**import** java.util.Scanner;

**public** **class** MonthSeason {

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

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

System.***out***.print("Enter a month 1-12: ");

**int** month = scanner.nextInt();

String season;

**switch** (month) {

**case** 12: **case** 1: **case** 2:

season = "Winter";

**break**;

**case** 3: **case** 4: **case** 5:

season = "Spring";

**break**;

**case** 6: **case** 7: **case** 8:

season = "Summer";

**break**;

**case** 9: **case** 10: **case** 11:

season = "Autumn";

**break**;

**default**:

season = "Invalid month";

**break**;

}

System.***out***.println("The season is: " + season);

}

}

**OUTPUT** :Enter a month 1-12: 1

The season is: Winter

**package** cdac\_Assignment;

**import** java.util.Scanner;

**public** **class** Area {

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

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

System.***out***.println("Select a shape to calculate its area:");

System.***out***.println("1. Circle");

System.***out***.println("2. Square");

System.***out***.println("3. Rectangle");

System.***out***.println("4. Triangle");

System.***out***.print("Enter the number corresponding to your choice: ");

**int** choice = scanner.nextInt();

**double** area = 0;

**switch** (choice) {

**case** 1:

System.***out***.print("Enter the radius of the circle: ");

**double** radius = scanner.nextDouble();

area = Math.***PI*** \* radius \* radius;

**break**;

**case** 2:

System.***out***.print("Enter the side length of the square: ");

**double** side = scanner.nextDouble();

area = side \* side;

**break**;

**case** 3:

System.***out***.print("Enter the length of the rectangle: ");

**double** length = scanner.nextDouble();

System.***out***.print("Enter the width of the rectangle: ");

**double** width = scanner.nextDouble();

area = length \* width;

**break**;

**case** 4:

System.***out***.print("Enter the base of the triangle: ");

**double** base = scanner.nextDouble();

System.***out***.print("Enter the height of the triangle: ");

**double** height = scanner.nextDouble();

area = 0.5 \* base \* height;

**break**;

**default**:

System.***out***.println("Invalid choice. Please select a valid shape.");

**return**;

}

System.***out***.println("The area is: " + area);

}

}

Select a shape to calculate its area:

1. Circle

2. Square

3. Rectangle

4. Triangle

Enter the number corresponding to your choice: 1

Enter the radius of the circle: 8

The area is: 201.06192982974676

Select a shape to calculate its area:

1. Circle

2. Square

3. Rectangle

4. Triangle

Enter the number corresponding to your choice: 1

Enter the radius of the circle: 8

The area is: 201.06192982974676

Select a shape to calculate its area:

1. Circle

2. Square

3. Rectangle

4. Triangle

Enter the number corresponding to your choice: 1

Enter the radius of the circle: 8

The area is: 201.06192982974676

Select a shape to calculate its area:

1. Circle

2. Square

3. Rectangle

4. Triangle

Enter the number corresponding to your choice: 4

Enter the base of the triangle: 2

Enter the height of the triangle: 5

The area is: 5.0

**package** cdac\_Assignment;

**import** java.util.Scanner;

**public** **class** Vote {

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

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

System.***out***.print("Enter your age: ");

**int** age = scanner.nextInt();

**if** (age >= 18) {

System.***out***.println("You are eligible to vote.");

} **else** {

System.***out***.println("You are not eligible to vote.");

}

}

}

OUTPUT :Enter your age: 25

You are eligible to vote.

Enter your age: 17

You are not eligible to vote.

**package** cdac\_Assignment;

**import** java.util.Scanner;

**public** **class** Bmi {

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

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

System.***out***.print("Enter your weight in kilograms: ");

**double** weight = scanner.nextDouble();

System.***out***.print("Enter your height in meters: ");

**double** height = scanner.nextDouble();

**double** bmi = weight / (height \* height);

System.***out***.printf("Your BMI is: %.2f%n", bmi);

**if** (bmi < 18.5) {

System.***out***.println("You are underweight.");

} **else** **if** (bmi >= 18.5 && bmi < 24.9) {

System.***out***.println("You have a normal weight.");

} **else** **if** (bmi >= 25 && bmi < 29.9) {

System.***out***.println("You are overweight.");

} **else** **if** (bmi >= 30 && bmi < 34.9) {

System.***out***.println("You are as obese (Class I).");

} **else** **if** (bmi >= 35 && bmi < 39.9) {

System.***out***.println("You are as obese (Class II).");

} **else** {

System.***out***.println("You are 45 as obese (Class III).");

}

}

}

Enter your weight in kilograms: 75

Enter your height in meters: 1.65

Your BMI is: 27.55

You are overweight.

Enter your weight in kilograms: 50

Enter your height in meters: 1.65

Your BMI is: 18.37

You are underweight.

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

**package** cdac\_Assignment;

**import** java.util.Scanner;

**public** **class** Leap\_Year {

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

System.***out***.println("enter the year:");

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

**int** year=sc.nextInt();

**if**(year%400 == 0)

{

System.***out***.println(year +" is leap year");

} **else** **if** (year %4 ==0 && year %100 !=0)

{

System.***out***.println(year +" is leap year");

}

**else**

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

sc.close();

}

}

**Switch case:**

**package** cdac\_Assignment;

**import** java.util.Scanner;

**public** **class** Leap\_Year\_Switch {

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

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

System.***out***.println("Using switch-case:");

**int** year = sc.nextInt();

**int** leapYearType = (year % 400 == 0) ? 1 : (year % 100 == 0) ? 2 : (year % 4 == 0) ? 3 : 4;

**switch** (leapYearType) {

**case** 1:

System.***out***.println(year + " is a leap year.");

**break**;

**case** 2:

System.***out***.println(year + " is not a leap year.");

**break**;

**case** 3:

System.***out***.println(year + " is a leap year.");

**break**;

**case** 4:

System.***out***.println(year + " is not a leap year.");

**break**;

}

}

}