Java Technologies

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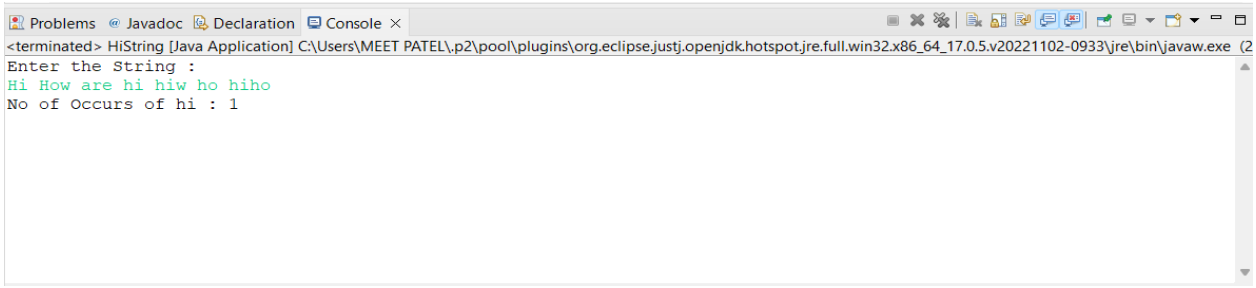
Lab No : 02

1. Write a program that returns the number of times that the string “hi” appears anywhere in the given string.

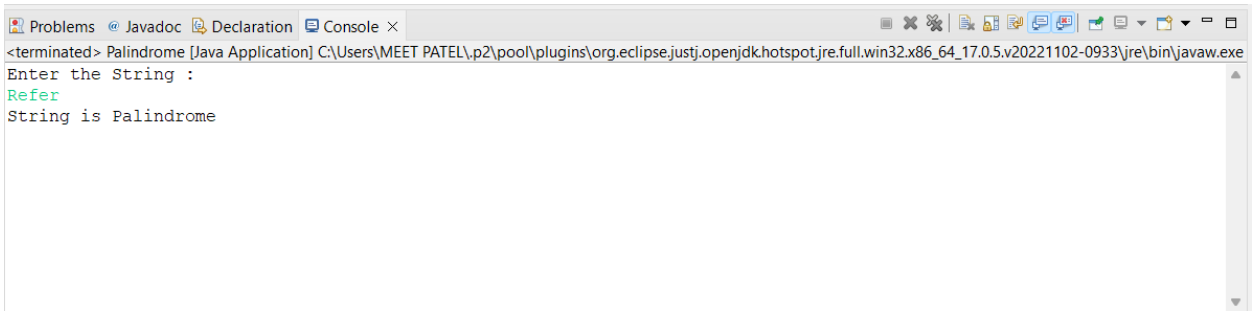
```
package secondpack;

import java.util.*;

public class HiString{
    String str;
    int cnt  = 0;
    Scanner scan_obj = new Scanner(System.in);

    HiString(){
    System.out.println("Enter the String : ");
        str = scan_obj.nextLine();
    }

    void count(HiString myobj){
        String[] arr = myobj.str.split(" ");
        for(String word : arr){
            if(word.equals("hi")){
                myobj.cnt++;
            }
        }
        System.out.println("No of Occurs of hi : " + myobj.cnt);
    }

    public static void main(String[] args){
        HiString myobj = new HiString();
        myobj.count(myobj);
    }
}
```



2. Write a program which checks whether the input string is palindrome or not and then display an appropriate message [e.g. “Refer” is a palindrome string].

```java
import java.util.*;

public class Palindrome{
    String str;
    Scanner scan_obj = new Scanner(System.in);

    Palindrome(){
        System.out.println("Enter the String : ");
        str = scan_obj.nextLine();
    }

    void ispalindrome(Palindrome myobj){
        int len = myobj.str.length();
        myobj.str = myobj.str.toUpperCase();
        for(int i = 0, j = len - 1; i < len/2; i++, j--){
            if(myobj.str.charAt(i) != myobj.str.charAt(j)){
                System.out.println("String is not Palindrome");
                return;
            }
        }
        System.out.println("String is Palindrome");
    }

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

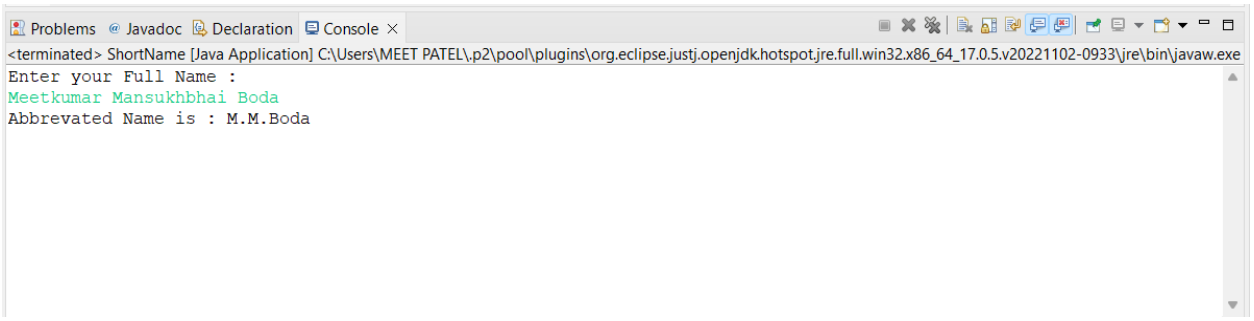
```
        Palindrome myobj = new Palindrome();
        myobj.ispalindrome(myobj);
    }
}
```



3. Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is. For example, if your name is Robert Brett Roser, then the output should be R.B.Roser.

