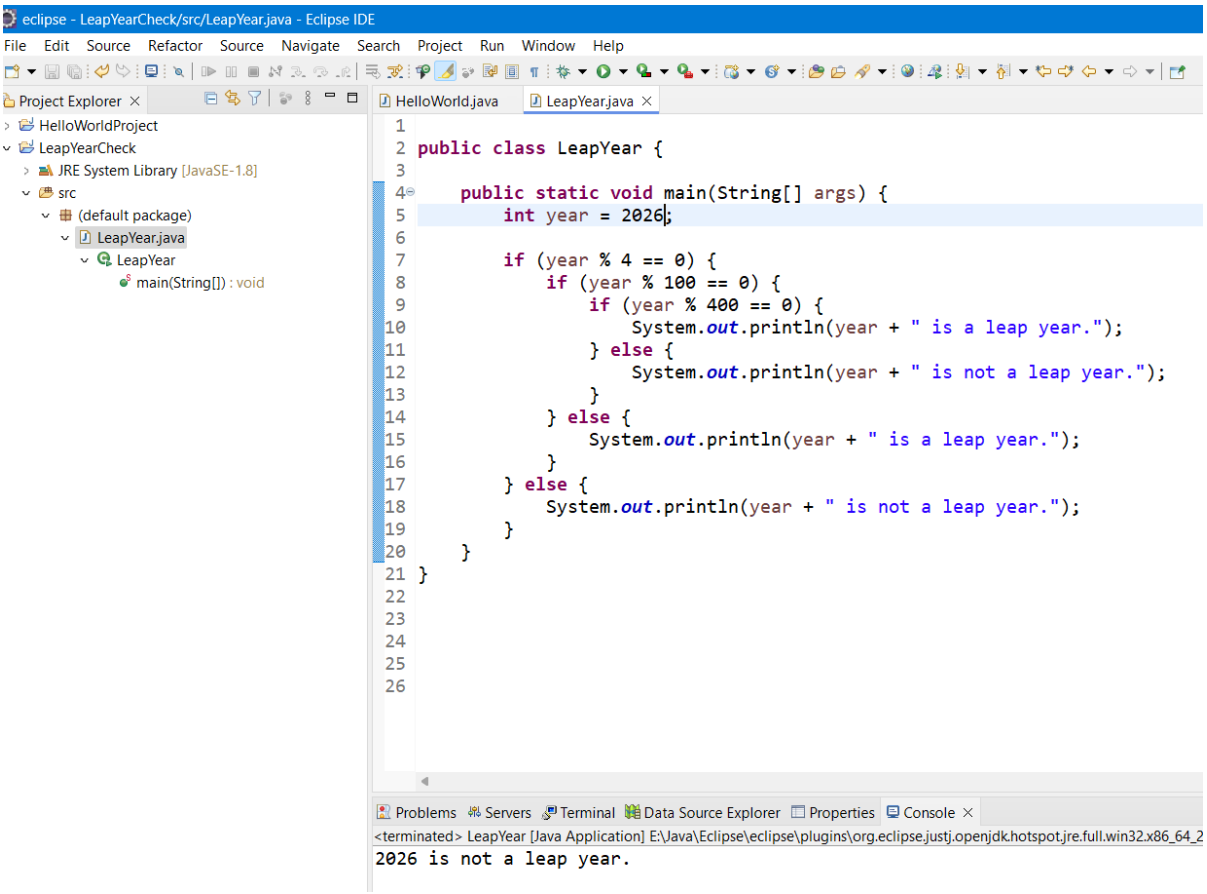
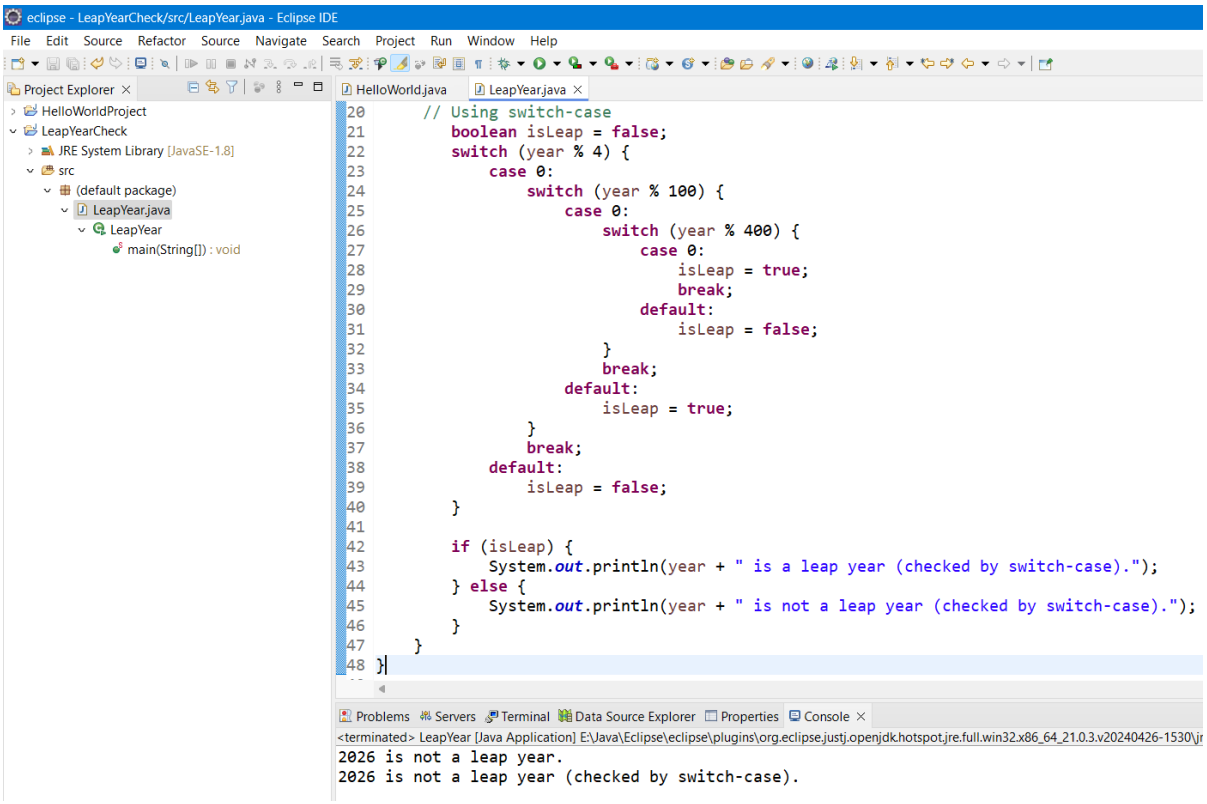
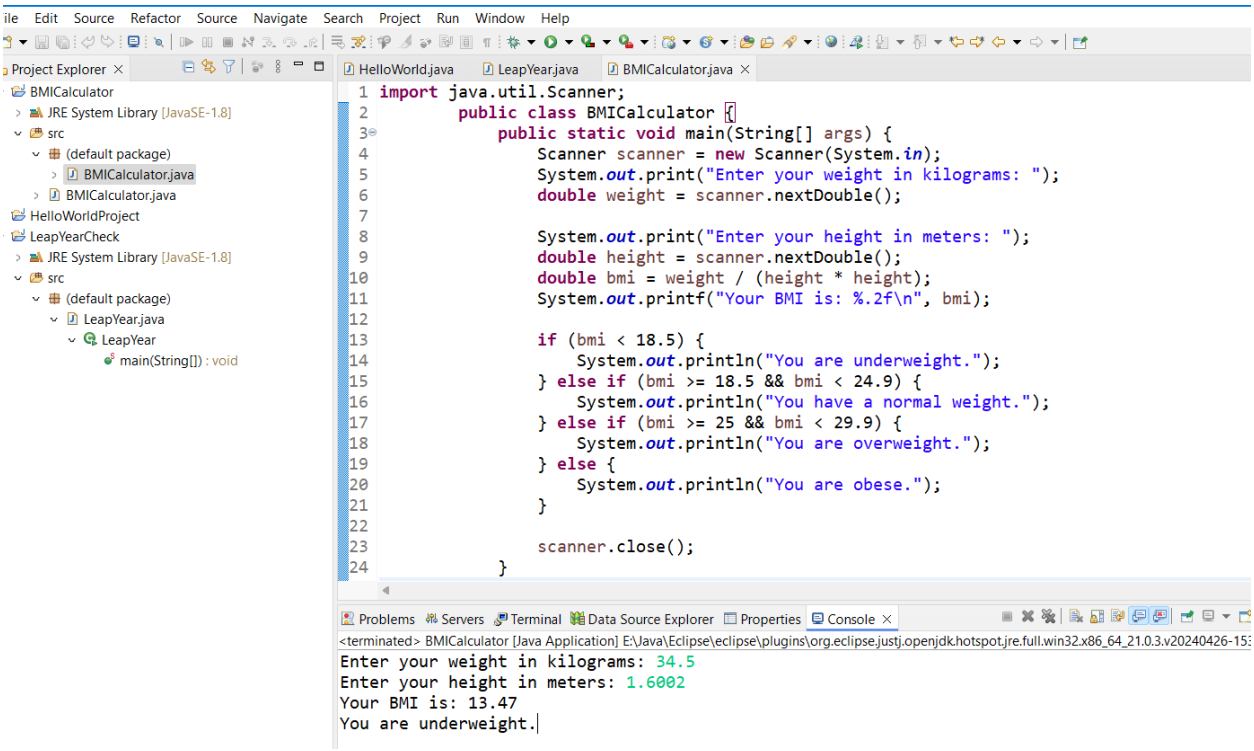
