Lab worksheet o2

Numerical Data

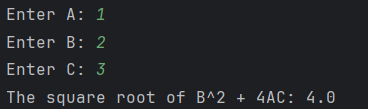
**01.**

**Code:**

package Q\_01;  
  
import java.util.Scanner;  
public class Que\_01 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
 // 01.a  
 System.*out*.print("Enter A: ");  
 double A = scanner.nextDouble();  
 System.*out*.print("Enter B: ");  
 double B = scanner.nextDouble();  
 System.*out*.print("Enter C: ");  
 double C = scanner.nextDouble();  
 double resultA = Math.*sqrt*(Math.*pow*(B, 2) + (4\*A\*C));  
 System.*out*.println("The square root of B^2 + 4AC: " + resultA);  
 //01.b  
 System.*out*.print("Enter X: ");  
 double X = scanner.nextDouble();  
 System.*out*.print("Enter Y: ");  
 double Y = scanner.nextDouble();  
 double resultB = Math.*sqrt*(X + 4 \* Math.*pow*(Y, 3));  
 System.*out*.println("The square root of X + 4Y^3: " + resultB);  
 //01.c  
 double resultC = Math.*cbrt*(X \* Y);  
 System.*out*.println("The cube root of the product of X and Y: " + resultC);  
 //01.d  
 System.*out*.print("Enter Radius: ");  
 double radius= scanner.nextDouble();  
 final double PI=3.14;  
 double area = PI \* Math.*pow*(radius,2) ;  
 System.*out*.print("The area of circle: "+ area);  
 scanner.close();  
 }  
}

**Output:**

**a)**

****

**b)**

**A black background with white text

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**c)**

****

**d)**

**A black background with white text and green triangle

AI-generated content may be incorrect.**

**Q\_02**

**Code:**

package Q\_02;  
import java.util.Scanner;  
  
 public class Que\_02 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.print("Enter length in cm: ");  
 double cm = scanner.nextDouble();  
  
 double inches = cm / 2.54;  
 int feet = (int) (inches / 12);  
 inches %= 12;  
  
 System.*out*.printf("%.2f cm is %d feet %.2f inches%n", cm, feet, inches);  
 scanner.close();  
 }  
 }

**Output:**

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AI-generated content may be incorrect.**

**Q\_03**

**Code:**

package Q\_03;  
  
import java.util.Scanner;  
  
public class Que\_03 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
   
 System.*out*.print("Enter temperature in Celsius: ");  
 double celsius = scanner.nextDouble();  
  
   
 double fahrenheit = (1.8 \* celsius) + 32;  
  
   
 System.*out*.printf("Temperature in Fahrenheit: %.2f°F%n", fahrenheit);  
  
   
 scanner.close();  
 }  
}

**Output:  
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AI-generated content may be incorrect.**

**Q\_04.**

**Code:**

package Q\_04;  
import java.util.Scanner;  
  
public class Que\_04 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.print("Enter weight in pounds: ");  
 double weight = scanner.nextDouble();  
  
 double calories = weight \* 19;  
  
 System.*out*.printf("Daily calorie requirement: %.2f calories%n", calories);  
 scanner.close();  
 }  
}

**Output:**

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AI-generated content may be incorrect.**

**Q\_05**

**Code:**

package Q\_05;  
import java.util.Scanner;  
  
public class Que\_05 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.print("Enter temperature in Fahrenheit: ");  
 double fahrenheit = scanner.nextDouble();  
  
 double celsius = (5.0 / 9.0) \* (fahrenheit - 32);  
  
 System.*out*.printf("Temperature in Celsius: %.2f°C%n", celsius);  
 scanner.close();  
 }  
}

**Output:**

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AI-generated content may be incorrect.**

**Q\_06**

**Code:**

package Q\_06;  
import java.util.Scanner;  
import java.time.Year;  
  
public class Que\_06{  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
   
 int currentYear = Year.*now*().getValue();  
  
   
 System.*out*.print("Enter your birth year: ");  
 int birthYear = scanner.nextInt();  
  
   
 int age = currentYear - birthYear;  
  
   
 System.*out*.printf("You were born in %d and will be (are) %d this year.%n", birthYear, age);  
  
 scanner.close();  
 }  
}

**Output:**

**A black background with white text

AI-generated content may be incorrect.**

**Q\_07**

**Code:**

package Q\_07;  
import java.util.Scanner;  
  
public class Que\_07 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
  
 System.*out*.print("Enter weight (kg): ");  
 double weight = scanner.nextDouble();  
  
