**CDAC Mumbai PG-DAC AUGUST 24**

**Assignment No- 2**

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

**package** assignment\_1;

**import** java.util.Scanner;

**public** **class** Leap\_year {

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

**int** year ;

Scanner obj1 = **new** Scanner(System.***in***);

System.***out***.println("Enter Year");

year = obj1.nextInt();

System.***out***.println(year);

**if** (year % 4==0)

System.***out***.println("Year is leap");

**else**

System.***out***.println("Year is not leap");

}

}

**package** assignment\_1;

**import** java.util.Scanner;

**public** **class** Leap\_year {

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

**int** year ;

Scanner obj1 = **new** Scanner(System.***in***);

System.***out***.println("Enter Year");

year = obj1.nextInt();

System.***out***.println(year);

/\* if (year % 4==0)

System.out.println("Year is leap");

else

System.out.println("Year is not leap");

\*/

**int** r ;

r= year % 400==0 || year % 100==0 || year % 4==0 ? 1 :0 ;

**switch**(r){

**case** 1 : System.***out***.println(year + " Year is leap");

**break**;

**case** 0 : System.***out***.println(year + " Year is not leap");

**break**;

**default**: System.***out***.println(year + " Year is not leap");

}

}

}

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

**package** assignment\_1;

**import** java.util.Scanner;

**public** **class** bmi {

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

**double** height,weight,bmi;

Scanner b1=**new** Scanner(System.***in***);

System.***out***.println("Enter height");

height=b1.nextDouble();

System.***out***.println("Enter weight");

weight=b1.nextDouble();

bmi=weight/( height\*height);

**if** (bmi<18.5) {

System.***out***.println("Underweight: "+bmi);

}

**else**

**if** (bmi>18.5 || bmi<24.9)

System.***out***.println("normal: "+bmi);

**else**

System.***out***.println("overweight: "+bmi);

System.***out***.println("obesity: " +bmi);

}

}

3)Write a program that checks if a person is eligible to vote based on their age.

**package** assignment\_1;

**import** java.util.Scanner;

**public** **class** vote {

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

**int** age;

Scanner a1= **new** Scanner(System.***in***);

System.***out***.println("Enter age");

age=a1.nextInt();

**if**(age<=18)

System.***out***.println("Not Eligible for voting");

**else**

System.***out***.println(" Eligible for voting");

}

}

4)Write a program that takes a month (1-12) and prints the corresponding season (Winter, Spring, Summer, Autumn) using a switch case

**package** assignment\_1;

**import** java.util.Scanner;

**public** **class** season {

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

**int** month;

Scanner n = **new** Scanner(System.***in***);

System.***out***.println("Enter month");

month=n.nextInt();

**switch**(month) {

**case** 1: System.***out***.println("Winter");

**break**;

**case** 2: System.***out***.println("Winter");

**break**;

**case** 3: System.***out***.println("Spring");

**break**;

**case** 4: System.***out***.println("Spring");

**break**;

**case** 5: System.***out***.println("Summer");

**break**;

**case** 6: System.***out***.println("Winter");

**break**;

**case** 7: System.***out***.println("Winter");

**break**;

**case** 8: System.***out***.println("Winter");

**break**;

**case** 9: System.***out***.println("Autumn");

**break**;

**case** 10: System.***out***.println("Autumn");

**break**;

**case** 11: System.***out***.println("Autumn");

**break**;

**case** 12: System.***out***.println("Autumn");

**break**;

**default**: System.***out***.println("Wrong input");

}

}

}

1. Write a program that allows the user to select a shape (Circle, Square, Rectangle, Triangle) and then calculates the area based on user-provided dimensions using a switch case.

**package** assignment\_1;

**import** java.util.Scanner;

**public** **class** area {

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

**int** i;

System.***out***.println("Circle 1 , Square 2, Rectangle 3, Triangle 4");

Scanner j = **new** Scanner(System.***in***);

i=j.nextInt();

Scanner k = **new** Scanner(System.***in***);

**switch**(i) {

**case** 1: System.***out***.println("Diameter");

**double** Di,area;

Di=k.nextDouble();

area=3.14/4\*Di\*Di;

System.***out***.println("Area of Circle is : "+ area);

**break**;

**case** 2: System.***out***.println("Side");

**double** side;

side=k.nextDouble();

area = side\*side ;

System.***out***.println("Area of Square is : "+ area);

**break**;

**case** 3: System.***out***.println("Side");

side=k.nextDouble();

System.***out***.println("weidth");

**double** w;

w=k.nextDouble();

area= side\*w;

System.***out***.println("Area of Rectangle is : "+ area);

**break**;

**case** 4: System.***out***.println("base");

**double** B,H;

B=k.nextDouble();

System.***out***.println("Height");

H=k.nextDouble();

area= B \* H\*0.5;

System.***out***.println("Area of Rectangle is : "+ area);

**break**;

**default**: System.***out***.println("Wrong input");

}

}

}