

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,repeat;
4      scanf("%d",&n);
5      int a[n];
6      for(int i=0;i<n;i++){
7          scanf("%d",&a[i]);
8      }
9      for(int i=0;i<n;i++){
10         for(int j=i+1;j<n;j++){
11             if(a[i]==a[j]){
12                 repeat=a[i];
13             }
14         }
15     }
16     printf("%d",repeat);
17 }
```

	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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Find Duplicate in Array.

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```

1  #include <stdio.h>
2  #include <stdlib.h> // for abs()
3
4  int main() {
5      int n;
6      scanf("%d", &n);
7
8      int arr[n];
9      for (int i = 0; i < n; i++)
10         scanf("%d", &arr[i]);
11
12     for (int i = 0; i < n; i++) {
13         int index = abs(arr[i]) - 1;
14
15         if (arr[index] < 0) {
16             printf("%d\n", abs(arr[i]));
17             return 0;
18         }
19
20         arr[index] = -arr[index];
21     }
22
23     return 0;
24 }
25
26

```

	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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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 %)

```

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

```

```
20         printt("%d ",a[i]);
21     }
22 }
23 }
24 }
25 }
```

	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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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 %)

```
1 #include <stdio.h>
2
3 int main() {
4     int T;
5     scanf("%d", &T);
6
7     while (T--) {
8         int n1, n2;
9         scanf("%d", &n1);
10        int a[n1];
11        for (int i = 0; i < n1; i++)
12            scanf("%d", &a[i]);
13
14        scanf("%d", &n2);
15        int b[n2];
16        for (int i = 0; i < n2; i++)
17            scanf("%d", &b[i]);
18
19        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	✓

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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,flag=0;
4      scanf("%d",&n);
5      int a[n];
6      for(int i=0;i<n;i++){
7          scanf("%d",&a[i]);
8      }
9      int k,d;
10     scanf("%d",&k);
11     for(int i=0;i<n;i++){
12         for(int j=i+1;j<n;j++){
13             d=a[j]-a[i];
14             if(d==k){
15                 flag=1;
16             }
17         }
18     }
19     if(flag==1){
20         printf("1");
21     }
22     else{
23         printf("0");
24     }
25 }
26

```

	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	✓

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1 - If pair exists

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YES as $5 - 1 = 4$

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Input	Result
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Answer: (penalty regime: 0 %)

```

1  #include <stdio.h>
2  int main() {
3      int n;
4      scanf("%d", &n);
5
6      int arr[n];
7      for (int i = 0; i < n; i++)
8          scanf("%d", &arr[i]);
9
10     int k;
11     scanf("%d", &k);
12
13     int i = 0, j = 1;
14     int found = 0;
15
16     while (i < n && j < n) {
17         if (i != j) {
18             int diff = arr[j] - arr[i];
19
20             if (diff == k) {
21                 found = 1;
22                 break;
23             }
24             else if (diff < k)
25                 j++;
26             else
27                 i++;
28         } else {
29             j++;
30         }
31     }
32
33     printf("%d\n", found);
34     return 0;
35 }
36

```

	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	✓

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