**LAB 1**

**1.Write a Java program to print "Hello, World!" to the console.**

**Program:**

**package** lab1;

**public** **class** HelloWorld {

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

System.***out***.println("Hello, World!");

}

}

**Output:**

A screen shot of a computer

Description automatically generated

**2.Write a program to find the sum of two numbers entered by the user.  
Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** SumOfTwoNumbers {

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

// Create a Scanner object to read input from the user

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

// Prompt the user to enter the first number

System.***out***.print("Enter the first number: ");

**double** num1 = scanner.nextDouble(); // Read the first number

// Prompt the user to enter the second number

System.***out***.print("Enter the second number: ");

**double** num2 = scanner.nextDouble(); // Read the second number

// Calculate the sum of the two numbers

**double** sum = num1 + num2;

// Print the result

System.***out***.println("The sum of " + num1 + " and " + num2 + " is: " + sum);

// Close the scanner to prevent resource leak

scanner.close();

}

}

**Output:**

A screenshot of a computer

Description automatically generated

**3.Write a Java program to check whether a given number is even or odd.**

**Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** EvenOrOdd {

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

// Create a Scanner object to read input from the user

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

// Prompt the user to enter a number

System.***out***.print("Enter a number: ");

**int** number = scanner.nextInt(); // Read the number

// Check if the number is even or odd

**if** (number % 2 == 0) {

System.***out***.println(number + " is even.");

} **else** {

System.***out***.println(number + " is odd.");

}

// Close the scanner to prevent resource leak

scanner.close();

}

}

**Output:**

A screenshot of a computer

Description automatically generated

**4.Write a java program to find greatest of 2 numbers.**

**Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** GreatestOfTwoNumbers {

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

// Create a Scanner object to read input from the user

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

// Prompt the user to enter the first number

System.***out***.print("Enter the first number: ");

**double** num1 = scanner.nextDouble(); // Read the first number

// Prompt the user to enter the second number

System.***out***.print("Enter the second number: ");

**double** num2 = scanner.nextDouble(); // Read the second number

// Find the greatest of the two numbers

**double** greatest = num1 > num2 ? num1 : num2;

// Print the result

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

// Close the scanner to prevent resource leak

scanner.close();

}

}

**Output:**

A screenshot of a computer

Description automatically generated

**5.Write a program to implement a basic calculator that takes input as a string expression and evaluates it.**

**Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** BasicCalculator {

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

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

System.***out***.print("Enter an expression: ");

String expression = scanner.nextLine();

// Split the expression into operands and operator

String[] tokens = expression.split(" ");

**double** num1 = Double.*parseDouble*(tokens[0]);

**double** num2 = Double.*parseDouble*(tokens[2]);

**char** operator = tokens[1].charAt(0);

**double** result = 0;

// Perform the operation based on the operator

**switch** (operator) {

**case** '+':

result = num1 + num2;

**break**;

**case** '-':

result = num1 - num2;

**break**;

**case** '\*':

result = num1 \* num2;

**break**;

**case** '/':

**if** (num2 != 0) {

result = num1 / num2;

} **else** {

System.***out***.println("Error: Division by zero");

**return**;

}

**break**;

**default**:

System.***out***.println("Error: Invalid operator");

**return**;

}

// Print the result

System.***out***.println("Result: " + result);

scanner.close();

}

}

**Output:**

**A screenshot of a computer

Description automatically generated**

**6.Write a Java program to check if a given number is even or odd.**

**Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** EvenOrOdd {

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

// Create a Scanner object to read input from the user

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

// Prompt the user to enter a number

System.***out***.print("Enter a number: ");

**int** number = scanner.nextInt(); // Read the number

// Check if the number is even or odd

**if** (number % 2 == 0) {

System.***out***.println(number + " is even.");

} **else** {

System.***out***.println(number + " is odd.");

}

// Close the scanner to prevent resource leak

scanner.close();

}

}

**Output:**

A screenshot of a computer

Description automatically generated

**7.Create a Java program that compares two numbers and prints the larger one.**

**Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** LargerNumber {

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

// Create a Scanner object to read input from the user

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

// Prompt the user to enter the first number

System.***out***.print("Enter the first number: ");

**double** num1 = scanner.nextDouble(); // Read the first number

// Prompt the user to enter the second number

System.***out***.print("Enter the second number: ");

**double** num2 = scanner.nextDouble(); // Read the second number

// Compare the two numbers and find the larger one

**double** largerNumber = num1 > num2 ? num1 : num2;

// Print the larger number

System.***out***.println("The larger number is: " + largerNumber);

// Close the scanner to prevent resource leak

scanner.close();

}

}

**Output:**

A screenshot of a computer

Description automatically generated

**8.Write a Java program that takes an age input from the user and determines if they are eligible to vote (considering the legal voting age).**

**Program:**

**package** lab1;

**import** java.util.Scanner;

**public** **class** EligibleToVote {

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

// Define the legal voting age

**final** **int** VOTING\_AGE = 18;

// Create a Scanner object to read input from the user

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

// Prompt the user to enter their age

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

**int** age = scanner.nextInt(); // Read the age input

// Check if the user's age is greater than or equal to the legal voting age

**if** (age >= VOTING\_AGE) {

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

} **else** {

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

}

// Close the scanner to prevent resource leak

scanner.close();

}

}

**Output:**

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