

Name: Swaranjana Nayak

Reg. No: 19BCE0977

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## Java Lab Assessment

(Note: Black background is due to VSC dark mode, not screenshots)

Q1.

Code:

```
import java.util.Scanner;

// Done by 19BCE0977

public class GradeCalculator {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter number of students: ");
        int n = scan.nextInt();
        String reg[] = new String[n];
        int marks[] = new int[n];

        for(int i = 0; i < n; i++){
            System.out.print("Enter the reg no of student" + (i+1) + ": ");
            reg[i] = scan.next();
            System.out.print("Enter the marks of student" + (i+1) + ": ");
            marks[i] = scan.nextInt();
        }

        char grade;
        double total = 0;
        double denom = (double)n;
        for(int i = 0; i < n; i++){

            total = total + (double)marks[i];

            if(marks[i] >= 90){
                grade = 'S';
            }else if(marks[i] < 90 && marks[i] >= 80) {
                grade = 'A';
            }else if(marks[i] < 80 && marks[i] >= 70) {
                grade = 'B';
            }
        }
    }
}
```

```

        }else if(marks[i] < 70 && marks[i] >= 60) {
            grade = 'C';
        }else if(marks[i] < 60 && marks[i] >= 50) {
            grade = 'D';
        }else {
            grade = 'F';
        }

        System.out.println("Registration Number: " + reg[i]);
        System.out.println("Grade: " + grade);
    }

    System.out.println("Class Average: " + (total/denom));

    scan.close();
}
}

```

Output:

```

PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1> c::; cd 'c:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1'; & 'c:\Users\S K Nayak\.vscode\extensions\vscjava.vscode-java-debug-0.31.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\S K Nayak\AppData\Roaming\Code\User\workspaceStorage\b6f6791a2cf8c240f94e4d231cf930cbb\redhat.java\jdt_ws\Lab Assessment 1_1e20b864\bin' 'GradeCalculator'
Enter number of students:
5
Enter the reg no of student1: REG1001
Enter the marks of student1: 56
Enter the reg no of student2: REG1002
Enter the marks of student2: 76
Enter the reg no of student3: REG1003
Enter the marks of student3: 85
Enter the reg no of student4: REG1004
Enter the marks of student4: 92
Enter the reg no of student5: REG1005
Enter the marks of student5: 66
Registration Number: REG1001
Grade: D
Registration Number: REG1002
Grade: B
Registration Number: REG1003
Grade: A
Registration Number: REG1004
Grade: S
Registration Number: REG1005
Grade: C
Class Average: 75.0
PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1>

```

Q2.

Code:

```
import java.util.Scanner;

// Done by 19BCE0977
public class Vowelgrams {

    public static boolean isVowelgram(String s){
        int count[] = new int[5];

        for(int i = 0; i < 5; i++){
            count[i] = 0;
        }

        char arr[] = s.toCharArray();

        for(char a : arr){
            if(a == 'a'){
                count[0]++;
            }else if(a == 'e'){
                count[1]++;
            }else if(a == 'i'){
                count[2]++;
            }else if(a == 'o'){
                count[3]++;
            }else if(a == 'u'){
                count[4]++;
            }
        }

        for(int i : count){
            if(i > 1){
                return false;
            }
        }

        return true;
    }

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

```

Scanner scan = new Scanner(System.in);
System.out.print("Enter the string: ");
String str = scan.nextLine();

boolean b = isVowelgram(str);
System.out.println(b);

scan.close();
}
}

```

Output:

```

PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1> c:: cd 'c:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1'; & 'c:\Users\S K Nayak\.vscode\extensions\vscode-java-debug-0.31.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\S K Nayak\AppData\Roaming\Code\User\workspaceStorage\b6791a2cf8c240f94e4d231cf930cbb\redhat.java\jdt_ws\Lab Assessment 1_1e20b864\bin' 'Vowelgrams'
Enter the string: You black tiger
true
PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1> c:: cd 'c:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1'; & 'c:\Users\S K Nayak\.vscode\extensions\vscode-java-debug-0.31.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\S K Nayak\AppData\Roaming\Code\User\workspaceStorage\b6791a2cf8c240f94e4d231cf930cbb\redhat.java\jdt_ws\Lab Assessment 1_1e20b864\bin' 'Vowelgrams'
Enter the string: education
true
PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1> c:: cd 'c:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1'; & 'c:\Users\S K Nayak\.vscode\extensions\vscode-java-debug-0.31.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\S K Nayak\AppData\Roaming\Code\User\workspaceStorage\b6791a2cf8c240f94e4d231cf930cbb\redhat.java\jdt_ws\Lab Assessment 1_1e20b864\bin' 'Vowelgrams'
Enter the string: Hello World
false
PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1>

```

Q3.

Code:

```
import java.util.Scanner;

// Done by 19BCE0977

class DriverInfo {
    String driverName;
    int age;
    String drivingLicenseType;

    DriverInfo(String s){
        driverName = s;
    }

    DriverInfo(String n, int a, String d){
        driverName = n;
        age = a;
        drivingLicenseType = d;
    }

    void getDriverInfo(Scanner s) {
        System.out.print("Driver Name: ");
        driverName = s.next();
        System.out.print("Driver Age: ");
        age = s.nextInt();
        System.out.print("Driver License Type: ");
        drivingLicenseType = s.next();
    }

    void dispDriverInfo() {
        System.out.println("Driver Name: " + driverName);
        System.out.println("Driver Age: " + age);
        System.out.println("Driver License Type: " + drivingLicenseType);
    }
}

public class Driver {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        DriverInfo dri[] = new DriverInfo[6];

        dri[0] = new DriverInfo("Hase", 25, "HGMV");
    }
}
```

```

        dri[1] = new DriverInfo("John", 30, "HMY");
        dri[2] = new DriverInfo("Roug", 36, "HGMV");
        dri[3] = new DriverInfo("Rojā", 20, "HMY");
        dri[4] = new DriverInfo("Rahul", 31, "LMV");
        dri[5] = new DriverInfo("Guy", 38, "MGV");

        for(int i = 0; i < 6; i++){
            if(dri[i].drivingLicenseType == "HMY"){
                dri[i].dispDriverInfo();
            }
        }

        s.close();
    }
}

```

Output:

The screenshot shows the Visual Studio Code interface with the 'Driver.java' file open. The terminal output is as follows:

```

PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1> c:: cd 'c:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1'; & 'c:\Users\S K Nayak\.vscode\extensions\vscjava.vscode-java-debug-0.31.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\S K Nayak\AppData\Roaming\Code\User\workspaceStorage\bf6791a2cf8c248f94e4d231cf930cbb\redhat.java\jdt_ws\Lab Assessment 1_1e20b864\bin' 'Driver'
Driver Name: John
Driver Age: 30
Driver License Type: HMY
Driver Name: Roja
Driver Age: 20
Driver License Type: HMY
PS C:\Users\S K Nayak\Documents\CSE1007 Lab\Lab Assessment 1>

```