Arrays.sort(name);
System.out.println("Details of colleges");
for(int i=0;i<n;i++){
int h=i+1;
System.out.println("College"+h);
System.out.println("Name: "+name[i]);
System.out.println("City: "+city[i]);
System.out.print("Year of establishment: "+establish[i]);
System.out.print("Pass percentage: ");
System.out.println(String.format("%.2f",pass[i]));
}
}
}
public class Main
{
public static void main(String[] args) {
Scanner sc=new Scanner(System.in);
College obj=new College();
}
}

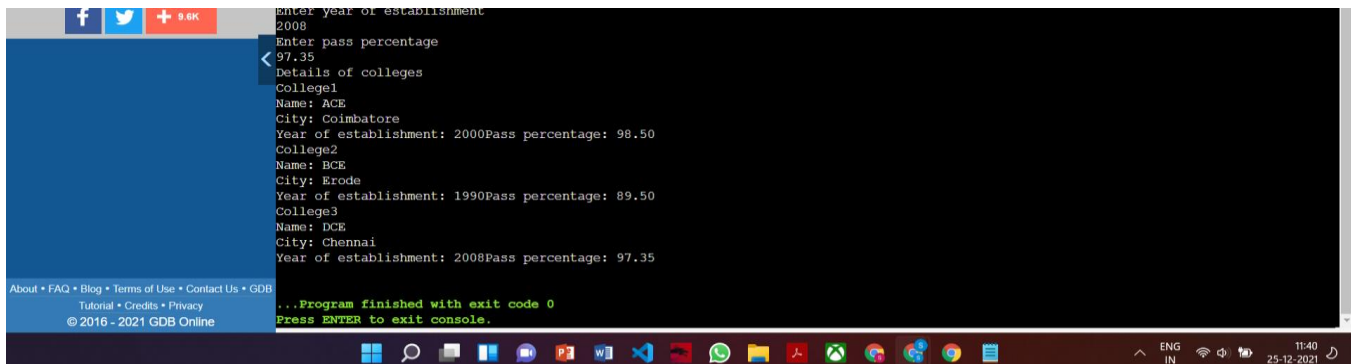
```

## Output:



The screenshot shows the OnlineGDB beta IDE interface. The left sidebar contains navigation links: IDE, My Projects, Classroom (new), Learn Programming, Programming Questions, Sign Up, and Login. The main editor area displays a Java program that prompts the user to enter the number of colleges (3), followed by details for three colleges (name, city, year of establishment, and pass percentage). The program then prints the details for each college. The output window shows the results of the program execution.

```
Enter the number of colleges
3
Enter the details of college 1
Enter name
ACE
Enter city
Coimbatore
Enter year of establishment
2000
Enter pass percentage
98.5
Enter the details of college 2
Enter name
BCE
Enter city
Erode
Enter year of establishment
1990
Enter pass percentage
89.5
Enter the details of college 3
Enter name
DCE
Enter city
Chennai
Enter year of establishment
2008
Enter pass percentage
97.35
Details of colleges
College1
Name: ACE
City: Coimbatore
Year of establishment: 2000Pass percentage: 98.50
College2
Name: BCE
City: Erode
Year of establishment: 1990Pass percentage: 89.50
College3
Name: DCE
City: Chennai
Year of establishment: 2008Pass percentage: 97.35
```



This screenshot shows the final output of the Java program. The output window displays the details of the three colleges, followed by a message indicating that the program finished with exit code 0. The user is prompted to press ENTER to exit the console.

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

## Task 2:

### CODE:

```
import java.util.Scanner;

class Sample_class1
{

    void sub(int ip1,int ip2){
        System.out.println("subtraction os a and b:-");

        System.out.println(ip1-ip2);
    }
}

class Sample_class2 extends Sample_class1
{
    void mul(int ip1,int ip2) {
        System.out.println("multipilication of a and b:-");

        System.out.println(ip1*ip2);
    }

    void compute(int ip1,int ip2){

        System.out.println("sum of squares of a and b:-");