```
import java.util.*;

public class ShortName{
    String name;
    String abbrevatedname = "";
    Scanner scan_obj = new Scanner(System.in);

    ShortName(){
        System.out.println("Enter your Full Name : ");
        name = scan_obj.nextLine();
    }

    void shorten(ShortName myobj){
        String[] name_parts = myobj.name.split(" ");
        myobj.abbrevatedname += name_parts[0].charAt(0) + ".";
        myobj.abbrevatedname += name_parts[1].charAt(0) + ".";
        myobj.abbrevatedname += name_parts[2];
    }
```

```
    public static void main(String[] args){
        ShortName myobj = new ShortName();
        myobj.shorten(myobj);
        System.out.println("Abbrevated Name is : " +
myobj.abbrevatedname);
    }
}
```



4. Write a method String removeWhiteSpaces(String str) method that removes all the white spaces from the string passed to the method and returns the modified string. Test the functionalities using the main() method of the Tester class.

```
import java.util.*;

public class WhiteSpaces{
    String original_str;
    String new_str;
    Scanner scan_obj = new Scanner(System.in);
    WhiteSpaces(){
        System.out.println("Enter the String : ");
        this.original_str = scan_obj.nextLine();
    }

    String removeWhiteSpaces(WhiteSpaces myobj, String str){
        String temp = "";
        String[] arr = myobj.original_str.split(" ");
        for(String x : arr){
            temp += x;
```

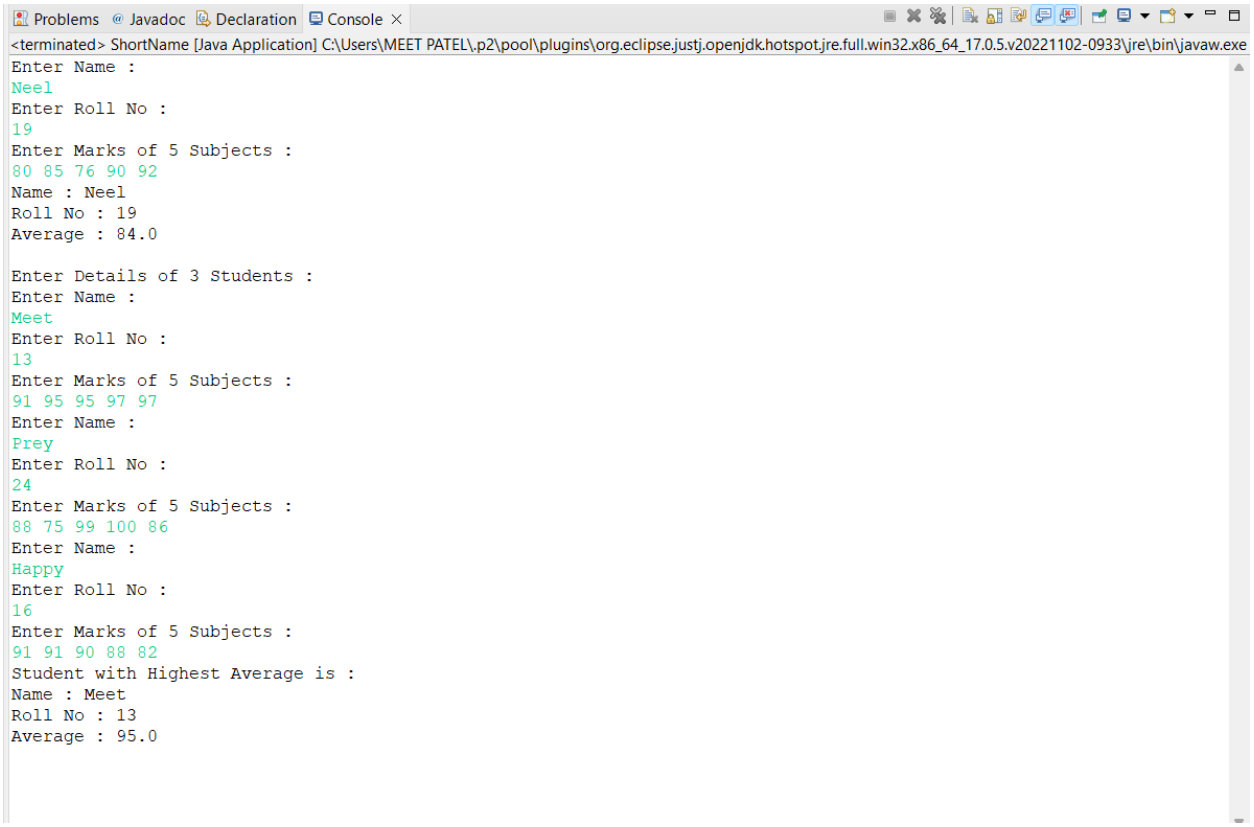
```
        }
        return temp;
    }
}

