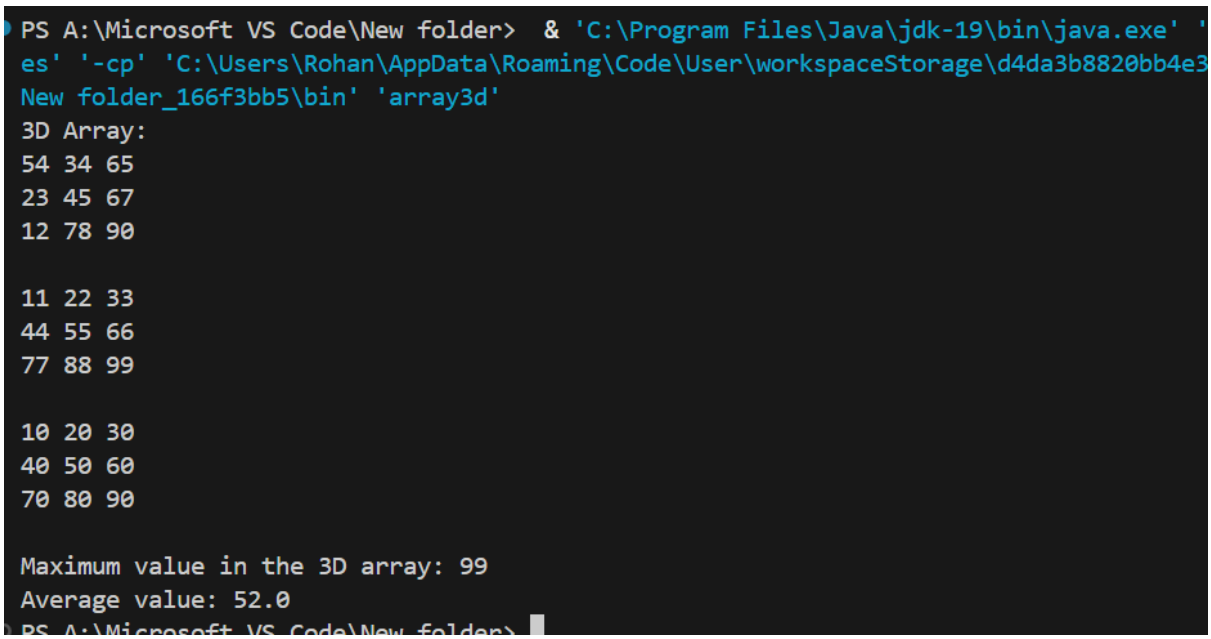
Assignment 1

```
public class array3d {
    public static void main(String[] args) {
        int[][][] arr ={{{54, 34, 65}, {23, 45, 67}, {12, 78, 90}},
                        {{11, 22, 33}, {44, 55, 66}, {77, 88, 99}},
                        {{10, 20, 30}, {40, 50, 60}, {70, 80, 90}}};

        System.out.println("3D Array:");
        display(arr);
        System.out.println("Maximum value in the 3D array: " + max(arr));
        System.out.println("Average value: " + average(arr));

    }

    public static int max(int[][][] arr) {
        int max = arr[0][0][0];
        for(int i = 0; i < arr.length; i++){
            for(int j = 0; j < arr[i].length; j++){
                for(int k = 0; k < arr[i][j].length; k++){
                    if(arr[i][j][k] > max){
                        max = arr[i][j][k];
                    }
                }
            }
        }
        return max;
    }

    public static double average(int[][][] arr){
        double ave;
```

```
        int sum = 0;
        int count = 0;
        for(int i = 0; i < arr.length; i++){
            for(int j = 0; j < arr[i].length; j++){
                for(int k = 0; k < arr[i][j].length; k++){
                    sum += arr[i][j][k];
                    count++;
                }
            }
        }
        ave = sum / count;
        return ave;
    }

    public static void display(int[][][] arr) {
        for(int i = 0; i < arr.length; i++){
            for(int j = 0; j < arr[i].length; j++){
                for(int k = 0; k < arr[i][j].length; k++){
                    System.out.print(arr[i][j][k] + " ");
                }
                System.out.println();
            }
            System.out.println();
        }
    }
}
```

OUTPUT:



Assignment 2

```
import java.util.Scanner;


public class addOfMatrices {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the number of rows: ");
        int rows = scanner.nextInt();
        System.out.print("Enter the number of columns: ");
        int cols = scanner.nextInt();


        int[][] matrix1 = new int[rows][cols];
        int[][] matrix2 = new int[rows][cols];
        int[][] result = new int[rows][cols];


        System.out.println("");
        System.out.println("Enter elements of first matrix:");
```

```
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                matrix1[i][j] = scanner.nextInt();
            }
        }

        System.out.println("");
        System.out.println("Enter elements of second matrix:");
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                matrix2[i][j] = scanner.nextInt();
            }
        }

        System.out.println("");
        System.out.println("Sum of the two matrices:");
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                result[i][j] = matrix1[i][j] + matrix2[i][j];
                System.out.print(result[i][j] + " ");
            }
            System.out.println();
        }
        scanner.close();
    }
}
```

OUTPUT:

```
PS A:\Microsoft VS Code\New folder>  & 'C:\Program Files\Java\jdk-19
es' '-cp' 'C:\Users\Rohan\AppData\Roaming\Code\User\workspaceStorage
New folder_166f3bb5\bin' 'addOfMatrices'
Enter the number of rows: 3
Enter the number of columns: 3

Enter elements of first matrix:
1 2 3 4 5 6 7 8 9

Enter elements of second matrix:
9 8 7 6 5 4 3 2 1

Sum of the two matrices:
10 10 10
10 10 10
10 10 10
PS A:\Microsoft VS Code\New folder>
```