



KAVIYA B J 2024-CSE

K2

**Started on** Friday, 31 October 2025, 4:54 AM**State** Finished**Completed on** Friday, 31 October 2025, 4:56 AM**Time taken** 2 mins**Marks** 1.00/1.00**Grade** 4.00 out of 4.00 (100%)

**Question 1** | Correct Mark 1.00 out of 1.00

Find Duplicate in Array.

Given a read only array of n integers between 1 and n, find one number that repeats.

Input Format:

First Line - Number of elements

n Lines - n Elements

Output Format:

Element x - That is repeated

**For example:**

Input	Result
5	1
1 1 2 3 4	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 int main() {
4     int n;
5     scanf("%d", &n);
6     int arr[n];
7
8     for (int i = 0; i < n; i++) {
9         scanf("%d", &arr[i]);
10    }
11
12    // Using frequency array
13    int freq[n + 1];
14    for (int i = 0; i <= n; i++)
15        freq[i] = 0;
16
17    int duplicate = -1;
18
19    for (int i = 0; i < n; i++) {
20        if (freq[arr[i]] == 1) {
21            duplicate = arr[i];
22            break;
23        }
24        freq[arr[i]]++;
25    }
26
27    printf("%d\n", duplicate);
28    return 0;
29}
30

```

	Input	Expected	Got	
✓	11 10 9 7 6 5 1 2 3 8 4 7	7	7	✓
✓	5 1 2 3 4 4	4	4	✓
✓	5 1 1 2 3 4	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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KAVIYA B J 2024-CSE ▾**K2****Started on** Friday, 31 October 2025, 4:57 AM**State** Finished**Completed on** Friday, 31 October 2025, 4:58 AM**Time taken** 59 secs**Marks** 1.00/1.00**Grade** 4.00 out of 4.00 (100%)

**Question 1** | Correct Mark 1.00 out of 1.00

Find Duplicate in Array.

Given a read only array of n integers between 1 and n, find one number that repeats.

Input Format:

First Line - Number of elements

n Lines - n Elements

Output Format:

Element x - That is repeated

**For example:**

Input	Result
5	1
1 1 2 3 4	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 int main() {
4     int n;
5     scanf("%d", &n);
6
7     int arr[n];
8     for (int i = 0; i < n; i++) {
9         scanf("%d", &arr[i]);
10    }
11
12    int freq[n + 1]; // since elements are from 1 to n
13    for (int i = 0; i <= n; i++) {
14        freq[i] = 0;
15    }
16
17    int duplicate = -1;
18
19    for (int i = 0; i < n; i++) {
20        if (freq[arr[i]] == 1) {
21            duplicate = arr[i];
22            break;
23        }
24        freq[arr[i]]++;
25    }
26
27    printf("%d", duplicate);
28
29    return 0;
30}
31

```

	Input	Expected	Got	
✓	11 10 9 7 6 5 1 2 3 8 4 7	7	7	✓
✓	5 1 2 3 4 4	4	4	✓
✓	5 1 1 2 3 4	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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KAVIYA B J 2024-CSE ▾**K2****Started on** Friday, 31 October 2025, 4:58 AM**State** Finished**Completed on** Friday, 31 October 2025, 4:59 AM**Time taken** 1 min 11 secs**Marks** 1.00/1.00**Grade** **30.00** out of 30.00 (**100%**)

**Question 1** | Correct Mark 1.00 out of 1.00

Find the intersection of two sorted arrays.

OR in other words,

Given 2 sorted arrays, find all the elements which occur in both the arrays.

**Input Format**

- The first line contains T, the number of test cases. Following T lines contain:

- Line 1 contains N1, followed by N1 integers of the first array
- Line 2 contains N2, followed by N2 integers of the second array

**Output Format**

The intersection of the arrays in a single line

**Example**

**Input:**

1

3 10 17 57

6 2 7 10 15 57 246

**Output:**

10 57

**Input:**

1

6 1 2 3 4 5 6

2 1 6

**Output:**

1 6

**For example:**

Input	Result
1	10 57
3 10 17 57	
6	
2 7 10 15 57 246	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 int main() {
4     int T;
5     scanf("%d", &T);
6
7     while (T--) {
8         int n1, n2;
9         scanf("%d", &n1);
10        int a[n1];
11        for (int i = 0; i < n1; i++)
12            scanf("%d", &a[i]);
13
14        scanf("%d", &n2);
15        int b[n2];
16        for (int i = 0; i < n2; i++)
17            scanf("%d", &b[i]);
18
19        int i = 0, j = 0;
20        int found = 0;
21
22        while (i < n1 && j < n2) {

```