class Tester{
    public static void main(String[] args){
        WhiteSpaces myobj = new WhiteSpaces();
        myobj.new_str = myobj.removeWhiteSpaces(myobj,
myobj.original_str);
        System.out.println("New String without WhiteSpaces : " +
myobj.new_str);
    }
}
```

5. Write a class Student with member variables int roll_no, String name and an array to store marks of 5 subjects. Demonstrate constructor overloading and use this keyword. Write a findAverage() method that returns double value. Write a TestStudent class containing main() method to do the following:

a) Store the details of one student by creating one object of Student class and display them.
b) Store the details of 3 students by creating an array of objects of Student class and display the details of the student who has the highest average amongst the three students.

```java
package secondpack;

import java.util.*;

public class Student{
    String name;
    int roll_no;
    int marks[] = new int[5];
    double avg;
    Scanner scan_obj = new Scanner(System.in);

    Student(String name, int roll_no, int arr[]){
        this.name = name;
        this.roll_no = roll_no;
        for(int i = 0; i < 5; i++){
            this.marks[i] = arr[i];
        }
    }

    Student(){
        System.out.println("Enter Name : ");
        this.name = scan_obj.nextLine();
        System.out.println("Enter Roll No : ");
        this.roll_no = scan_obj.nextInt();
        System.out.println("Enter Marks of 5 Subjects : ");
        for(int i = 0; i < 5; i++){
            this.marks[i] = scan_obj.nextInt();
        }
    }

    void findAverage(Student myobj){
        int sum = 0;
        for(int i = 0; i < 5; i++){
            sum += myobj.marks[i];
        }
        myobj.avg = sum/5;
    }

    void display(Student myobj){
        System.out.println("Name : " + myobj.name);
```

```
        System.out.println("Roll No : " + myobj.roll_no);
        System.out.println("Average : " + myobj.avg);
    }
}

class TesterClass{
    public static void main(String[] args){
        String name;
        int roll_no;
        int marks[] = new int[5];
        Scanner scan_obj = new Scanner(System.in);
        System.out.println("Enter Name : ");
        name = scan_obj.nextLine();
        System.out.println("Enter Roll No : ");
        roll_no = scan_obj.nextInt();
        System.out.println("Enter Marks of 5 Subjects : ");
        for(int i = 0; i < 5; i++){
            marks[i] = scan_obj.nextInt();
        }
        Student myobj = new Student(name, roll_no, marks);
        myobj.findAverage(myobj);
        myobj.display(myobj);
        Student[] Student_arr = new Student[3];
        double highest = 0;
        int highest_index = 0;
        System.out.println("\nEnter Details of 3 Students : ");
        for(int i = 0; i < 3; i++){
            Student_arr[i] = new Student();
            Student_arr[i].findAverage(Student_arr[i]);
            if(Student_arr[i].avg > highest){
                highest = Student_arr[i].avg;
                highest_index = i;
            }
        }
        System.out.println("Student with Highest Average is : ");
        Student_arr[highest_index].display(Student_arr[highest_index]);
        scan_obj.close();
    }
}
```


Problems
Javadoc
Declaration
Console
<terminated> ShortName [Java Application] C:\Users\MEET PATEL\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.5.v20221102-0933\jre\bin\javaw.exe
Enter Name :
Neel
Enter Roll No :
19
Enter Marks of 5 Subjects :
80 85 76 90 92
Name : Neel
Roll No : 19
Average : 84.0
Enter Details of 3 Students :
Enter Name :
Meet
Enter Roll No :
13
Enter Marks of 5 Subjects :
91 95 95 97 97
Enter Name :
Prey
Enter Roll No :
24
Enter Marks of 5 Subjects :
88 75 99 100 86
Enter Name :
Happy
Enter Roll No :
16
Enter Marks of 5 Subjects :
91 91 90 88 82
Student with Highest Average is :
Name : Meet
Roll No : 13
Average : 95.0