Assignment-2

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1.

Main.java

Share Run

```java
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        int[] scores = new int[9];
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter 9 integer scores:");

        for (int i = 0; i < 9; i++) {
            scores[i] = scanner.nextInt();
        }

        System.out.println("Scores entered:");
        for (int score : scores) {
            System.out.print(score + " ");
        }
    }
}
```

Output

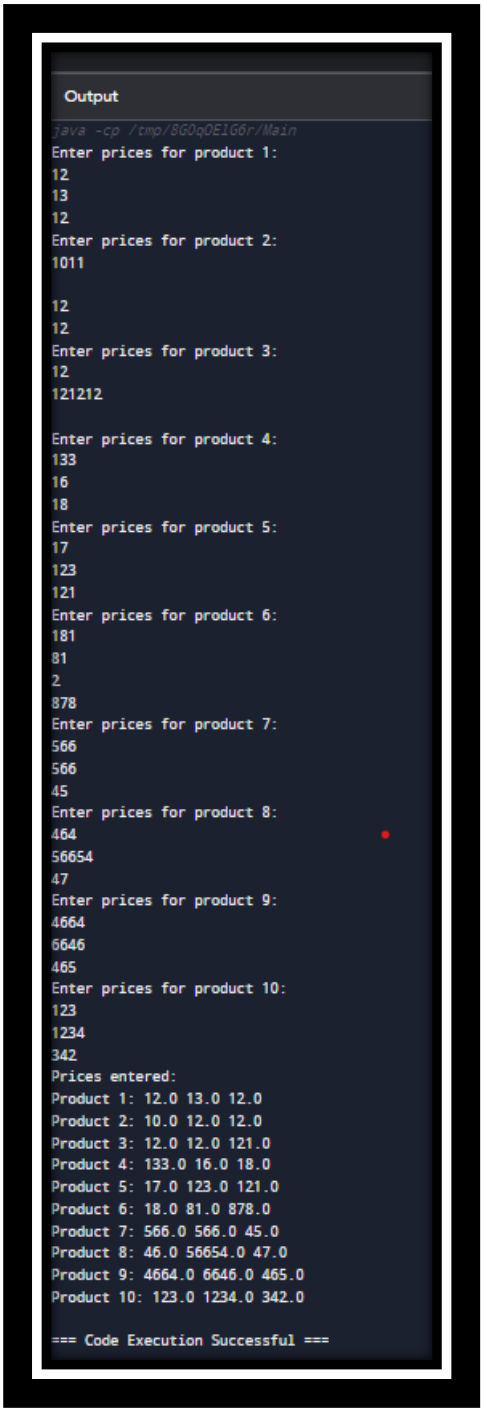
```
java -cp /tmp/A0YR18Qz8p/Main
Enter 9 integer scores:
10
2
3
4
56

7
7

8
6
7
Scores entered:
10 2 3 4 5 7 8 6 7
=== Code Execution Successful ===
```

2.

Main.java

Share Run

```java
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        float[][] price = new float[10][3];
        Scanner scanner = new Scanner(System.in);

        for (int i = 0; i < 10; i++) {
            System.out.println("Enter prices for product " + (i + 1) + ":");
            for (int j = 0; j < 3; j++) {
                price[i][j] = scanner.nextFloat();
            }
        }

        System.out.println("Prices entered:");
        for (int i = 0; i < 10; i++) {
            System.out.print("Product " + (i + 1) + ": ");
            for (int j = 0; j < 3; j++) {
                System.out.print(price[i][j] + " ");
            }
            System.out.println();
        }

        scanner.close();
    }
}
```


Output
java -cp /tmp/8G0qOE1G6r/Main
Enter prices for product 1:
12
13
12
Enter prices for product 2:
1011
12
12
Enter prices for product 3:
12
121212
Enter prices for product 4:
133
16
18
Enter prices for product 5:
17
123
121
Enter prices for product 6:
181
81
2
878
Enter prices for product 7:
566
566
45
Enter prices for product 8:
464
56654
47
Enter prices for product 9:
4664
6646
465
Enter prices for product 10:
123
1234
342
Prices entered:
Product 1: 12.0 13.0 12.0
Product 2: 10.0 12.0 12.0
Product 3: 12.0 12.0 121.0
Product 4: 133.0 16.0 18.0
Product 5: 17.0 123.0 121.0
Product 6: 18.0 81.0 878.0
Product 7: 566.0 566.0 45.0
Product 8: 46.0 56654.0 47.0
Product 9: 4664.0 6646.0 465.0
Product 10: 123.0 1234.0 342.0
=== Code Execution Successful ===

3.

