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import java.util.Scanner;

public class ModularCalculator {

    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        int choice;
        double n1, n2, result;

        do {
            System.out.println("--- Modular Calculator Menu ---");
            System.out.println("1:ADD");
            System.out.println("2:SUBTRACT");
            System.out.println("3:MULTIPLY");
            System.out.println("4:DIVIDE");
            System.out.println("5:EXIT");
            System.out.print("Choose an option: ");
            choice = scan.nextInt();

            if (choice >= 1 && choice <= 4) {
                System.out.print("Enter first number: ");
                n1 = scan.nextDouble();
                System.out.print("Enter second number: ");
                n2 = scan.nextDouble();

                result = 0;
                boolean valid = true;

                switch (choice) {
                    case 1: result = add(n1, n2);
                        break;
                    case 2: result = subtract(n1, n2);
                        break;
                    case 3: result = multiply(n1, n2);
                        break;
                    case 4:
                        if (n2 != 0) result = divide(n1, n2);
                        else {
                            System.out.println("Error: Cannot divide by zero.");
                            valid = false;
                        }
                        break;
                }

                if (valid) System.out.println("The result is: " + result);
            }
        } while (choice != 5);
    }
}

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    }  
    } while (choice != 5);  
  
    System.out.println("PROGRAM ENDED.");  
    scan.close();  
}  
  
public static double add(double a, double b) { return a + b; }  
public static double subtract(double a, double b) { return a - b; }  
public static double multiply(double a, double b) { return a * b; }  
public static double divide(double a, double b) { return a / b; }  
}
```