Name: M.Hassan Butt:

Reg No:FA24-BSE-102:

Lab Task

Question 1:

```
package com.mycompany.labtask3;
import java.util.Scanner;
public class a {
    public static int m1,m2,m3;
    public static double avg;
      public static void totalMarks(){
          Scanner sc=new Scanner(System.in);
        System.out.print("Enter marks for subject 1(Out of 100): ");
        m1=sc.nextInt();
        System.out.print("Enter marks for subject 2(Out of 100): ");
        m2=sc.nextInt();
        System.out.print("Enter marks for subject 3(Out of 100): ");
        m3=sc.nextInt();
        int sum=m1+m2+m3;
        System.out.println("Sum="+ sum);
        }
    public static double averageMarks(){
        return ((m1+m2+m3)/300.0*100);
    }
    public static char grade(double avg){
        if(avg>=85){
           return 'A';
        }
        else if(avg >=70 && avg <85){
            return 'B';
    }
        else if(avg >=50 && avg <70){
            return 'C';
    }
        else{
            return 'F';
        }
    }

    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
       totalMarks();
       avg=averageMarks();
```

Output:

```
            return 'B';
        }
        else if(avg >=50 && avg <70){
            return 'C';
        }
        else{
            return 'F';
        }
    }

    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        totalMarks();
        avg=averageMarks();
        System.out.println("Average= "+ avg);
        System.out.println("Grade= "+ grade(avg));
        grade(avg);
        sc.close();
```

com.mycompany.labtask3.a > m3

Output

JavaApplication1 (run) | JavaApplication1 (run) #2 | JavaApplication1 (run) #3 | JavaApplication1 (run) #4

```
run:
Enter marks for subject 1: 88
Enter marks for subject 2: 99
Enter marks for subject 3: 77
Total Marks: 264
Average Marks: 88.00
Grade: A
BUILD SUCCESSFUL (total time: 7 seconds)
```

Question 2:

```java
package javaapplication1;

import java.util.Scanner;

public class JavaApplication1 {
    static double billAmount = 0;

    void enterBill(Scanner sc) {
        System.out.println("Enter bill amount:");
        billAmount = sc.nextDouble();
        if (billAmount <= 0) {
            System.out.println("Invalid amount!");
            billAmount = 0;
        } else {
            System.out.println("Bill set: " + billAmount + " Rs");
        }
    }

    void splitBill(Scanner sc) {
        if (billAmount <= 0) {
            System.out.println("Enter bill first.");
            return;
        }

        System.out.println("Number of people:");
        int person = sc.nextInt();

        if (person <= 0) {
            System.out.println("Invalid number!");
            return;
        }

        double perPerson = billAmount / person;

        System.out.println("Total: " + billAmount + " Rs");
        System.out.println("People: " + person);
        System.out.println("Each pays: " + perPerson + " Rs");
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        JavaApplication1 obj = new JavaApplication1();

        while (true) {
            System.out.println("\n--- Bill Splitter ---");
            System.out.println("1. Enter Bill");
            System.out.println("2. Split Bill");
            System.out.println("3. Exit");
            System.out.print("Option: ");

            int opt = sc.nextInt();

            switch (opt) {
                case 1:
                    obj.enterBill(sc);
                    break;
                case 2:
                    obj.splitBill(sc);
                    break;
                case 3:
                    System.out.println("Exiting...");
                    sc.close();
                    return;
                default:
                    System.out.println("Invalid option.");
            }
        }
    }
}
```

Output

```
--- Bill Splitter ---
1. Enter Bill
2. Split Bill
3. Exit
Option: 1
Enter bill amount:
4500
Bill set: 4500.0 Rs

--- Bill Splitter ---
1. Enter Bill
2. Split Bill
3. Exit
Option: 2
Number of people:
4
Total: 4500.0 Rs
People: 4
Each pays: 1125.0 Rs

--- Bill Splitter ---
1. Enter Bill
2. Split Bill
3. Exit
Option: 3
Exiting...
BUILD SUCCESSFUL (total time: 18 seconds)
```

Question 3:

```java
import java.util.Scanner;

public class PasswordChecker {

    public static String checkPassword(String password) {
        int length = password.length();

        if (length < 6) {
            return "Password is too short";
        }

        boolean hasLetters = false;
        boolean hasNumbers = false;
        boolean hasSpecialSymbols = false;
        boolean hasUppercase = false;
        boolean hasLowercase = false;

        String specialSymbols = "!@#$%^&*";

        for (char ch : password.toCharArray()) {
            if (Character.isLetter(ch)) {
                hasLetters = true;
                if (Character.isUpperCase(ch)) hasUppercase = true;
                if (Character.isLowerCase(ch)) hasLowercase = true;
            } else if (Character.isDigit(ch)) {
                hasNumbers = true;
            } else if (specialSymbols.indexOf(ch) >= 0) {
                hasSpecialSymbols = true;
            }
        }

        if (length >= 6 && length <= 10) {
            if ((hasLetters && !hasNumbers) || (!hasLetters && hasNumbers)) {
                return "Password strength: Weak";
            } else if (hasLetters && hasNumbers) {
                return "Password strength: Moderate";
            } else {
                return "Password strength: Weak";
            }
        } else {
            if (hasLetters && hasNumbers && (hasSpecialSymbols || (hasUppercase && hasLowercase))) {
                return "Password strength: Strong";
            } else {
                return "Password strength: Moderate";
            }
        }
    }

    public static void main(String[] args) {
        Scanner inputScanner = new Scanner(System.in);

        System.out.print("Please enter your password to evaluate its strength: ");
        String userPassword = inputScanner.nextLine();

        String evaluation = checkPassword(userPassword);
        System.out.println(evaluation);

        inputScanner.close();
    }
}
```


utput
JavaApplication1 (run)
JavaApplication1 (run) #2
JavaApplication1 (run) #3
JavaApplication1 (run) #4
JavaApplication1 (run) #5
run:
Please enter your password to evaluate its strength: Hassan$#12
Password strength: Moderate
BUILD SUCCESSFUL (total time: 18 seconds)