  
 System.*out*.print("Enter height (cm): ");  
 double height = scanner.nextDouble();  
  
  
 double bmi = weight / Math.*pow*(height / 100.0, 2);  
  
   
 System.*out*.printf("Your BMI is: %.2f%n", bmi);  
  
 scanner.close();  
 }  
}

**Output:**

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AI-generated content may be incorrect.**

**Q\_08**

**Code:** package Q\_08;  
import java.util.Scanner;  
  
public class Que\_08 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
  
 System.*out*.print("Enter the radius of the sphere: ");  
 double radius = scanner.nextDouble();  
  
 double volume = (4.0 / 3.0) \* Math.*PI* \* Math.*pow*(radius, 3);  
  
  
 System.*out*.printf("The volume of the sphere is: %.2f%n", volume);  
  
 scanner.close();  
 }  
}

**Output:**

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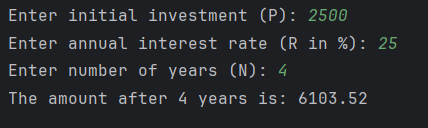
AI-generated content may be incorrect.**

**Q\_09**

**Code:**

package Q\_09;  
import java.util.Scanner;  
  
public class Que\_09 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
  
 System.*out*.print("Enter initial investment (P): ");  
 double P = scanner.nextDouble();  
  
 System.*out*.print("Enter annual interest rate (R in %): ");  
 double R = scanner.nextDouble();  
  
 System.*out*.print("Enter number of years (N): ");  
 int N = scanner.nextInt();  
  
  
 double finalAmount = P \* Math.*pow*(1 + (R / 100), N);  
  
   
 System.*out*.printf("The amount after %d years is: %.2f%n", N, finalAmount);  
  
 scanner.close();  
 }  
}

**Output:**

****

**Q\_10**

**Code:**

package Q\_10;  
import java.util.Scanner;  
  
public class Que\_10 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
  
 final int MONTHS\_IN\_YEAR = 12;  
  
  
 System.*out*.print("Enter loan amount: ");  
 double loanAmount = scanner.nextDouble();  
  
 System.*out*.print("Enter annual interest rate (in %): ");  
 double annualInterestRate = scanner.nextDouble();  
  
 System.*out*.print("Enter loan period (years): ");  
 int loanPeriod = scanner.nextInt();  
  
  
 double monthlyInterestRate = annualInterestRate / 100.0 / MONTHS\_IN\_YEAR;  
  
  
 int numberOfPayments = loanPeriod \* MONTHS\_IN\_YEAR;  
  
  
 double monthlyPayment = (loanAmount \* monthlyInterestRate) /  
 (1 - Math.*pow*(1 + monthlyInterestRate, -numberOfPayments));  
  
  
 double totalPayment = monthlyPayment \* numberOfPayments;  
  
 System.*out*.printf("Monthly Payment: %.2f%n", monthlyPayment);  
 System.*out*.printf("Total Payment: %.2f%n", totalPayment);  
  
 scanner.close();  
 }  
}

**Output:**

**A screen shot of a computer

AI-generated content may be incorrect.**

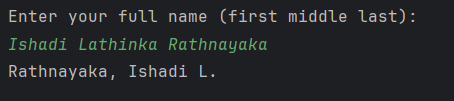
**LW\_01 Error Correction**

**Q\_11**

**Code:**

package Q\_11;  
  
  
import java.util.Scanner;  
  
public class Que\_11 {  
  
 public static void main(String[] args) {  
  
 Scanner scanner = new Scanner(System.*in*);  
  
 System.*out*.println("Enter your full name (first middle last):");  
 String fullName = scanner.nextLine();  
  
 String[] nameParts = fullName.split(" ");  
  
 if (nameParts.length == 3) {  
  
 String firstName = nameParts[0];  
 String middleName = nameParts[1];  
 String lastName = nameParts[2];  
  
 String middleInitial = middleName.substring(0, 1).toUpperCase() + ".";  
  
  
 System.*out*.println(lastName + ", " + firstName + " " + middleInitial);  
 } else {  
  
 System.*out*.println("Please enter your full name in the format: first middle last.");  
 }  
  
  
 scanner.close();  
 }  
}

**Output:**

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