        System.out.println((ip1*ip1)+(ip2*ip2));
    }
}

public class Main
{
    public static void main(String[] args) {

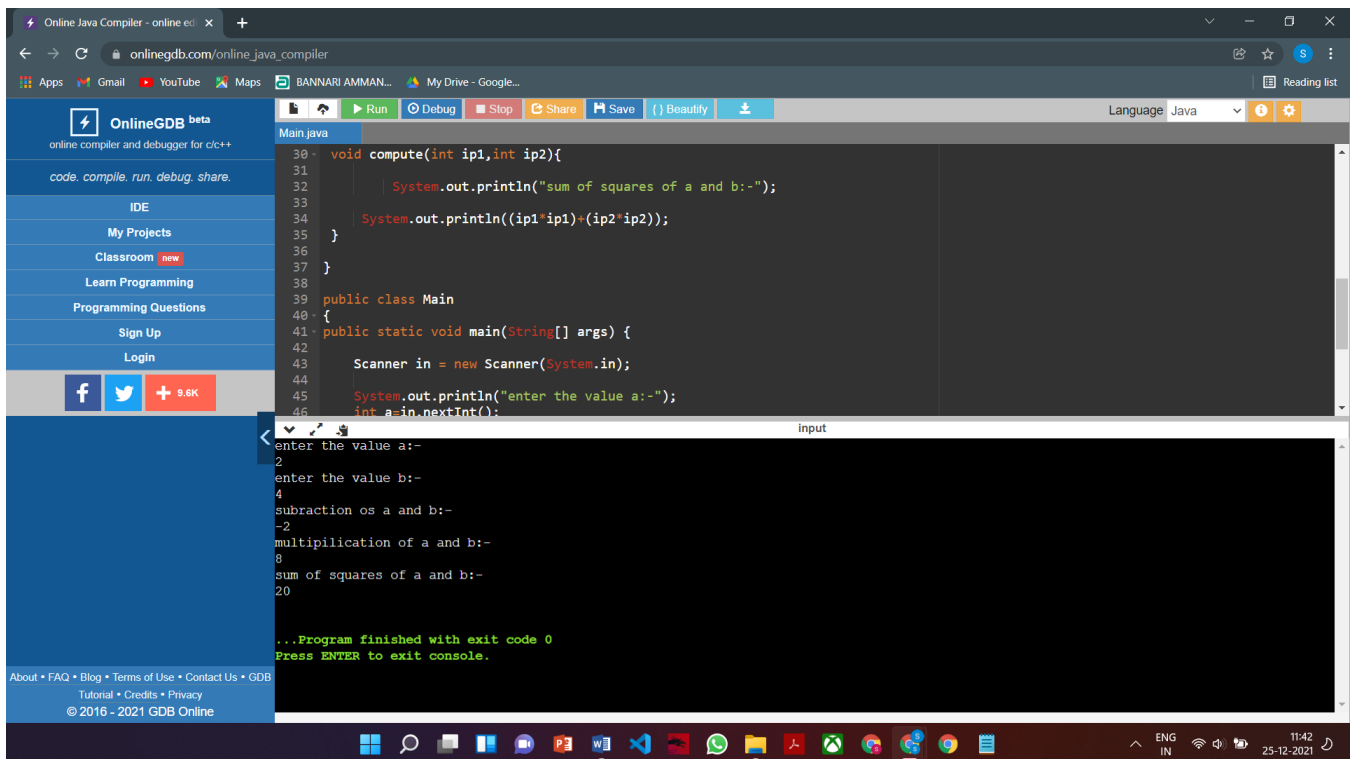
        Scanner in = new Scanner(System.in);

        System.out.println("enter the value a:-");
        int a=in.nextInt();

        System.out.println("enter the value b:-");
        int b=in.nextInt();
    }
}
```

```
Sample_class2 obj = new Sample_class2();
obj.sub(a,b);
obj.mul(a,b);
obj.compute(a,b);
}
}
```

## OUTPUT:



The screenshot shows a web browser window with the URL `onlinegdb.com/online_java_compiler`. The page features a sidebar on the left with navigation links like 'OnlineGDB beta', 'code, compile, run, debug, share.', 'IDE', 'My Projects', 'Classroom', 'Learn Programming', 'Programming Questions', 'Sign Up', and 'Login'. The main area displays a Java program in a dark-themed editor. The code defines a `compute` method that calculates the sum of squares of two integers and a `Main` class with a `main` method that takes user input. The output window at the bottom shows the program's execution with inputs 2 and 4, and the corresponding calculations for subtraction, multiplication, and sum of squares. The program ends with the message '...Program finished with exit code 0'.

```
Main.java
30 void compute(int ip1,int ip2){
31     System.out.println("sum of squares of a and b:-");
32     System.out.println((ip1*ip1)+(ip2*ip2));
33 }
34 }
35 }
36 }
37 }
38 }
39 public class Main
40 {
41     public static void main(String[] args) {
42         Scanner in = new Scanner(System.in);
43         System.out.println("enter the value a:-");
44         int a=in.nextInt();
45     }
46 }
```

input

