Daily Practice Program Date 28/11/2023

Program 1: Minimum Index sum of two lists

```
package ishwarchavan.com;

import java.util.*;
public class MinIndexSumOfTwoLists {    //class created

	static void find(Vector<String> list1, Vector<String> list2){  // Function to print common Strings with minimum index sum

		Map<String, Integer> map = new HashMap<>();  // mapping Strings to their indices
		for (int i = 0; i < list1.size(); i++)
			map.put(list1.get(i), i);

		Vector<String> res = new Vector<String>(); // resultant list

		int minsum = Integer.MAX_VALUE;   //type casting
		for (int j = 0; j < list2.size(); j++){    //for loop iterating
			if (map.containsKey(list2.get(j))){

				int sum = j + map.get(list2.get(j));  // If current sum is smaller than minsum
				if (sum < minsum) {   //checking condition

					minsum = sum;
					res.clear();
					res.add(list2.get(j));
				}

				else if (sum == minsum)     // if index sum is same then put this String in resultant list as well
					res.add(list2.get(j));
			}
		}

		for (int i = 0; i < res.size(); i++)   //loop iterating
			System.out.print(res.get(i) + " ");    // Print result
	}

	public static void main(String[] args) {   //main program started
		Vector<String> list1 = new Vector<String>();   // Creating list1
		list1.add("Ishwar");
		list1.add("Chavan");
		list1.add("Common");
		list1.add("kumar");

		Vector<String> list2 = new Vector<String>();     // Creating list2
		list2.add("Ishwar");
		list2.add("Khan sir");
		list2.add("Om");
		find(list1, list2);   //function calling
	}
}
```

Program 2: Single element in sorted array

```java
package ishwarchavan.com;
import java.io.*;

public class SingleElementInSortedArray {    //class created

	static void search(int arr[], int n){   //search function created
		int ans = -1;
		for (int i = 0; i < n-1; i += 2) {  //loop  iterating
			if (arr[i] != arr[i + 1]) {    //checking condition
				ans = arr[i];
				break;
			}
		}

		if (arr[n - 2] != arr[n - 1])    // ans = -1 if no such element is present.
			ans = arr[n-1];

		System.out.println("Single element in sorted array: " + ans);
	}
	public static void main(String[] args){    //main program started
		int arr[] = { 1, 1, 2, 4, 4, 5, 5, 6, 6 };
		int len = arr.length;

		search(arr, len);   //function calling
	}
}
```