**JAVA PROGRAM**

**DAY 3:ASSIGNMENT**

**1. Search for an Element**

**Problem Statement:**

Write a program to search for an element in the array. If found, print its index (0-based); otherwise, print "Not found".

**Input:**

First line: Integer n (size of the array)

Second line: n space-separated integers (array elements)

Third line: Integer x (element to search)

**Output:**

Index of the first occurrence of x in the array, or "Not found"

**Constraints:**

1 <= n <= 100

-10^4 <= arr[i], x <= 10^4

**Program:**

import java.util.Scanner; public class Main

{

public static void main(String[] args) { Scanner sc=new Scanner(System.in); int size=sc.nextInt(); int[] a=new int[size]; for(int i=0;i<size;i++)

{

a[i]=sc.nextInt();

}

System.out.println("Enter the Target value:"); int target =sc.nextInt();

boolean found =false; for(int i=0;i<size;i++)

{

if(a[i]==target)

{

found =true; break;

}

} if(found)

{

System.out.println("target found");

} else{

System.out.println("Not found");

}}} **2.Duplicate Elements**

**Problem Statement:**

**Write a program to identify and print all duplicate elements in a 1D array. If no duplicates are found, print “No duplicates”.**

Input:

First line: Integer n (number of elements)

Second line: n space-separated integers Output:

All duplicate elements (in any order)

“No duplicates” if all elements are unique Constraints:

1 <= n <100

-10^4 <= arr[i] <= 10^4 **Program:**

import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

int size=sc.nextInt();

int[] a=new int[size];

int[] result=new int[size];

for(int i=0;i<size;i++)

{

a[i]=sc.nextInt();

}

boolean found=false;

for(int i=0;i<size;i++)

{

for(int j=i+1;j<size;j++)

{

if (a[i]==a[j])

{

result[i]=a[j];

found =true;

System.out.println(result[i]+" duplicate element found");

}

else{

System.out.println( result+" duplicate element not found");

}

}

}

}}

**3.Left Rotation by K Position Problem Statement:**

**Write a program to perform left rotation of a 1D array by k position.**

**Input:**

First line: Integer n — the size of the array

Second line: n space-separated integers — the elements of the array

Third line: Integer k — number of positions to rotate the array to the left

**Output:**

A single line containing the rotated array elements after k left rotations.

Constraints:

1 <= n <= 100

-10^4 <= arr[i] <= 10^4

1. <= k <=100
2. Sample Input:

6

2 3 4 5 6

2

Sample Output:

3 4 5 6 1 2

**Program:**

import java.util.Scanner; public class Main

{

public static void main(String[] args) {

Scanner sc=new Scanner(System.in); int size=sc.nextInt(); int[] a=new int[size]; for(int i=0;i<size;i++)

{

a[i]=sc.nextInt();

}

int target=sc.nextInt(); for(int i=0;i<target;i++)

{

int first=a[0]; for(int j=0;j<size-1;j++)

{ a[j]=a[j+1]; } a[size-1]=first;

}

System.out.println("After rotation: "); for(int i=0;i<size;i++)

{

System.out.println(a[i] +" ");

}

}

}