Assignment – 2

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

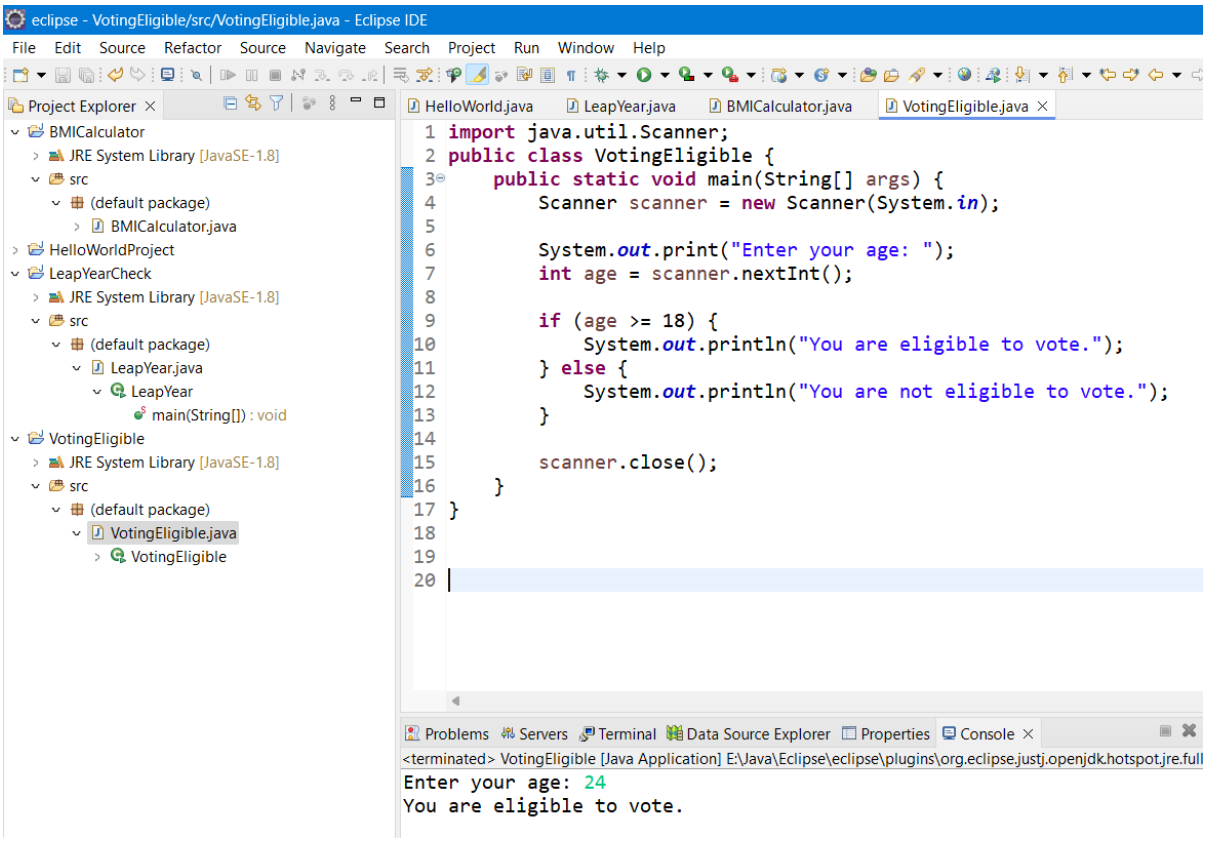




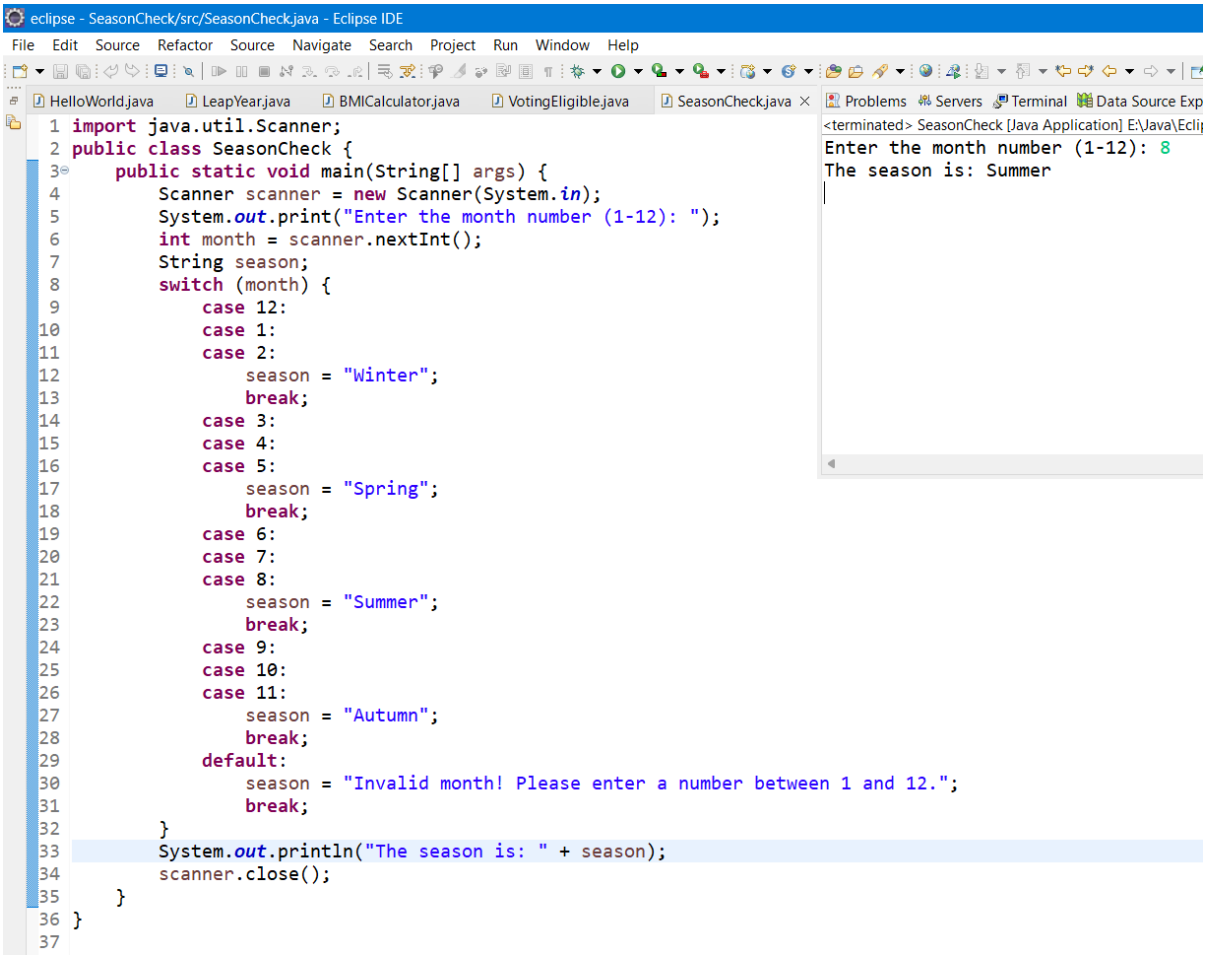
2. Implement a program that calculates the BMI based on height and weight input using if-else to classify the BMI int categories (underweight, overweight, normal weight, etc).



