Assignment No- 1

1) Write a program that takes a numerical grade as input and outputs the corresponding letter grade using if-else statements.

```java
import java.util.Scanner;
class HelloWorld {
    public static void main(String[] args) {
Scanner sc =new Scanner(System.in);
System.out.println("enter your grade");
int grade =sc.nextInt();

if (grade <=60 ){
    System.out.println("Grade D");

}
    else if (grade>=60 & grade<=75){
        System.out.println("grade B");

    }
        else {
        System.out.println("grade A");

    }
}
    }
```

```
enter your grade
98
grade A
```

```
enter your grade
55
Grade D
```

Write a program that checks if a given year is a leap year or not using both if-else and switch-case.

Leap Year using if else:

2)

```java
1  import java.util.Scanner;
2
3  public class LeapYear {
4      public static void main (String[] args) {
5          Scanner sc = new Scanner (System.in);
6          System.out.println ("enter the year");
7          int year = sc.nextInt();
8
9          if (year%4==0 && year%100!=0 || year%400==0) {
10             System.out.println ("Leap year");
11         } else {
12             System.out.println ("Not a leap year");
13         }
14         sc.close();
15
16     }
17 }
18
19
20
```

```
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<terminated> LeapYear [Java Application] C:\Users\VAISHNAV\Downloads\eclipse-jee
enter the year
2024
Leap year
```

Leap Year using Switch Case:

```java
1  import java.util.Scanner;
2
3  public class LeapYearUsingSwichCase {
4
5⊖     public static void main(String[] args) {
6          // TODO Auto-generated method stub
7              Scanner sc = new Scanner(System.in);
8                  System.out.println("enter the year");
9                  int year = sc.nextInt();
10                 switch (year%4) {
11          case 0:
12              if(year%4==0 && year%100!=0 || year%400==0)
13              {
14                  System.out.println("Leap year");
15              }
16              else {
17          System.out.println("Not a leap year");
18          }
19              break;
20              default :
21                  System.out.println("Not a leap year");
22
23                  }
24  }
25  }
```

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<terminated> LeapYearUsingSwichCase [Java Application] C:\Users\VAISHNAV\Downloads
enter the year
2024
Leap year

3) Implement a simple calculator program that takes two numbers and an operator (+, -, *, /) as input and performs the operation using switch-case.

```java
 4⊖    public static void main(String[] args) {
 5           // TODO Auto-generated method stub
 6
 7  double result;
 8  Scanner sc=new Scanner(System.in);
 9  System.out.println("enter your operator");
10  char operator=sc.next().charAt(0);
11  System.out.println("enter 1st no");
12  double num1 = sc.nextDouble();
13  System.out.println("enter 2nd no");
14  double num2 = sc.nextDouble();
15  switch(operator) {
16  case '+' :
17       result =num1+num2;
18      System.out.println("ans is " +result);
19      break;
20  case '-' :
21       result =num1-num2;
22      System.out.println("ans is " +result);
23  break;
24  case '*' :
25   result =num1*num2;
26      System.out.println("ans is " +result);
27      break;
28
29  case '/' :
30       result =num1/num2;
31          System.out.println("ans is " +result);
32          break;
33          default:
34              System.out.println("inwalid operator");
```

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<terminated> Calculator [Java Application] C:\Users\VAISHNAV\Downloads\eclipse-je

```
enter your operator
*
enter 1st no
4
enter 2nd no
7
ans is 28.0
```

4) Write a program that takes a number representing a weekday (1-7) and prints the name of the weekday using switch-case.

```java
        Scanner sc=new Scanner(System.in);
        System.out.println("enter your day in int");
        int daynum =sc.nextInt();

    switch(daynum) {
    case 1:
        System.out.println("Monday");
    break;
    case 2:
        System.out.println("Tuesday");
        break;
    case 3:
        System.out.println("Wednesday");
        break;
    case 4:
        System.out.println("Thursday");
        break;
    case 5:
        System.out.println("Friday");
        break;
    case 6:
        System.out.println("Saturday");
        break;
    case 7:
        System.out.println("Sunday");
        break;

        default:
            System.out.println("wrong input");
```

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<terminated> DisplayWeekDays [Java Application] C:\Users\VAISHNAV\Downloads\eclipse-jee-2023-12-R-win32-x86_64\eclipse\plugins\org.eclipse.justj
enter your day in int
2
Tuesday

5) Write a program that takes a character as input and determines whether it's a vowel or a consonant using if-else.

```java
1 import java.util.Scanner;
2
3 public class Charc_VowelOrNot {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7 Scanner sc=new Scanner(System.in);
8 System.out.println("enter the char");
9 char ch =sc.next().charAt(0);
10 if (ch=='a'|| ch=='e' || ch=='i' || ch=='o'|| ch=='u') {
11     System.out.println(ch +" is a vowels");}
12 else {
13     System.out.println(ch +" is a consonent");
14 }
15     }
16
17 }
18
```

Problems ● Javadoc ▣ Declaration ▢ Console ×
<terminated> Charc_VowelOrNot [Java Application] C:\Users\VAISHNAV\Downloads\eclipse
enter the char
i
i is a vowels

Q6) Implement a program that calculates the Body Mass Index (BMI) based on height and weightinput using if-else to classify the BMI int categories (underweight, normal weight, overweight, etc.).

```java
1 import java.util.Scanner;
2
3 public class BMI {
4     public static void main(String[] args) {
5         Scanner sc =new Scanner(System.in);
6         System.out.println("enter your height");
7         int height=sc.nextInt();
8         System.out.println("enter your weight");
9         int weight=sc.nextInt();
10        int bmi = weight/(height*height);
11        if(bmi> 25){
12            System.out.println("you are overwight");
13        }
14            else if (bmi>18.5 && bmi<25) {
15                System.out.println("your weight is normal");
16            }
17                else {
18                    System.out.println("you are underweight");
19                }
20            }
21        }
```

Problems @ Javadoc Declaration 🖥 Console ✕

<terminated> BMI [Java Application] C:\Users\VAISHNAV\Downloads\eclipse-jee-2023-12-R-win3:
enter your height
150
enter your weight
90
you are underweight