Main.java

Share Run

```java
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        int[][] matrix = new int[][]{{5, 5, 5}, {5, 5, 5}, {5, 5, 5}, {5, 5, 5}};

        System.out.println("Output:");
        for (int i = 0; i < matrix.length; i++) {
            for (int j = 0; j < matrix[i].length; j++) {
                System.out.print(matrix[i][j] + " ");
            }
            System.out.println(); // Move to the next line after each row
        }
    }
}
```

Output

```
java -cp /tmp/7YAmAxdKID/Main
Output:
5 5 5
5 5 5
};5 5 5
5 5 5

=== Code Execution Successful ===
```

4.

Main.java

Share Run

```java
public class Main {
    public static void main(String[] args) {
        byte[] values = new byte[10]; // Declare the array of size 10

        // Initialize all entries to 1
        for (int i = 0; i < values.length; i++) {
            values[i] = 1;
        }

        // Print the array to verify
        for (byte value : values) {
            System.out.print(value + " ");
        }
    }
}
```

Output

```
java -cp /tmp/pjBCxmJFRp/Main
1 1 1 1 1 1 1 1 1 1
=== Code Execution Successful ===
```

5.

Main.java

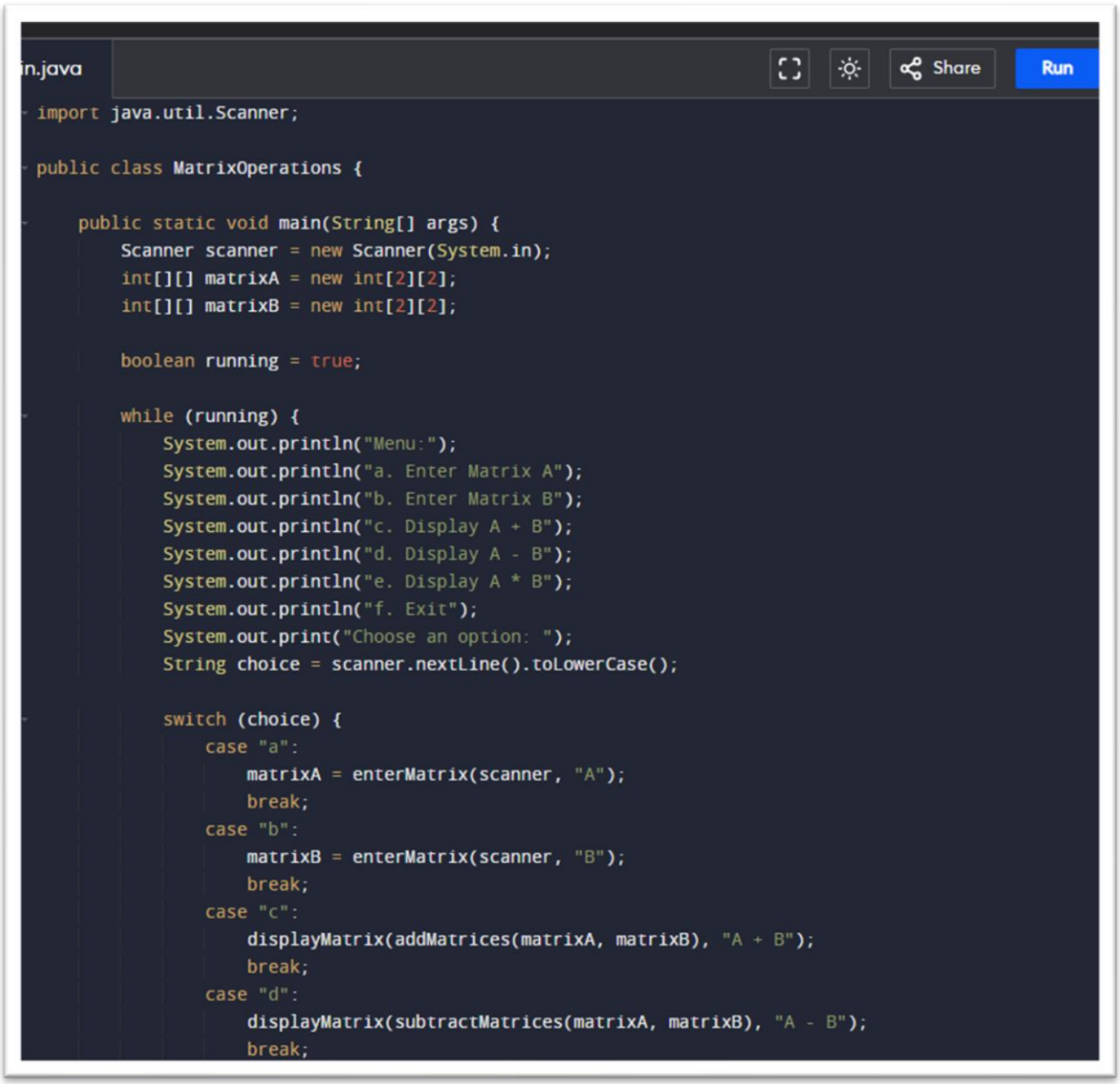
Share Run

```java
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int numberOfTests = 5;
        int[] scores = new int[numberOfTests];

        // Input test scores
        for (int i = 0; i < numberOfTests; i++) {
            System.out.print("Enter score for test " + (i + 1) + ": ");
            scores[i] = scanner.nextInt();
        }

        // Calculate average
        int total = 0;
        for (int score : scores) {
            total += score;
        }
        double average = (double) total / numberOfTests;

        // Output the average
        System.out.printf("The average score is: %.2f%n", average);
    }
}
```

