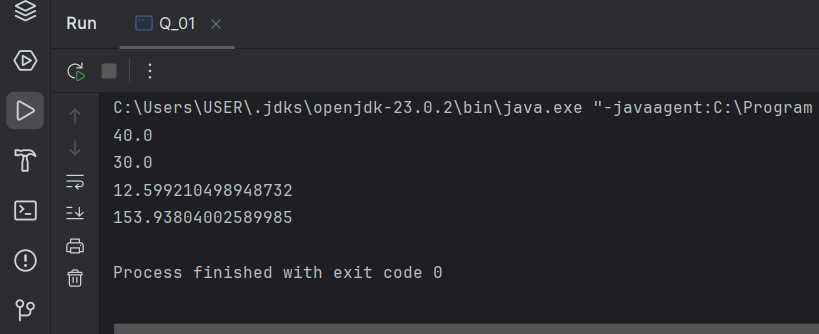
**Q1**

Code:

package Q\_01;  
  
public class Q\_01 {  
 public static void main(String[] args) {  
  
 // part a  
 int A = 10;  
 int B = 20;  
 int C = 30;  
  
 double answer\_a = Math.*sqrt*( Math.*pow*(B,2) + (4 \* A \* C) );  
 System.*out*.println(answer\_a);  
  
 // part b  
  
 int X = 400;  
 int Y = 5;  
  
 double answer\_b = Math.*sqrt*( (X + (4 \* Math.*pow*(Y,3)) ) );  
 System.*out*.println(answer\_b);  
  
 //part c  
  
 double answer\_c = Math.*cbrt*(X \* Y);  
 System.*out*.println(answer\_c);  
  
 // part d  
  
 int r = 7;  
 double answer\_d\_area = Math.*PI* \* Math.*pow*(r,2);  
 System.*out*.println(answer\_d\_area);   
 }  
}

Output:

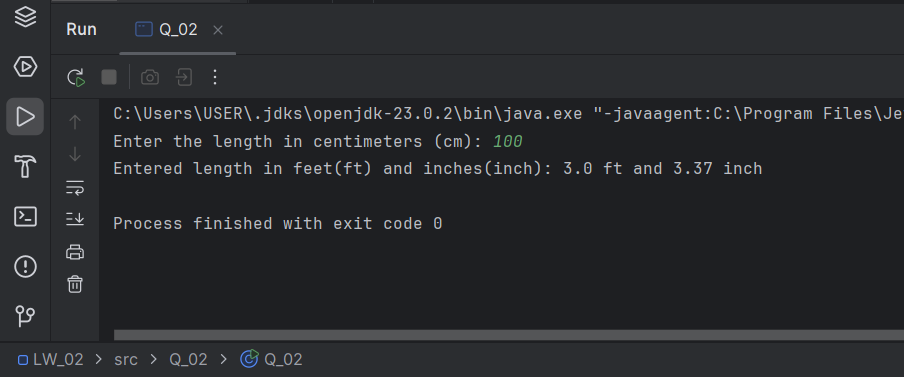


**Q2**

Code:

package Q\_02;  
  
import java.util.Scanner;  
  
public class Q\_02 {  
 public static void main(String[] args) {  
  
 Scanner scan = new Scanner(System.*in*);  
 System.*out*.print("Enter the length in centimeters (cm): ");  
  
 double cm = scan.nextDouble();  
  
 // 1 foot (ft) = 30.48 cm  
 // 1 inch = 2.54 cm  
  
 double ft, inch , remainder ;  
  
 ft = (int) (cm / 30.48);  
 remainder = cm % 30.48;  
 inch = remainder / 2.54;  
  
 System.*out*.printf("Entered length in feet(ft) and inches(inch): %.1f ft and %.2f inch%n", ft, inch);  
 }  
}

Output:



**Q3**

Code:

package Q\_03;  
  
import java.util.Scanner;  
  
public class Q\_03 {  
 public static void main(String[] args) {  
  
 Scanner input= new Scanner(System.*in*);  
 System.*out*.print("Enter the temperature in degrees of Celsius: ");  
  
 double cD = input.nextDouble();  
 double fD = (1.8 \* cD) + 32;  
  
 System.*out*.printf("Temperature in degrees of Fahrenheit: %.2f" ,fD );  
 }  
}

Output:

A screenshot of a computer program

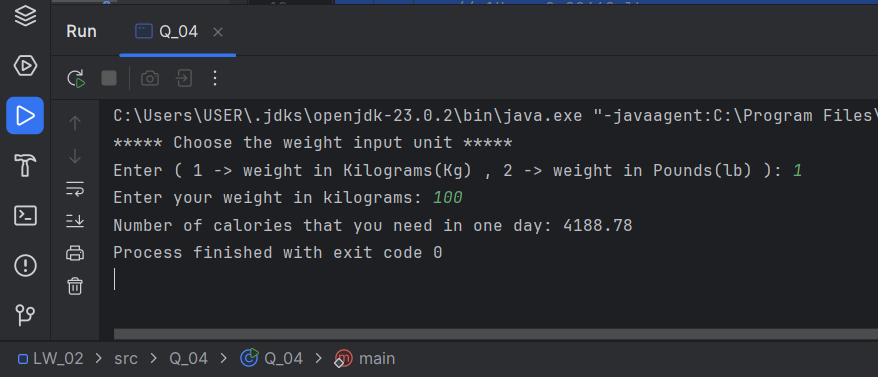
AI-generated content may be incorrect.

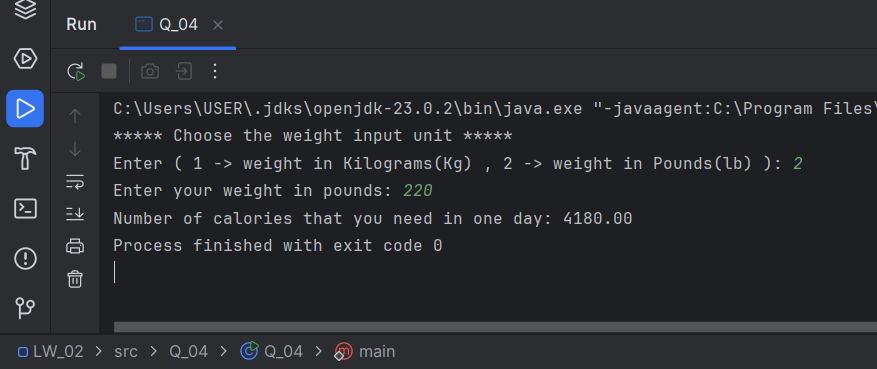
**Q4**

Code:

package Q\_04;  
  
import java.util.Scanner;  
  
public class Q\_04 {  
 public static void main(String[] args) {  
  
 double lb = 0;  
  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.println("\*\*\*\*\* Choose the weight input unit \*\*\*\*\*");  
 System.*out*.print("Enter ( 1 -> weight in Kilograms(Kg) , 2 -> weight in Pounds(lb) ): ");  
  
 int option = input.nextInt();  
  
 if (option == 1) {  
 System.*out*.print("Enter your weight in kilograms: ");  
 double kg = input.nextDouble();  
 // 1Kg = 2.20462 lb  
 lb = kg \* 2.20462;  
  
 } else if (option == 2) {  
 System.*out*.print("Enter your weight in pounds: ");  
 lb = input.nextDouble();  
  
 }  
 if (option == 1 || option == 2) {  
 double calories = lb \* 19;  
 System.*out*.printf("Number of calories that you need in one day: %.2f" , calories);  
  
 } else {  
 System.*out*.println("\*\*\*\*\* The value that you Entered is not an option. Try again. \*\*\*\*\*");  
 }  
 }  
}

Output:



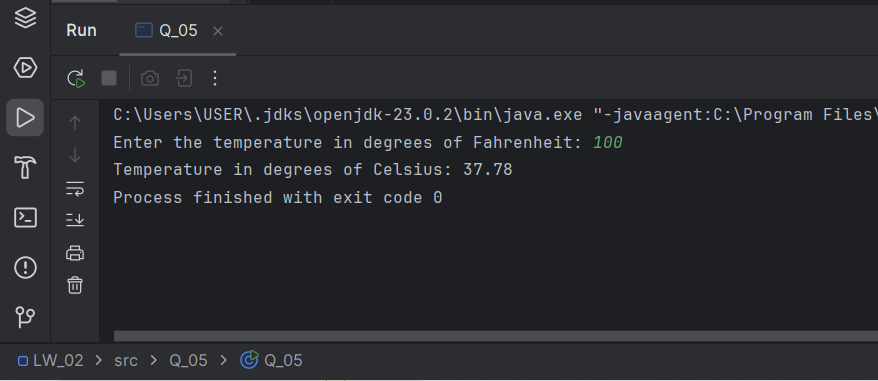


**Q5**

Code:

package Q\_05;  
  
import java.util.Scanner;  
  
public class Q\_05 {  
 public static void main(String[] args) {  
  
 Scanner input= new Scanner(System.*in*);  
 System.*out*.print("Enter the temperature in degrees of Fahrenheit: ");  
  
 double fD = input.nextDouble();  
 double cD = (5.0 / 9.0) \* ( fD - 32) ;  
  
 System.*out*.printf("Temperature in degrees of Celsius: %.2f" ,cD );  
 }  
}

Output:

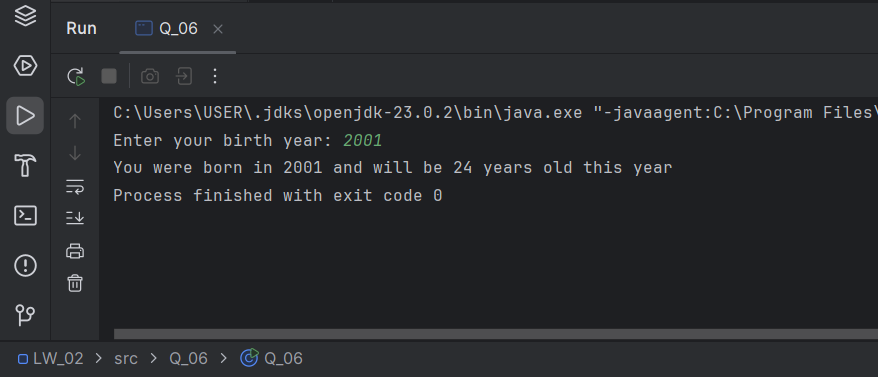


**Q6**

Code:

package Q\_06;  
  
import java.util.GregorianCalendar;  
import java.util.Scanner;  
  
public class Q\_06 {  
 public static void main(String[] args) {  
  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.print("Enter your birth year: ");  
 int b\_year = input.nextInt();  
  
 GregorianCalendar cal = new GregorianCalendar();  
 int current\_year = cal.get(GregorianCalendar.*YEAR*);  
 //System.out.print(current\_year);  
 int age = current\_year - b\_year;  
  
 System.*out*.printf("You were born in %d and will be %d years old this year", b\_year, age);  
 }  
}

Output:



**Q7**

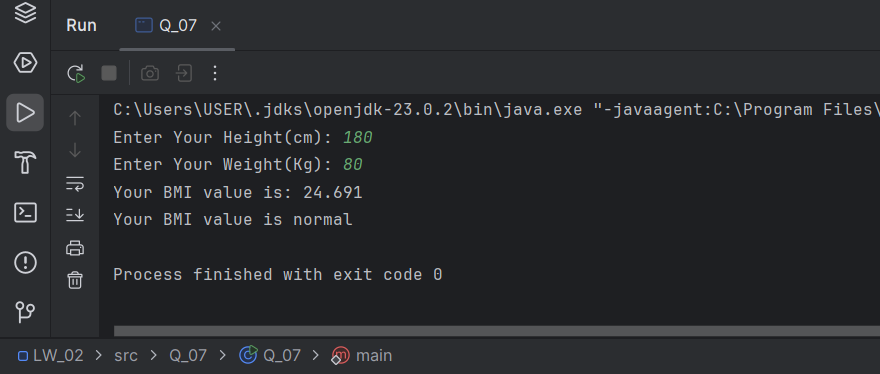
Code:

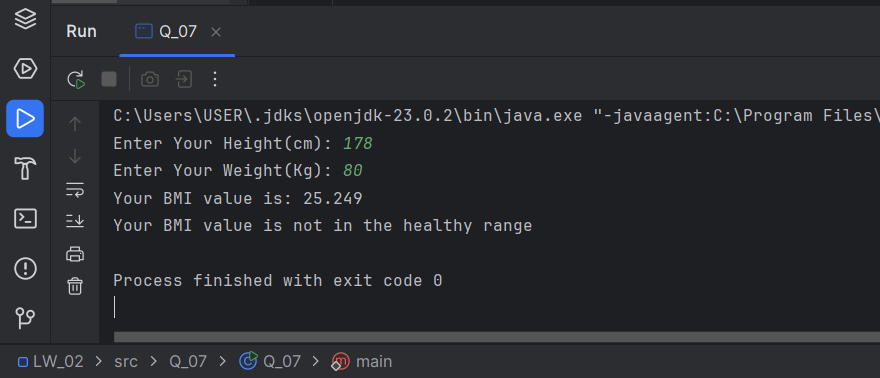
package Q\_07;  
  
import java.util.Scanner;  
  
public class Q\_07 {  
 public static void main(String[] args) {  
  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.print("Enter Your Height(cm): ");  
 int height = input.nextInt();  
  
 System.*out*.print("Enter Your Weight(Kg): ");  
 int weight = input.nextInt();  
  
 double BMI = weight / (Math.*pow*( (height / 100.0), 2));  
 System.*out*.printf("Your BMI value is: %.3f%n" ,BMI);  
  
 if (BMI >= 20 && BMI <= 25) {  
 System.*out*.println("Your BMI value is normal");

} else  
 System.*out*.println("Your BMI value is not in the healthy range");

}  
}

Output:



