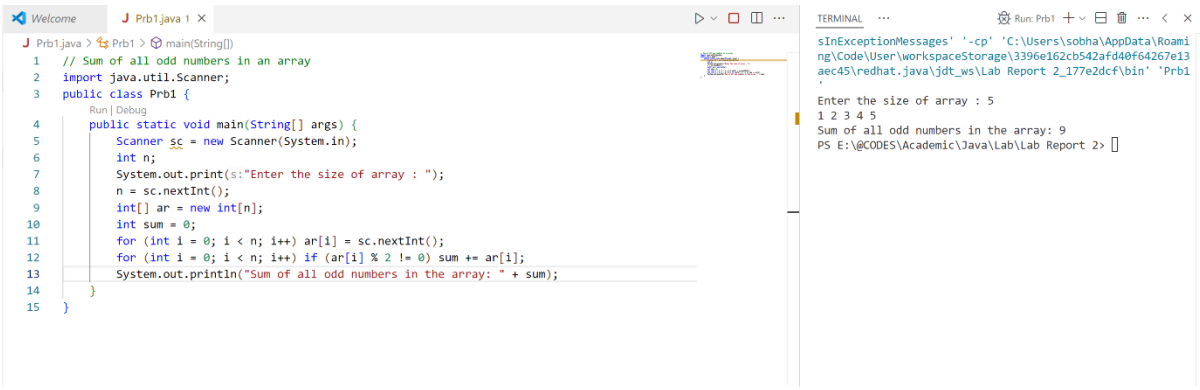
1. **Problem Name:** Write a Java program to find the sum of all odd numbers in an array.

Problem Code & Output:

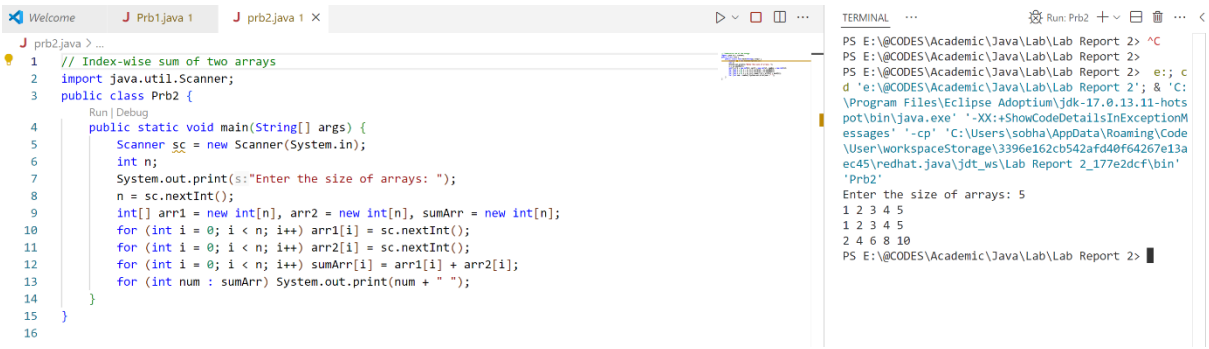


```java
// Sum of all odd numbers in an array
import java.util.Scanner;
public class Prb1 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n;
        System.out.print("Enter the size of array : ");
        n = sc.nextInt();
        int[] ar = new int[n];
        int sum = 0;
        for (int i = 0; i < n; i++) ar[i] = sc.nextInt();
        for (int i = 0; i < n; i++) if (ar[i] % 2 != 0) sum += ar[i];
        System.out.println("Sum of all odd numbers in the array: " + sum);
    }
}
```

```
Enter the size of array : 5
1 2 3 4 5
Sum of all odd numbers in the array: 9
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>
```

2. **Problem Name:** Write a Java program that takes two arrays as input, calculate the index wise sum of these arrays, and store the result in a third array.

Problem Code & Output:

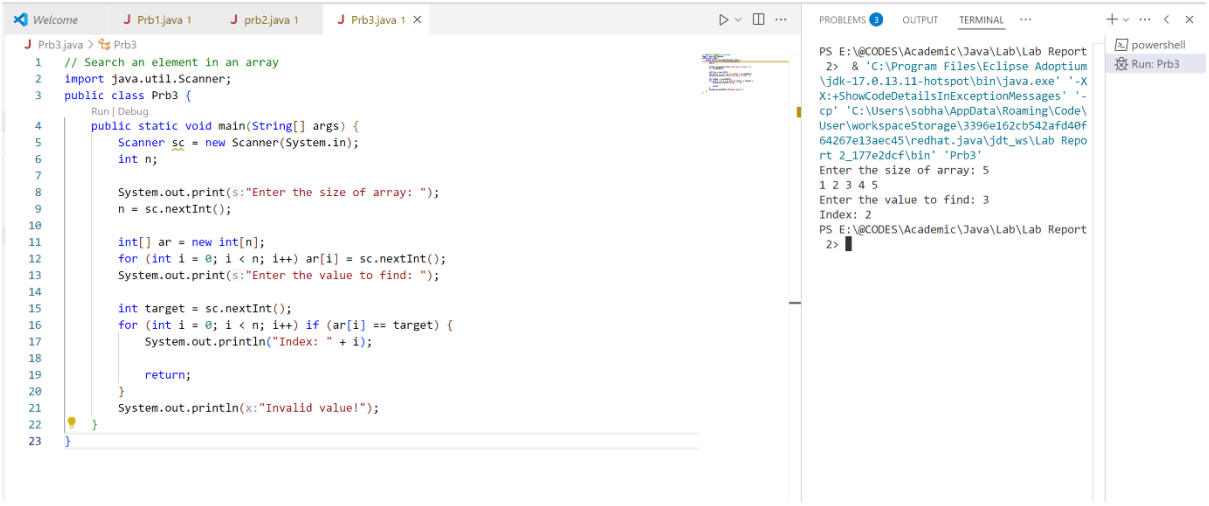


```java
// Index-wise sum of two arrays
import java.util.Scanner;
public class Prb2 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n;
        System.out.print("Enter the size of arrays: ");
        n = sc.nextInt();
        int[] arr1 = new int[n], arr2 = new int[n], sumArr = new int[n];
        for (int i = 0; i < n; i++) arr1[i] = sc.nextInt();
        for (int i = 0; i < n; i++) arr2[i] = sc.nextInt();
        for (int i = 0; i < n; i++) sumArr[i] = arr1[i] + arr2[i];
        for (int num : sumArr) System.out.print(num + " ");
    }
}
```

```
Enter the size of arrays: 5
1 2 3 4 5
1 2 3 4 5
2 4 6 8 10
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>
```

3. **Problem Name:** Write a Java program to search an element in an array.

Problem Code & Output:



```java
// Search an element in an array
import java.util.Scanner;
public class Prb3 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n;

        System.out.print("Enter the size of array: ");
        n = sc.nextInt();

        int[] ar = new int[n];
        for (int i = 0; i < n; i++) ar[i] = sc.nextInt();
        System.out.print("Enter the value to find: ");

        int target = sc.nextInt();
        for (int i = 0; i < n; i++) if (ar[i] == target) {
            System.out.println("Index: " + i);

            return;
        }
        System.out.println("Invalid value!");
    }
}
```

```
Enter the size of array: 5
1 2 3 4 5
Enter the value to find: 3
Index: 2
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>
```

4. **Problem Name:** Write a Java program to reverse the elements in an array without using a second array.

Problem Code & Output:

```java
// Reverse array without second array
import java.util.Scanner;
public class Prb4 {
    Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n;

        System.out.print("Enter the size of array: ");
        n = sc.nextInt();

        int[] ar = new int[n];
        for (int i = 0; i < n; i++) ar[i] = sc.nextInt();
        for (int i = n - 1; i >= 0; i--) System.out.print(ar[i] + " ");
    }
}
```

```
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>  & 'C:
\Program Files\Eclipse Adoptium\jdk-17.0.13.11-hots
pot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionM
essages' '-cp' 'C:\Users\sobha\AppData\Roaming\Code
\User\workspaceStorage\3396e162cb542afd40f64267e13a
ec45\redhat.java\jdt_ws\Lab Report 2_177e2dcf\bin'
'Prb4'
Enter the size of array: 5
2 4 6 8 10
10 8 6 4 2
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>
```

5. **Problem Name:** Write a Java program to find the second highest element of an array.

