RAJALAKSHMI ENGINEERING COLLEGE

Started on	Friday, 24 October 2025, 1:40 PM
State	Finished
Completed on	Friday, 24 October 2025, 1:42 PM
Time taken	1 min 46 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 find_duplicate(int nums[], int n) {
    int tortoise = nums[0];
    int hare = nums[0];

    do {
        tortoise = nums[tortoise];
        hare = nums[nums[hare]];
    } while (tortoise != hare);

    tortoise = nums[0];
    while (tortoise != hare) {
        tortoise = nums[tortoise];
        hare = nums[hare];
    }

    return hare;
}

int main() {
    int n;

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

    printf("%d\n", find_duplicate(nums, n));

    return 0;
}
```

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

	Input	Expected	Got	
✔	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.

Back to Course

RAJALAKSHMI ENGINEERING COLLEGE

ADITYA S 2024-CSE

A2

Started on	Friday, 24 October 2025, 1:42 PM
State	Finished
Completed on	Friday, 24 October 2025, 1:43 PM
Time taken	1 min 1 sec
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 find_duplicate(int nums[], int n) {
    int tortoise = nums[0];
    int hare = nums[0];

    do {
        tortoise = nums[tortoise];
        hare = nums[nums[hare]];
    } while (tortoise != hare);

    tortoise = nums[0];
    while (tortoise != hare) {
        tortoise = nums[tortoise];
        hare = nums[hare];
    }

    return hare;
}

int main() {
    int n;

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

    printf("%d\n", find_duplicate(nums, n));

    return 0;
}
```

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

	Input	Expected	Got	
✔	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.

Back to Course

RAJALAKSHMI ENGINEERING COLLEGE

ADITYA S 2024-CSE A2

Started on	Friday, 24 October 2025, 1:43 PM
State	Finished
Completed on	Friday, 24 October 2025, 1:46 PM
Time taken	3 mins
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 a[n1];
        for (int i = 0; i < n1; i++) scanf("%d", &a[i]);
        scanf("%d", &n2);
        int b[n2];
        for (int i = 0; i < n2; i++) scanf("%d", &b[i]);

```

```
        int i = 0, j = 0;
        while (i < n1 && j < n2) {
            if (a[i] == b[j]) {
                printf("%d ", a[i]);
                i++; j++;
            } else if (a[i] < b[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.

Back to Course

RAJALAKSHMI ENGINEERING COLLEGE

ADITYA S 2024-CSE A2

Started on	Friday, 24 October 2025, 1:47 PM
State	Finished
Completed on	Friday, 24 October 2025, 1:48 PM
Time taken	1 min 8 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 a[n1];
        for (int i = 0; i < n1; i++) scanf("%d", &a[i]);
        scanf("%d", &n2);
        int b[n2];
        for (int i = 0; i < n2; i++) scanf("%d", &b[i]);

```

```
        int i = 0, j = 0;
        while (i < n1 && j < n2) {
            if (a[i] == b[j]) {
                printf("%d ", a[i]);
                i++; j++;
            } else if (a[i] < b[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.

Back to Course

RAJALAKSHMI ENGINEERING COLLEGE

Started on	Friday, 24 October 2025, 1:48 PM
State	Finished
Completed on	Friday, 24 October 2025, 1:50 PM
Time taken	2 mins 1 sec
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 %)

```c
#include <stdio.h>

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

    int i = 0, j = 1, found = 0;
    while (i < n && j < n) {
        int diff = A[j] - A[i];
        if (diff == k && i != j) {
            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.

Back to Course

RAJALAKSHMI ENGINEERING COLLEGE

ADITYA S 2024-CSE A2

Started on	Friday, 24 October 2025, 1:51 PM
State	Finished
Completed on	Friday, 24 October 2025, 1:53 PM
Time taken	2 mins 53 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 %)

```c
#include <stdio.h>

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

    int i = 0, j = 1, found = 0;
    while (i < n && j < n) {
        int diff = A[j] - A[i];
        if (diff == k && i != j) {
            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.

Back to Course