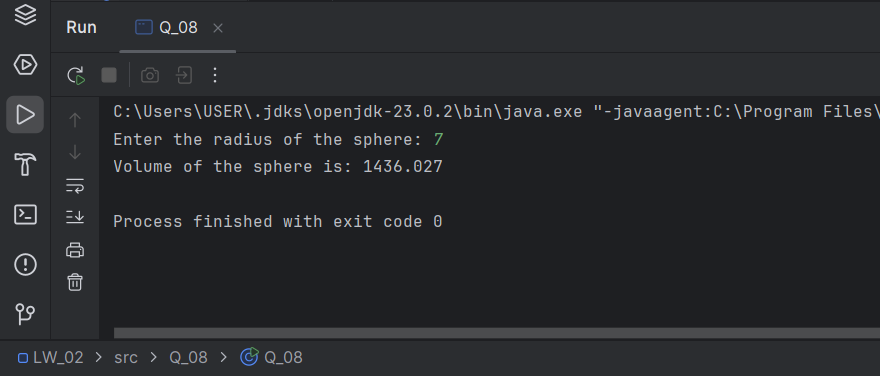


Q8

Code:

package Q\_08;  
  
import java.util.Scanner;  
  
public class Q\_08 {  
 public static void main(String[] args) {  
  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.print("Enter the radius of the sphere: ");  
 double r = input.nextDouble();  
  
 double PI = 3.14;  
 double v = (4.0 / 3.0) \* (PI \* Math.*pow*(r, 3));  
 System.*out*.printf("Volume of the sphere is: %.3f%n" ,v);  
 }  
}

Output:

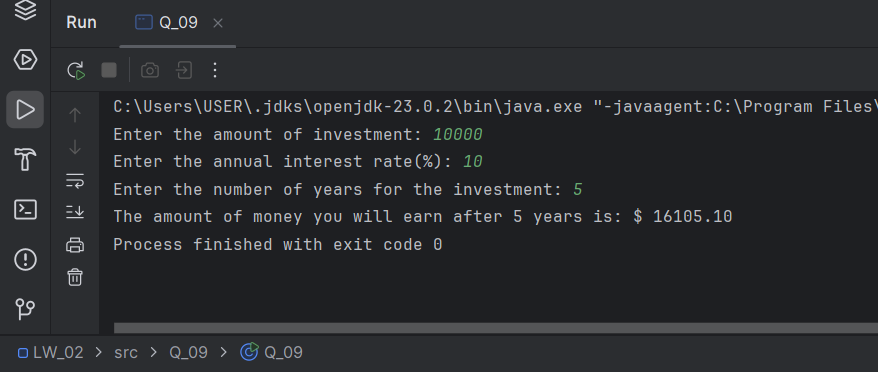


**Q9**

Code:

package Q\_09;  
  
import java.util.Scanner;  
  
public class Q\_09 {  
 public static void main(String[] args) {  
  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.print("Enter the amount of investment: ");  
 double P = input.nextDouble();  
  
 System.*out*.print("Enter the annual interest rate(%): ");  
 double R = input.nextDouble();  
  
 System.*out*.print("Enter the number of years for the investment: ");  
 double N = input.nextDouble();  
  
 double grow = P \* (Math.*pow* ( (1 + (R / 100)), N));  
   
 System.*out*.printf("The amount of money you will earn after %.0f years is: $ %.2f" , N, grow);  
 }  
}

Output:



**Q10**

Code:

package Q\_10;  
  
import java.util.Scanner;  
  
public class Q\_10 {  
 public static void main(String[] args) {  
  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.print("Enter the loan amount: ");  
 double l\_amount = input.nextDouble();  
  
 System.*out*.print("Enter the annual interest rate(%): ");  
 double a\_i\_rate = input.nextDouble();  
  
 System.*out*.print("Enter the loan period(in years): ");  
 double l\_period = input.nextDouble();  
 double months = 12.0;  
  
 System.*out*.println("\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*");  
  
 double m\_i\_rate = (a\_i\_rate / 100.0 / months) ;  
 System.*out*.printf("The monthly interest rate for the loan: %.6f%%%n", m\_i\_rate);  
  
 double no\_payments = (l\_period \* months);  
 System.*out*.printf("Number of payments: %.0f%n", no\_payments);  
  
 double m\_payment = (l\_amount \* m\_i\_rate) / (1 - Math.*pow*( (1 / (1 + m\_i\_rate)), no\_payments));  
 System.*out*.printf("The monthly payment amount: $ %.2f%n", m\_payment);  
  
 double t\_payment = m\_payment \* no\_payments;  
 System.*out*.printf("The total payment amount: $ %.2f%n", t\_payment);  
  
 System.*out*.println("\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*");  
 }  
}

Output:

