1. Simple calculator application.

import java.util.Scanner;

public class SimpleCalculator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Simple Calculator");

System.out.println("Available Operations:");

System.out.println("1. Addition (+)");

System.out.println("2. Subtraction (-)");

System.out.println("3. Multiplication (\*)");

System.out.println("4. Division (/)");

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

double num1 = scanner.nextDouble();

System.out.print("Enter the operation (1, 2, 3, or 4): ");

int operation = scanner.nextInt();

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

double num2 = scanner.nextDouble();

double result = 0.0;

String operator = "";

switch (operation) {

case 1:

result = num1 + num2;

operator = "+";

break;

case 2:

result = num1 - num2;

operator = "-";

break;

case 3:

result = num1 \* num2;

operator = "\*";

break;

case 4:

if (num2 == 0) {

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

return;

}

result = num1 / num2;

operator = "/";

break;

default:

System.out.println("Invalid operation");

return;

}

System.out.println("Result: " + num1 + " " + operator + " " + num2 + " = " + result);

}

}

1. Number guessing game.

import java.util.Random;

import java.util.Scanner;

public class NumberGuessingGame {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

Random random = new Random();

int lowerBound = 1; // Define the lower bound of the range

int upperBound = 100; // Define the upper bound of the range

int numberToGuess = random.nextInt(upperBound - lowerBound + 1) + lowerBound;

int numberOfAttempts = 0;

System.out.println("Welcome to the Number Guessing Game!");

System.out.println("I have selected a random number between " + lowerBound + " and " + upperBound + ". Try to guess it.");

while (true) {

System.out.print("Enter your guess: ");

int userGuess = scanner.nextInt();

numberOfAttempts++;

if (userGuess < lowerBound || userGuess > upperBound) {

System.out.println("Please enter a valid number within the range.");

} else if (userGuess < numberToGuess) {

System.out.println("Too low. Try again.");

} else if (userGuess > numberToGuess) {

System.out.println("Too high. Try again.");

} else {

System.out.println("Congratulations! You guessed the correct number, which was " + numberToGuess + ".");

System.out.println("Number of attempts: " + numberOfAttempts);

break;

}

}

scanner.close();

}

}