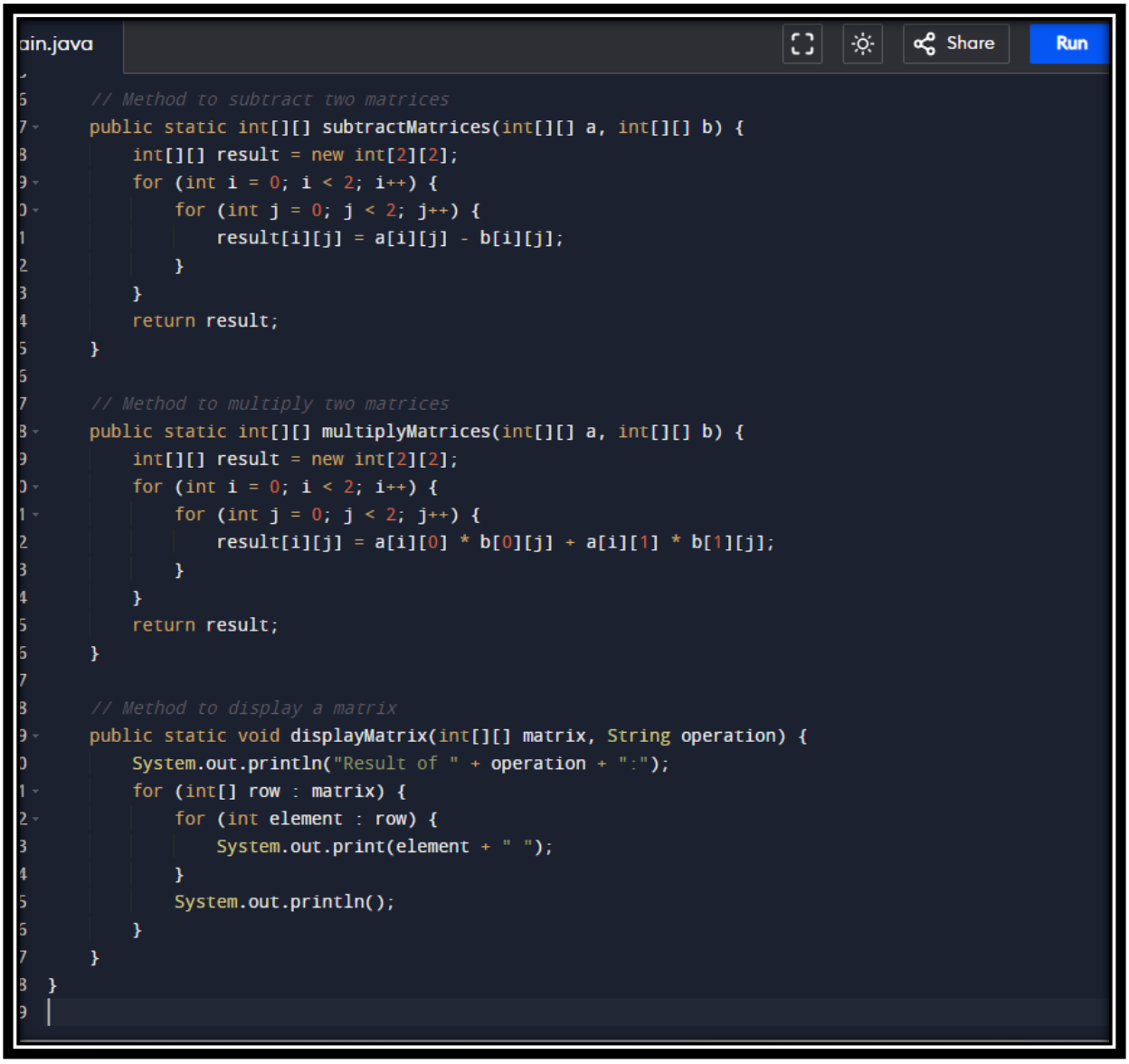
Output

```
java -cp /tmp/OOYPPXxGPU/Main
Enter score for test 1: 2
Enter score for test 2: 4
Enter score for test 3: 3
Enter score for test 4: 67
Enter score for test 5: 5
The average score is: 16.20

=== Code Execution Successful ===
```

