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,repeat;
    scanf("%d",&n);
    int a[n];
    for(int i=0;i<n;i++){
        scanf("%d",&a[i]);
    }
    for(int i=0;i<n;i++){
        for(int j=i+1;j<n;j++){
            if(a[i]==a[j]){
                repeat=a[i];
            }
        }
    }
    printf("%d",repeat);
}
```

	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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Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
#include <stdlib.h>  // for abs()

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

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

    for (int i = 0; i < n; i++) {
        int index = abs(arr[i]) - 1;

        if (arr[index] < 0) {
            printf("%d\n", abs(arr[i]));
            return 0;
        }

        arr[index] = -arr[index];
    }

    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	✔
✔	5 1 1 2 3 4	1	1	✔

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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 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);
    for(int s=0;s<t;s++){
        int n,m;
        scanf("%d",&n);
        int a[n];
        for(int i=0;i<n;i++){
            scanf("%d",&a[i]);
        }
        scanf("%d",&m);
        int b[m];
        for(int i=0;i<m;i++){
            scanf("%d",&b[i]);
        }
        for(int i=0;i<n;i++){
            for(int j=0;j<m;j++){
                if(a[i]==b[j]){
```

```
                printf("%d ",a[i]);
            }
        }
    }
}
```

	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! ✔

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Back to Course

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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 %)

```c
#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;
```

```
20          int found = 0;
21
22          while (i < n1 && j < n2) {
23              if (a[i] == b[j]) {
24                  printf("%d ", a[i]);
25                  found = 1;
26                  i++;
27                  j++;
28              }
29              else if (a[i] < b[j])
30                  i++;
31              else
32                  j++;
33          }
34
35          if (!found)
36              printf("No Common Elements");
37
38          printf("\n");
39      }
40
41      return 0;
42  }
43
```

	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

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Back to Course

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,flag=0;
    scanf("%d",&n);
    int a[n];
    for(int i=0;i<n;i++){
        scanf("%d",&a[i]);
    }
    int k,d;
    scanf("%d",&k);
    for(int i=0;i<n;i++){
        for(int j=i+1;j<n;j++){
            d=a[j]-a[i];
            if(d==k){
               flag=1;
            }
        }
    }
    if(flag==1){
        printf("1");
    }
    else{
        printf("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! ✔

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Back to Course

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1 - If pair exists

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

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

    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! ✔

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Back to Course