NAME: Priyansh Salian

Batch: C-31

Roll No. : 2003148

EXPERIMENT NO. 5 Aim:

Programs on one dimensional array.

Theory:

JAVA Array:

An array is a collection of similar type of elements which has contiguous memory location.

Java array is an object which contains elements of a similar data type. Additionally, The elements of an array are stored in a contiguous memory location. It is a data structure where we store similar elements. We can store only a fixed set of elements in a Java array.

Array in Java is index-based, the first element of the array is stored at the 0th index, 2nd element is stored on 1st index and so on.

One Dimensional Array:

Syntax to Declare an Array in Java

dataType[] arr;

(or)

dataType []arr;

(or)

dataType arr[];

Instantiation of an Array in Java arrayRefVar=new datatype[size]; int a[]={33,3,4,5};//declaration, instantiation and initialization

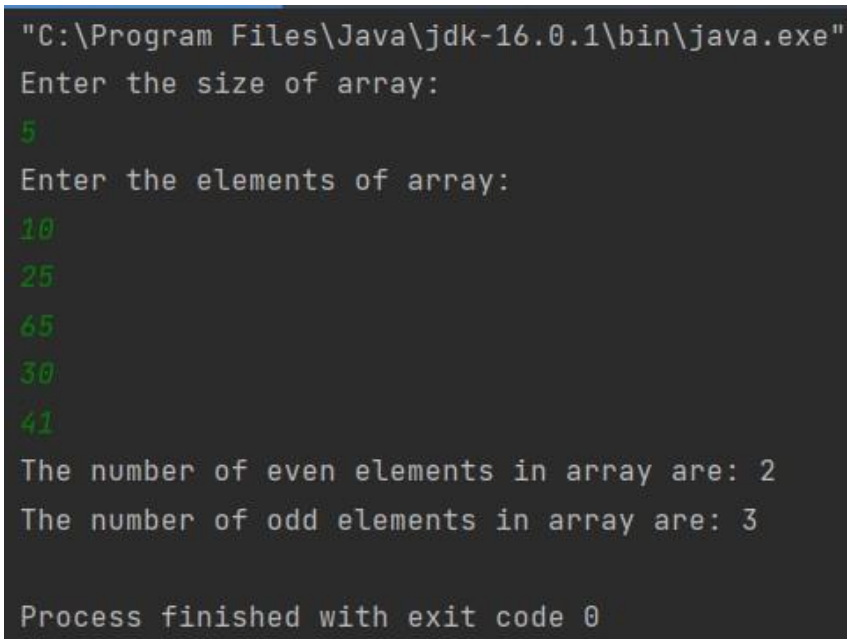
PROGRAMS:

A. WAP to count number of even and odd elements from an array.

Program:

```
import java.util.Scanner; public class
EvenOddElements {     public static void
main(String[] args) {
        int even = 0;
        int odd = 0;
        Scanner s  = new Scanner(System.in);
System.out.println("Enter the size of array:");
        int n = s.nextInt();
int arr[] = new int[n];
        System.out.println("Enter the elements of array:");
for(int i=0;i<n;i++){            arr[i] = s.nextInt();
if(arr[i]%2==0){                even++;
          }
else{
odd++;
          }
}
        System.out.println("The number of even elements in array are:
"+even);
        System.out.println("The number of odd elements in array are:
"+odd);
   }
}
```

Output:



B. WAP to count total marks and highest marks obtained by a student.

Program:

```
import java.util.Scanner; public class
Mark {     public static void main(String[]
args) {         Scanner s = new
Scanner(System.in);
        System.out.println("Enter the number of subjects:");
int n = s.nextInt();         int arr[] = new int[n];         int
totalMarks = 0;         int max = 0;
        System.out.println("Enter subject marks:");
        for(int i=0;i<n;i++){
arr[i] = s.nextInt();
if(arr[i]>max){
max = arr[i];
            }
            totalMarks+=arr[i];
        }
        System.out.println("Total marks obtained: "+totalMarks);
        System.out.println("Highest marks obtained: "+max);
    }
}
```

Output:

```
"C:\Program Files\Java\jdk-16.0.1\bin\java.exe"
Enter the number of subjects:
5
Enter subject marks:
90
65
89
99
94
Total marks obtained: 437
Highest marks obtained: 99

Process finished with exit code 0
```