```

23
24     if (a[i] == b[j]) {
25         printf("%d ", a[i]);
26         found = 1;
27         i++;
28         j++;
29     }
30     else if (a[i] < b[j])
31         i++;
32     else
33         j++;
34 }
35     if (!found)
36         printf("No Intersection");
37
38     printf("\n");
39 }
40
41     return 0;
42 }
```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	1 3 10 17 57 6 2 7 10 15 57 246	10 57	10 57	✓
✓	1 6 1 2 3 4 5 6 2 1 6	1 6	1 6	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

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KAVIYA B J 2024-CSE

K2

**Started on** Friday, 31 October 2025, 5:00 AM**State** Finished**Completed on** Friday, 31 October 2025, 5:01 AM**Time taken** 1 min 3 secs**Marks** 1.00/1.00**Grade** 30.00 out of 30.00 (100%)

**Question 1** | Correct Mark 1.00 out of 1.00

Find the intersection of two sorted arrays.

OR in other words,

Given 2 sorted arrays, find all the elements which occur in both the arrays.

**Input Format**

- The first line contains T, the number of test cases. Following T lines contain:

- Line 1 contains N1, followed by N1 integers of the first array
- Line 2 contains N2, followed by N2 integers of the second array

**Output Format**

The intersection of the arrays in a single line

**Example**

**Input:**

1

3 10 17 57

6 2 7 10 15 57 246

**Output:**

10 57

**Input:**

1

6 1 2 3 4 5 6

2 1 6

**Output:**

1 6

**For example:**

Input	Result
1	10 57
3 10 17 57	
6	
2 7 10 15 57 246	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 int main() {
4     int T;
5     scanf("%d", &T);
6
7     while (T--) {
8         int n1, n2;
9         scanf("%d", &n1);
10        int a[n1];
11        for (int i = 0; i < n1; i++)
12            scanf("%d", &a[i]);
13
14        scanf("%d", &n2);
15        int b[n2];
16        for (int i = 0; i < n2; i++)
17            scanf("%d", &b[i]);
18
19        int i = 0, j = 0;
20        int found = 0;
21
22        // Two-pointer approach

```

```

23 // ... previous approach ...
24 while (i < n1 && j < n2) {
25     if (a[i] == b[j]) {
26         printf("%d ", a[i]);
27         found = 1;
28         i++;
29         j++;
30     } else if (a[i] < b[j])
31         i++;
32     else
33         j++;
34 }
35
36 if (!found)
37     printf("No Intersection");
38
39 printf("\n");
40 }
41
42 return 0;
43 }
44

```

	<b>Input</b>	<b>Expected</b>	<b>Got</b>	
✓	1 3 10 17 57 6 2 7 10 15 57 246	10 57	10 57	✓
✓	1 6 1 2 3 4 5 6 2 1 6	1 6	1 6	✓

Passed all tests! ✓

**Correct**

Marks for this submission: 1.00/1.00.

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KAVIYA B J 2024-CSE

K2

**Started on** Friday, 31 October 2025, 5:01 AM**State** Finished**Completed on** Friday, 31 October 2025, 5:02 AM**Time taken** 43 secs**Marks** 1.00/1.00**Grade** 4.00 out of 4.00 (100%)

**Question 1** | Correct Mark 1.00 out of 1.00

Given an array A of sorted integers and another non negative integer k, find if there exists 2 indices i and j such that  $A[j] - A[i] = k$ ,  $i \neq j$ .

Input Format:

First Line n - Number of elements in an array

Next n Lines - N elements in the array

k - Non - Negative Integer

Output Format:

1 - If pair exists

0 - If no pair exists

Explanation for the given Sample Testcase:

YES as  $5 - 1 = 4$

So Return 1.

**For example:**

Input	Result
3	1
1 3 5	
4	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 int main() {
4     int n;
5     scanf("%d", &n);
6
7     int A[n];
8     for (int i = 0; i < n; i++)
9         scanf("%d", &A[i]);
10
11    int k;
12    scanf("%d", &k);
13
14    int i = 0, j = 1;
15    int found = 0;
16
17    // Two-pointer approach since array is sorted
18    while (i < n && j < n) {
19        if (i != j && A[j] - A[i] == k) {
20            found = 1;
21            break;
22        }
23        else if (A[j] - A[i] < k)
24            j++;
25        else
26            i++;
27    }
28
29    printf("%d", found);
30    return 0;
31 }
32

```

	Input	Expected	Got	
✓	3 1 3 5 4	1	1	✓
✓	10 1 4 6 8 12 14 15 20 21 25 1	1	1	✓
✓	10 1 2 3 5 11 14 16 24 28 29 0	0	0	✓
✓	10 0 2 3 7 13 14 15 20 24 25 10	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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KAVIYA B J 2024-CSE

K2

**Started on** Friday, 31 October 2025, 5:02 AM**State** Finished**Completed on** Friday, 31 October 2025, 5:03 AM**Time taken** 49 secs**Marks** 1.00/1.00**Grade** 4.00 out of 4.00 (100%)

**Question 1** | Correct Mark 1.00 out of 1.00

Given an array A of sorted integers and another non negative integer k, find if there exists 2 indices i and j such that  $A[j] - A[i] = k$ ,  $i \neq j$ .

Input Format:

First Line n - Number of elements in an array

Next n Lines - N elements in the array

k - Non - Negative Integer

Output Format:

1 - If pair exists

0 - If no pair exists

Explanation for the given Sample Testcase:

YES as  $5 - 1 = 4$

So Return 1.

**For example:**

Input	Result
3	1
1 3 5	
4	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2
3 int main() {
4     int n;
5     scanf("%d", &n);
6
7     int A[n];
8     for (int i = 0; i < n; i++)
9         scanf("%d", &A[i]);
10
11    int k;
12    scanf("%d", &k);
13
14    int i = 0, j = 1;
15    int found = 0;
16
17    // Two-pointer approach
18    while (i < n && j < n) {
19        if (i != j && A[j] - A[i] == k) {
20            found = 1;
21            break;
22        }
23        else if (A[j] - A[i] < k)
24            j++;
25        else
26            i++;
27    }
28
29    printf("%d", found);
30    return 0;
31 }
32

```

	Input	Expected	Got	
✓	3 1 3 5 4	1	1	✓
✓	10 1 4 6 8 12 14 15 20 21 25 1	1	1	✓
✓	10 1 2 3 5 11 14 16 24 28 29 0	0	0	✓
✓	10 0 2 3 7 13 14 15 20 24 25 10	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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