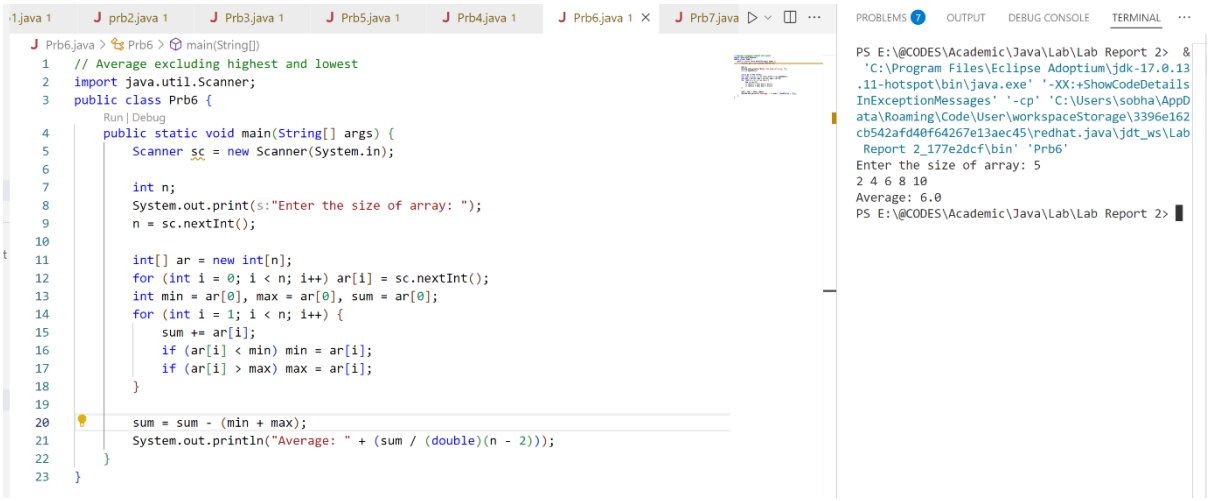
Problem Code & Output:

```java
// Find second highest element
import java.util.Scanner;
public class Prb5 {
    Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        int n;
        System.out.print("Enter the size of array: ");
        n = sc.nextInt();

        int[] ar = new int[n];
        for (int i = 0; i < n; i++) ar[i] = sc.nextInt();

        int max = Integer.MIN_VALUE, secondMax = Integer.MIN_VALUE;
        for (int num : ar) {
            if (num > max) {
                secondMax = max;
                max = num;
            } else if (num > secondMax && num != max) {
                secondMax = num;
            }
        }

        System.out.println("Second highest: " + secondMax);
    }
}
```

```
PS E:\@CODES\Academic\Java\Lab\Lab Report
2>  & 'C:\Program Files\Eclipse Adoptium\j
dk-17.0.13.11-hotspot\bin\java.exe' '-XX:+
ShowCodeDetailsInExceptionMessages' '-cp'
'C:\Users\sobha\AppData\Roaming\Code\User\
workspaceStorage\3396e162cb542afd40f64267e
13aec45\redhat.java\jdt_ws\Lab Report 2_17
7e2dcf\bin' 'Prb5'
Enter the size of array: 5
2 4 6 8 10
Second highest: 8
PS E:\@CODES\Academic\Java\Lab\Lab Report
2>
```

6. **Problem Name:** Write a Java program that calculates the average of an array, excluding the highest and lowest values in the array.

Problem Code & Output:



```java
// Average excluding highest and lowest
import java.util.Scanner;
public class Prb6 {
    Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        int n;
        System.out.print(s:"Enter the size of array: ");
        n = sc.nextInt();

        int[] ar = new int[n];
        for (int i = 0; i < n; i++) ar[i] = sc.nextInt();
        int min = ar[0], max = ar[0], sum = ar[0];
        for (int i = 1; i < n; i++) {
            sum += ar[i];
            if (ar[i] < min) min = ar[i];
            if (ar[i] > max) max = ar[i];
        }

        sum = sum - (min + max);
        System.out.println("Average: " + (sum / (double)(n - 2)));
    }
}
```

```
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>  &
 'C:\Program Files\Eclipse Adoptium\jdk-17.0.13
.11-hotspot\bin\java.exe' '-XX:+ShowCodeDetails
InExceptionMessages' '-cp' 'C:\Users\sobha\AppD
ata\Roaming\Code\User\workspaceStorage\3396e162
cb542afd40f64267e13aec45\redhat.java\jdt_ws\Lab
 Report 2_177e2dcf\bin' 'Prb6'
Enter the size of array: 5
2 4 6 8 10
Average: 6.0
PS E:\@CODES\Academic\Java\Lab\Lab Report 2>
```