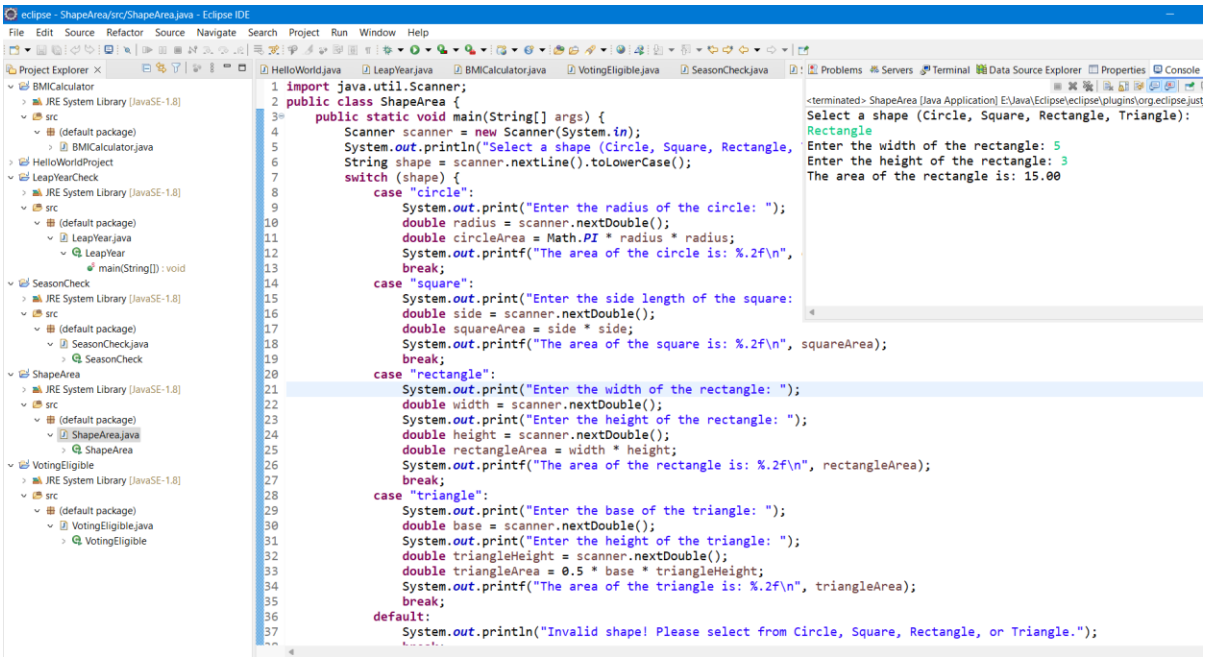
3. Write a program to check if a person is eligible to vote based on their age.



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



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


eclipse - ShapeArea/src/ShapeArea.java - Eclipse IDE
File Edit Source Refactor Source Navigate Search Project Run Window Help
Project Explorer
BMICalculator
JRE System Library [JavaSE-1.8]
src
(default package)
BMICalculator.java
HelloWorldProject
LeapYearCheck
JRE System Library [JavaSE-1.8]
src
(default package)
LeapYear.java
LeapYear
main(String[]) : void
SeasonCheck
JRE System Library [JavaSE-1.8]
src
(default package)
SeasonCheck.java
SeasonCheck
ShapeArea
JRE System Library [JavaSE-1.8]
src
(default package)
ShapeArea.java
ShapeArea
VotingEligible
JRE System Library [JavaSE-1.8]
src
(default package)
VotingEligible.java
VotingEligible
HelloWorld.java
LeapYear.java
BMICalculator.java
VotingEligible.java
SeasonCheck.java
1 import java.util.Scanner;
2 public class ShapeArea {
3 public static void main(String[] args) {
4 Scanner scanner = new Scanner(System.in);
5 System.out.println("Select a shape (Circle, Square, Rectangle,
6 String shape = scanner.nextLine().toLowerCase();
7 switch (shape) {
8 case "circle":
9 System.out.print("Enter the radius of the circle: ");
10 double radius = scanner.nextDouble();
11 double circleArea = Math.PI * radius * radius;
12 System.out.printf("The area of the circle is: %.2f\n",
13 break;
14 case "square":
15 System.out.print("Enter the side length of the square:
16 double side = scanner.nextDouble();
17 double squareArea = side * side;
18 System.out.printf("The area of the square is: %.2f\n", squareArea);
19 break;
20 case "rectangle":
21 System.out.print("Enter the width of the rectangle: ");
22 double width = scanner.nextDouble();
23 System.out.print("Enter the height of the rectangle: ");
24 double height = scanner.nextDouble();
25 double rectangleArea = width * height;
26 System.out.printf("The area of the rectangle is: %.2f\n", rectangleArea);
27 break;
28 case "triangle":
29 System.out.print("Enter the base of the triangle: ");
30 double base = scanner.nextDouble();
31 System.out.print("Enter the height of the triangle: ");
32 double triangleHeight = scanner.nextDouble();
33 double triangleArea = 0.5 * base * triangleHeight;
34 System.out.printf("The area of the triangle is: %.2f\n", triangleArea);
35 break;
36 default:
37 System.out.println("Invalid shape! Please select from Circle, Square, Rectangle, or Triangle.");
Problems Servers Terminal Data Source Explorer Properties Console
<terminated> ShapeArea [Java Application] E:\Java\Eclipse\eclipse\plugins\org.eclipse.just
Select a shape (Circle, Square, Rectangle, Triangle):
Rectangle
Enter the width of the rectangle: 5
Enter the height of the rectangle: 3
The area of the rectangle is: 15.00