RAJALAKSHMI ENGINEERING COLLEGE

Started on	Wednesday, 8 October 2025, 3:48 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:48 PM
Time taken	28 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 2 3 4	1

Answer: (penalty regime: 0 %)

```
#include <stdio.h>
#include <stdlib.h>

int main() {
    int n;
    scanf("%d", &n);

    int *arr = malloc(n * sizeof(int));
    for (int i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    int *freq = calloc(n + 1, sizeof(int)); // elements are 1..n

    int duplicate = -1;
    for (int i = 0; i < n; i++) {
        if (freq[arr[i]] == 1) {
            duplicate = arr[i];
            break;
        }
        freq[arr[i]] = 1;
    }

    printf("%d\n", duplicate);

    free(arr);
    free(freq);
    return 0;
}
```

	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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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Wednesday, 8 October 2025, 3:49 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:49 PM
Time taken	26 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 2 3 4	1

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>

int main() {
    int n;
    scanf("%d", &n);
    int arr[n];
    for(int i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    int slow = arr[0];
    int fast = arr[0];

    // Phase 1: Detect cycle
    do {
        slow = arr[slow];
        fast = arr[arr[fast]];
    } while(slow != fast);

    // Phase 2: Find duplicate
    slow = arr[0];
    while(slow != fast){
        slow = arr[slow];
        fast = arr[fast];
    }

    printf("%d\n", slow);
    return 0;
}

```

	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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RAJALAKSHMI ENGINEERING COLLEGE

SABARISH M K 2024-CSE

S2

Started on	Wednesday, 8 October 2025, 3:49 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:50 PM
Time taken	35 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:

1. Line 1 contains N1, followed by N1 integers of the first array
2. 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 3 10 17 57 6 2 7 10 15 57 246	10 57

Answer: (penalty regime: 0 %)

```
#include <stdio.h>

int main() {
    int T;
    scanf("%d", &T);

    while (T--) {
        int N1, N2;
        scanf("%d", &N1);
        int arr1[N1];
        for (int i = 0; i < N1; i++) scanf("%d", &arr1[i]);

        scanf("%d", &N2);
        int arr2[N2];
```

```
        for (int i = 0; i < N2; i++) scanf("%d", &arr2[i]);

        int i = 0, j = 0;
        int first = 1; // to handle spaces
        while (i < N1 && j < N2) {
            if (arr1[i] == arr2[j]) {
                if (!first) printf(" ");
                printf("%d", arr1[i]);
                first = 0;
                i++; j++;
            } else if (arr1[i] < arr2[j]) {
                i++;
            } else {
                j++;
            }
        }
        printf("\n");
    }
    return 0;
}
```

	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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Done

Attempts allowed: 10

Grading method: Highest grade

Summary of your previous attempts

Attempt	State	Marks / 1.00	Grade / 30.00	Review
1	Finished Submitted Wednesday, 8 October 2025, 3:50 PM	1.00	30.00	Review

Highest grade: 30.00 / 30.00.

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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Wednesday, 8 October 2025, 3:51 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:51 PM
Time taken	30 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 != 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 3 5 4	1

Answer: (penalty regime: 0 %)

```
#include <stdio.h>

int main() {
    int n;
    scanf("%d", &n);
    int arr[n];
    for (int i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    int k;
    scanf("%d", &k);

    int i = 0, j = 1;
    int found = 0;

    while (i < n && j < n) {
        if (i == j) {
            j++;
            continue;
        }

        int diff = arr[j] - arr[i];
        if (diff == k) {
            found = 1;
            break;
        } else if (diff < k) {
            j++;
        } else {
            i++;
        }
    }

```

```
    printf("%d\n", found);
    return 0;
}
```

	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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RAJALAKSHMI ENGINEERING COLLEGE

Started on	Wednesday, 8 October 2025, 3:51 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:52 PM
Time taken	35 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 != 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 3 5 4	1

Answer: (penalty regime: 0 %)

```
#include <stdio.h>

int main() {
    int n;
    scanf("%d", &n);

    int arr[n];
    for(int i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    int k;
    scanf("%d", &k);

    int i = 0, j = 1;
    int found = 0;

    while(i < n && j < n) {
        if(i == j) {
            j++;
            continue;
        }

        int diff = arr[j] - arr[i];

        if(diff == k) {
            found = 1;
            break;
        } else if(diff < k) {
            j++;
        } else {
            i++;
        }
```

```
    }

    printf("%d\n", found);
    return 0;
}
```

	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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