```
enter the value a:-
2
enter the value b:-
4
subtraction os a and b:-
-2
multiplication of a and b:-
8
sum of squares of a and b:-
20
...Program finished with exit code 0
Press ENTER to exit console.
```

### Task 3:

#### Code:

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

public class Main
{
    public static void main(String[] args) {

        System.out.println("sample input:-");

        Scanner in = new Scanner(System.in);
        int n=in.nextInt();

        int[] arr= new int[n];

        for(int a=0;a<n;a++){
            arr[a]=in.nextInt();
        }

        int l=arr.length;
        int count=1;

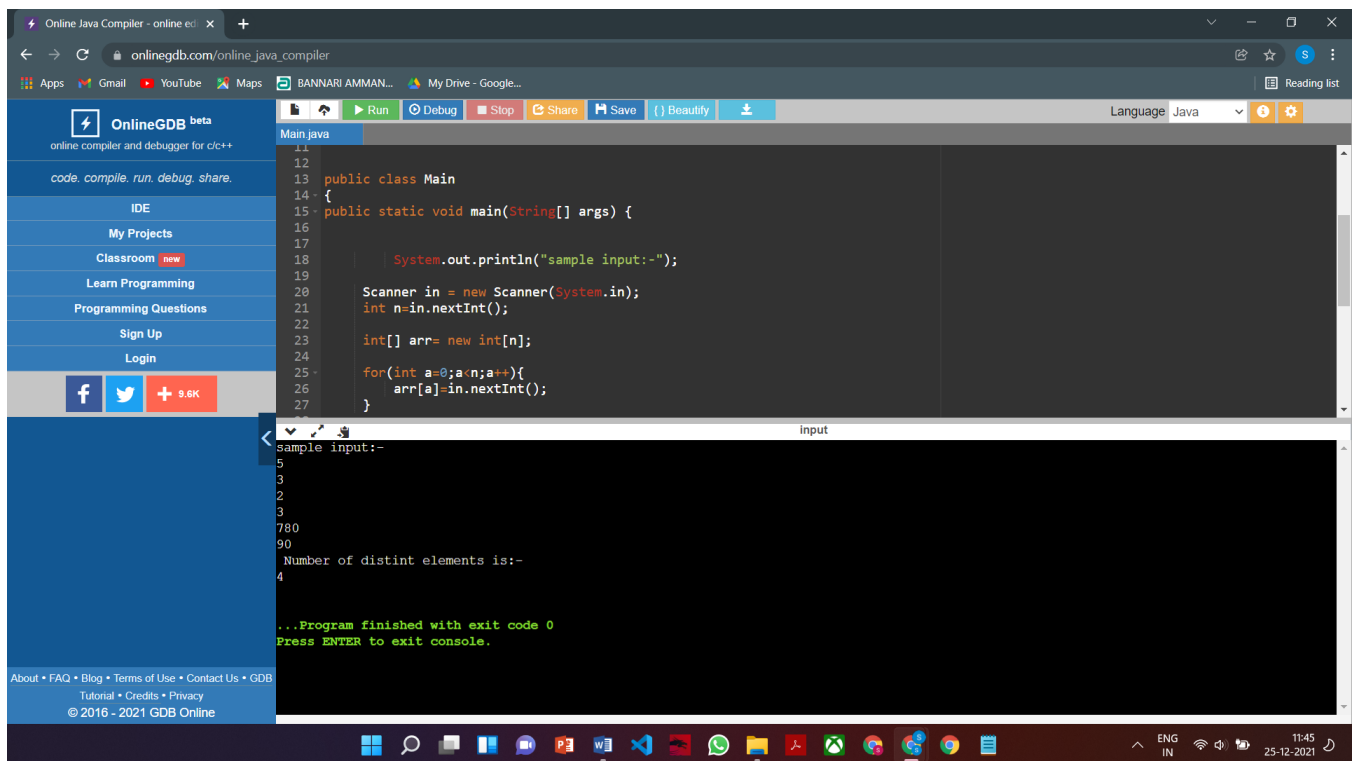
        Arrays.sort(arr);

        for(int i=0;i<l-1;i++){
            if(arr[i]!=arr[i+1]){
                count++;
            }
        }

        System.out.println(" Number of distint elements is:-");

        System.out.println(count);
    }
}
```

## OUTPUT:



The screenshot displays the OnlineGDB web interface. The top navigation bar includes links for Apps, Gmail, YouTube, Maps, and a user profile. The main toolbar features buttons for Run, Debug, Stop, Share, Save, and Beautify. The left sidebar contains a menu with options like IDE, My Projects, Classroom, Learn Programming, Programming Questions, Sign Up, and Login. The central editor shows a Java file named 'Main.java' with the following code:

```
11  
12  
13 public class Main  
14 {  
15     public static void main(String[] args) {  
16  
17         System.out.println("sample input:-");  
18  
19         Scanner in = new Scanner(System.in);  
20         int n=in.nextInt();  
21  
22         int[] arr= new int[n];  
23  
24         for(int a=0;a<n;a++){  
25             arr[a]=in.nextInt();  
26         }  
27     }  
28 }
```

The bottom console window shows the program's execution output:

```
sample input:-  
5  
3  
2  
3  
780  
90  
Number of distint elements is:-  
4  
...Program finished with exit code 0  
Press ENTER to exit console.
```

The Windows taskbar at the bottom shows the system clock as 11:45 on 25-12-2021.