8.



```java
import java.util.Scanner;

public class MatrixOperations {

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int[][] matrixA = new int[2][2];
        int[][] matrixB = new int[2][2];

        boolean running = true;

        while (running) {
            System.out.println("Menu:");
            System.out.println("a. Enter Matrix A");
            System.out.println("b. Enter Matrix B");
            System.out.println("c. Display A + B");
            System.out.println("d. Display A - B");
            System.out.println("e. Display A * B");
            System.out.println("f. Exit");
            System.out.print("Choose an option: ");
            String choice = scanner.nextLine().toLowerCase();

            switch (choice) {
                case "a":
                    matrixA = enterMatrix(scanner, "A");
                    break;
                case "b":
                    matrixB = enterMatrix(scanner, "B");
                    break;
                case "c":
                    displayMatrix(addMatrices(matrixA, matrixB), "A + B");
                    break;
                case "d":
                    displayMatrix(subtractMatrices(matrixA, matrixB), "A - B");
                    break;
```




```java
    // Method to subtract two matrices
    public static int[][] subtractMatrices(int[][] a, int[][] b) {
        int[][] result = new int[2][2];
        for (int i = 0; i < 2; i++) {
            for (int j = 0; j < 2; j++) {
                result[i][j] = a[i][j] - b[i][j];
            }
        }
        return result;
    }

    // Method to multiply two matrices
    public static int[][] multiplyMatrices(int[][] a, int[][] b) {
        int[][] result = new int[2][2];
        for (int i = 0; i < 2; i++) {
            for (int j = 0; j < 2; j++) {
                result[i][j] = a[i][0] * b[0][j] + a[i][1] * b[1][j];
            }
        }
        return result;
    }

    // Method to display a matrix
    public static void displayMatrix(int[][] matrix, String operation) {
        System.out.println("Result of " + operation + ":");
        for (int[] row : matrix) {
            for (int element : row) {
                System.out.print(element + " ");
            }
            System.out.println();
        }
    }
}
```

Output

```
java -cp /tmp/EUlCvbl5vV/MatrixOperations
Menu:
a. Enter Matrix A
b. Enter Matrix B
c. Display A + B
d. Display A - B
e. Display A * B
f. Exit
Choose an option: 2
Invalid option, please try again.
Menu:
a. Enter Matrix A
b. Enter Matrix B
c. Display A + B
d. Display A - B
e. Display A * B
f. Exit
Choose an option: 4
Invalid option, please try again.
Menu:
a. Enter Matrix A
b. Enter Matrix B
c. Display A + B
d. Display A - B
e. Display A * B
f. Exit
Choose an option:
```