https://github.com/Raykarr/Calculator

```
// Name: KAUSTUBH RAYKAR
// PRN: 21070126048
// Batch: AIML A3

public class Calculator {
  public double performAddition(double[] numbers) {
    return numbers[0] + numbers[1];
  }

  public double performSubtraction(double[] numbers) {
    return numbers[0] - numbers[1];
  }

  public double performMultiplication(double[] numbers) {
    return numbers[0] * numbers[1];
  }

  public double performDivision(double[] numbers) {
    return numbers[0] / numbers[1];
  }

  public double sumArray(double[] array) {
    double sum = 0;
    for (double num : array) {
      sum += num;
    }
    return sum;
  }

  public double varianceArray(double[] array) {
    double mean = sumArray(array) / array.length;
    double variance = 0;
    for (double num : array) {
      variance += Math.pow(num - mean, 2);
    }
    return variance / array.length;
  }

  public double standardDeviationArray(double[] array) {
    return Math.sqrt(varianceArray(array));
  }
}
```

```
// Name: KAUSTUBH RAYKAR
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import java.util.Scanner;

public class Main {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    UserInput userInput = new UserInput();

    System.out.println("Enter two numbers for basic operations: ");
    double[] numbers = userInput.getTwoNumbers(sc);

    Calculator calculator = new Calculator();
    double resultAdd = calculator.performAddition(numbers);
    double resultSubtract = calculator.performSubtraction(numbers);
    double resultMultiply = calculator.performMultiplication(numbers);
    double resultDivide = calculator.performDivision(numbers);

    System.out.println("Addition: " + resultAdd);
    System.out.println("Subtraction: " + resultSubtract);
    System.out.println("Multiplication: " + resultMultiply);
    System.out.println("Division: " + resultDivide);

    System.out.println("Enter size of array: ");
    int size = sc.nextInt();
    double[] array = userInput.getArray(sc, size);

    double sum = calculator.sumArray(array);
    double variance = calculator.varianceArray(array);
    double standardDeviation = calculator.standardDeviationArray(array);

    System.out.println("Sum of array: " + sum);
    System.out.println("Variance of array: " + variance);
    System.out.println("Standard deviation of array: " +
standardDeviation);
  }
}
```

```java
// Name: KAUSTUBH RAYKAR
// PRN: 21070126048
// Batch: AIML A3

import java.util.Scanner;

public class UserInput {
  public double[] getTwoNumbers(Scanner sc) {
    double[] numbers = new double[2];

    for (int i = 0; i < 2; i++) {
      System.out.print("Enter number " + (i + 1) + ": ");
      numbers[i] = sc.nextDouble();
    }

    return numbers;
  }

  public double[] getArray(Scanner sc, int size) {
    double[] array = new double[size];

    for (int i = 0; i < size; i++) {
      System.out.print("Enter element " + (i + 1) + ": ");
      array[i] = sc.nextDouble();
    }

    return array;
  }
}
```