



3 YUVASRI V 2024-AIML ▾ Y2

Started on Wednesday, 8 October 2025, 4:21 PM

State Finished

Completed on Friday, 10 October 2025, 10:22 AM

Time taken 1 day 18 hours

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 int findDuplicate(int arr[], int n)
3 {
4     int slow = arr[0];
5     int fast = arr[0];
6     do
7     {
8         slow = arr[slow];
9         fast = arr[arr[fast]];
10    } while (slow != fast);
11    slow = arr[0];
12    while (slow != fast)
13    {
14        slow = arr[slow];
15        fast = arr[fast];
16    }
17    return slow;
18 }
19 int main()
20 {
21     int n;
22     scanf("%d", &n);
23     int arr[n];
24     for (int i = 0; i < n; i++)
25     {
26         scanf("%d", &arr[i]);
27     }
28     int duplicate = findDuplicate(arr, n);
29     printf("%d\n", duplicate);
30     return 0;
31 }
32

```

	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	✓

	Input	Expected	Got
✓	5 1 1 2 3 4	1	1 ✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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[YUVASRI V 2024-AIML](#)**Y2****Started on** Wednesday, 8 October 2025, 4:24 PM**State** Finished**Completed on** Friday, 10 October 2025, 10:25 AM**Time taken** 1 day 18 hours**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 int findDuplicate(int arr[], int n)
3 {
4     int slow = arr[0];
5     int fast = arr[0];
6     do
7     {
8         slow = arr[slow];
9         fast = arr[arr[fast]];
10    }
11    while (slow != fast);
12    slow = arr[0];
13    while (slow != fast)
14    {
15        slow = arr[slow];
16        fast = arr[fast];
17    }
18    return slow;
19 }
20 int main()
21 {
22     int n;
23     scanf("%d", &n);
24     int arr[n];
25     for (int i = 0; i < n; i++)
26     {
27         scanf("%d", &arr[i]);
28     }
29     int duplicate = findDuplicate(arr, n);
30     printf("%d\n", duplicate);
31     return 0;
32 }
```

	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	✓

	Input	Expected	Got
✓	5 1 1 2 3 4	1	1 ✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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Started on Friday, 10 October 2025, 10:25 AM

State Finished

Completed on Friday, 10 October 2025, 10:32 AM

Time taken 7 mins 34 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 int main()
3 {
4     int T;
5     scanf("%d", &T);
6     while (T--)
7     {
8         int n1, n2;
9         scanf("%d", &n1);
10        int arr1[n1];
11        for (int i = 0; i < n1; i++)
12        {
13            scanf("%d", &arr1[i]);
14        }
15        scanf("%d", &n2);
16        //...
```

	Input	Expected	Got	
✓	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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Started on Friday, 10 October 2025, 10:33 AM

State Finished

Completed on Friday, 10 October 2025, 10:36 AM

Time taken 3 mins 36 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 int main()
3 {
4     int T;
5     scanf("%d", &T);
6     while (T--) {
7         int n1, n2;
8         scanf("%d", &n1);
9         int arr1[n1];
10        for (int i = 0; i < n1; i++)
11        {
12            scanf("%d", &arr1[i]);
13        }
14        scanf("%d", &n2);
15        int arr2[n2];
16        for (int i = 0; i < n2; i++)
17        {
```

	Input	Expected	Got	
✓	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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**Started on** Friday, 10 October 2025, 10:37 AM**State** Finished**Completed on** Friday, 10 October 2025, 10:40 AM**Time taken** 2 mins 45 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 int main()
3 {
4     int n, k;
5     scanf("%d", &n);
6     int A[n];
7     for (int i = 0; i < n; i++)
8     {
9         scanf("%d", &A[i]);
10    }
11    scanf("%d", &k);
12    int i = 0, j = 1;
13    int found = 0;
14    while (j < n && i < n)
15    {
16        int diff = A[j] - A[i];
17        if (diff == k && i != j)
18        {
19            found = 1;
20            break;
21        }
22        else if (diff < k)
23        {
24            j++;
25        }
26        else
27        {
28            i++;
29        }
30        if (i == j)
31        {
32            j++;
33        }
34    }
35 }
```

	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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[YUVASRI V 2024-AIML](#)**Y2****Started on** Friday, 10 October 2025, 10:41 AM**State** Finished**Completed on** Friday, 10 October 2025, 10:44 AM**Time taken** 3 mins 31 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 int main()
3 {
4     int n, k;
5     scanf("%d", &n);
6     int A[n];
7     for (int i = 0; i < n; i++)
8     {
9         scanf("%d", &A[i]);
10    }
11    scanf("%d", &k);
12    int i = 0, j = 1;
13    int found = 0;
14    while (j < n && i < n)
15    {
16        int diff = A[j] - A[i];
17        if (diff == k && i != j)
18        {
19            found = 1;
20            break;
21        }
22        else if (diff < k)
23        {
24            j++;
25        }
26        else
27        {
28            i++;
29        }
30        if (i == j)
31        {
32            j++;
33        }
34    }
35 }
```

	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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