

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 %)

```

1 #include<stdio.h>
2 int main(){
3     int n;
4     scanf("%d",&n);
5     int arr[n+1];
6     for(int i=0;i<n;i++)
7         scanf("%d",&arr[i]);
8     int visited[n+1];
9     for(int i=0;i<n;i++)
10        visited[i]=0;
11    for(int i=0;i<n;i++){
12        if(visited[arr[i]]==1){
13            printf("%d\n",arr[i]);
14            return 0;
15        }
16        visited[arr[i]]=1;
17    }
18    return 0;
19 }
```

	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

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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	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     int T;
4     scanf("%d",&T);
5     while (T--){
6         int n1,n2;
7         scanf("%d",&n1);
8         int arr1[n1];
9         for(int i=0;i<n1;i++)
10             scanf("%d",&arr1[i]);
11         scanf("%d",&n2);
12         int arr2[n2];
13         for(int i=0;i<n2;i++)
14             scanf("%d",&arr2[i]);
15         int i=0,j=0;
16         int found=0;
17         while(i<n1&&j<n2){
18             if(arr1[i]==arr2[j]){
19                 printf("%d ",arr1[i]);
20                 found=1;
21                 i++;j++;
22             } else if(arr1[i]<arr2[j]){

```

```

23         i++;
24     } else{
25         j++;
26     }
27 }
28 if(found==0)
29     printf("No Intersection");
30     printf("\n");
31 }
32 return 0;
33 }

```

	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	✓

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Output:

10 57

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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 %)

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1 #include<stdio.h>
2 int main(){
3     int T;
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5     while (T--){
6         int n1,n2;
7         scanf("%d",&n1);
8         int arr1[n1];
9         for(int i=0;i<n1;i++)
10             scanf("%d",&arr1[i]);
11         scanf("%d",&n2);
12         int arr2[n2];
13         for(int i=0;i<n2;i++)
14             scanf("%d",&arr2[i]);
15         int i=0,j=0;
16         int found=0;
17         while(i<n1&&j<n2){
18             if(arr1[i]==arr2[j]){
19                 printf("%d ",arr1[i]);
20                 found=1;
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23     } else if(arr1[i]<arr2[j]){
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✓	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	✓

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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 3 5 4	1

Answer: (penalty regime: 0 %)

```

1 #include<stdio.h>
2 int main(){
3     int n,k;
4     scanf("%d",&n);
5     int arr[n];
6     for(int i=0;i<n;i++)
7         scanf("%d",&arr[i]);
8     scanf("%d",&k);
9     int i=0,j=1;
10    while(i<n&&j<n){
11        int diff=arr[j]-arr[i];
12        if(diff==k&&i!=j){
13            printf("1\n");
14            return 0;
15        }else if(diff<k){
16            j++;
17        } else{
18            i++;
19        }
20        if(i==j)
21            j++;
22    }
23    printf("0\n");
24    return 0;
25 }
```

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

	Input	Expected	Got	
✓	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	✓

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