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Assignment -2

Project Title Calculator Application Using Method Overloading

Code:

```
import java.util.Scanner;

public class Calculator {

   public void performAddition(int a, int b) {
      int result = a + b;
      System.out.println("Addition: " + result);
   }

   public void performAddition(double a, double b) {
      double result = a + b;
      System.out.println("Addition: " + result);
   }

   public void performAddition(int a, int b, int c) {
      int result = a + b + c;
      System.out.println("Addition: " + result);
   }

   public void performSubtraction(int a, int b) {
      int result = a - b;
      System.out.println("Subtraction: " + result);
   }

   public void performMultiply(int a, int b) {
      int result = a * b;
      System.out.println("Multiplication: " + result);
   }

   public void performDivision(int a, int b) {
      if (b != 0) {
```

```
        int result = a / b;
        System.out.println("Division: " + result);
    } else {
        System.out.println("Invalid input: Cannot divide by zero.");
    }
}

public void mainMenu() {
    System.out.println(" Welcome to the Calculator ");
    System.out.println("1. Addition");
    System.out.println("2. Subtraction");
    System.out.println("3. Multiplication");
    System.out.println("4. Division");
    System.out.println("5. Exit");
}

public static void main(String[] args) {
    Scanner obj = new Scanner(System.in);
    Calculator calc = new Calculator();

    calc.mainMenu();
    System.out.print("Enter your choice: ");
    int choice = obj.nextInt();

    if (choice == 1) {
        System.out.print("Enter your 1st number: ");
        int a = obj.nextInt();
        System.out.print("Enter your 2nd number: ");
        int b = obj.nextInt();
        System.out.print("Do you want to add a 3rd number? (yes/no): ");
        String ans = obj.next();

        if (ans.equalsIgnoreCase("yes")) {
            System.out.print("Enter your 3rd number: ");
            int c = obj.nextInt();
            calc.performAddition(a, b, c);
        } else {
            calc.performAddition(a, b);
        }
    }
```

```
        if (choice == 2) {
            System.out.print("Enter your 1st number: ");
            int a = obj.nextInt();
            System.out.print("Enter your 2nd number: ");
            int b = obj.nextInt();
            calc.performSubtraction(a, b);
        }

        if (choice == 3) {
            System.out.print("Enter your 1st number: ");
            int a = obj.nextInt();
            System.out.print("Enter your 2nd number: ");
            int b = obj.nextInt();
            calc.performMultiply(a, b);
        }

        if (choice == 4) {
            System.out.print("Enter your 1st number: ");
            int a = obj.nextInt();
            System.out.print("Enter your 2nd number: ");
            int b = obj.nextInt();
            calc.performDivision(a, b);
        }

        if (choice == 5) {
            System.out.println("Thank You for Choosing");
            System.exit(0);
        }
    }
}
```

Output:

```
 Welcome to the Calculator
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Exit
```

Enter your choice: 2
Enter your 1st number: 11
Enter your 2nd number: 5
Subtraction: 6

Process finished with exit code 0