

Quiz navigation



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**Status** Finished

**Started** Monday, 23 December 2024, 5:33 PM

**Completed** Tuesday, 10 December 2024, 9:04 AM

**Duration** 13 days 8 hours

Question **1**

Correct

Marked out of  
3.00

Flag question

Given an array A of sorted integers and another non negative integer k, find if there exists 2 indices i and j such that  $A[i] - A[j] = k$ ,  $i \neq j$ .

Input Format

1. First line is number of test cases T. Following T lines contain:
2. N, followed by N integers of the array
3. The non-negative integer k

Output format

Print 1 if such a pair exists and 0 if it doesn't.

Example

Input:

Input:

1

3 1 3 5

4

Output:

1

Input:

1

3 1 3 5

99

Output:

0

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main(){
3     int t,k;
4     scanf("%d",&t);
5     while(t--){
6         int n;
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",&k);
13         int flag=0;
14         for(int i=0;i<n;i++){
15             for(int j=i+1;j<n;j++){
16                 if(a[i]-a[j]==k||a[j]-a[i]==k){
17                     flag=1;
18                     break;
19                 }
20             }
21             if(flag)
22                 break;
23         }
24         printf("%d\n",flag);
25     }
26     return 0;
27 }
28
```

	Input	Expected	Got	
✓	1 3 1 3 5 4	1	1	✓
✓	1 3 1 3 5 99	0	0	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of  
5.00

[Flag question](#)

Sam loves chocolates and starts buying them on the 1st day of the year. Each day of the year,  $x$ , is numbered from 1 to  $Y$ . On days when  $x$  is odd, Sam will buy  $x$  chocolates; on days when  $x$  is even, Sam will not purchase any chocolates.

Complete the code in the editor so that for each day  $N_i$  (where  $1 \leq x \leq N \leq Y$ ) in array `arr`, the number of chocolates Sam purchased (during days 1 through  $N$ ) is printed on a new line. This is a function-only challenge, so input is handled for you by the locked stub code in the editor.

Input Format

The program takes an array of integers as a parameter.

The locked code in the editor handles reading the following input from `stdin`, assembling it into an array of integers (`arr`), and calling `calculate(arr)`.

The first line of input contains an integer,  $T$  (the number of test cases). Each line  $i$  of the  $T$  subsequent lines describes the  $i$ th test case as an integer,  $N_i$  (the number of days).

Constraints

$$1 \leq T \leq 2 \times 10^5$$

$$1 \leq N \leq 2 \times 10^6$$

$$1 \leq x \leq N \leq Y$$

Output Format

For each test case,  $T_i$  in `arr`, your `calculate` method should print the total number of chocolates Sam purchased by day  $N_i$  on a new line.

Sample Input 0

3

1

2

3

Sample Output 0

1

1

4

**Answer:** (penalty regime: 0 %)

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

	Input	Expected	Got	
✓	3	1	1	✓
	1	1	1	
	2	4	4	
	3			
✓	10	1296	1296	✓
	71	2500	2500	
	100	1849	1849	
	86	729	729	
	54	400	400	
	40	25	25	
	9	1521	1521	
	77	25	25	
	9	49	49	
	13	2401	2401	
	98			

Passed all tests! ✓

Question **3**

Correct

Marked out of  
7.00

🚩 Flag question

The number of goals achieved by two football teams in matches in a league is given in the form of two lists. Consider:

- Football team A, has played three matches, and has scored { 1 , 2 , 3 } goals in each match respectively.
- Football team B, has played two matches, and has scored { 2 , 4 } goals in each match respectively.
- Your task is to compute, for each match of team B, the total number of matches of team A, where team A has scored less than or equal to the number of goals scored by team B in that match.
- In the above case:
- For 2 goals scored by team B in its first match, team A has 2 matches with scores 1 and 2.
- For 4 goals scored by team B in its second match, team A has 3 matches with scores 1, 2 and 3.

Hence, the answer: {2, 3}.

Complete the code in the editor below. The program must return an array of  $m$  positive integers, one for each  $\text{maxes}[i]$  representing the total number of elements  $\text{nums}[j]$  satisfying  $\text{nums}[j] \leq \text{maxes}[i]$  where  $0 \leq j < n$  and  $0 \leq i < m$ , in the given order.

It has the following:

`nums[nums[0],...,nums[n-1]]`: first array of positive integers

`maxes[maxes[0],...,maxes[m-1]]`: second array of positive integers

### Constraints

- $2 \leq n, m \leq 105$
- $1 \leq \text{nums}[j] \leq 109$ , where  $0 \leq j < n$ .
- $1 \leq \text{maxes}[i] \leq 109$ , where  $0 \leq i < m$ .

### Input Format For Custom Testing

Input from stdin will be processed as follows and passed to the function.

The first line contains an integer  $n$ , the number of elements in `nums`.

The next  $n$  lines each contain an integer describing `nums[j]` where  $0 \leq j < n$ .

The next line contains an integer  $m$ , the number of elements in `maxes`.

The next  $m$  lines each contain an integer describing `maxes[i]` where  $0 \leq i < m$ .

### Sample Case 0

### Sample Input 0

#### Sample Input 0

4  
1  
4  
2  
4  
2  
3  
5

#### Sample Output 0

2  
4

#### Explanation 0

We are given  $n = 4$ ,  $\text{nums} = [1, 4, 2, 4]$ ,  $m = 2$ , and  $\text{maxes} = [3, 5]$ .

1. For  $\text{maxes}[0] = 3$ , we have 2 elements in  $\text{nums}$  ( $\text{nums}[0] = 1$  and  $\text{nums}[2] = 2$ ) that are  $\leq \text{maxes}[0]$ .
2. For  $\text{maxes}[1] = 5$ , we have 4 elements in  $\text{nums}$  ( $\text{nums}[0] = 1$ ,  $\text{nums}[1] = 4$ ,  $\text{nums}[2] = 2$ , and  $\text{nums}[3] = 4$ )

that are  $\leq$  maxes[1].

Thus, the function returns the array [2, 4] as the answer.

Sample Case 1

Sample Input 1

5  
2  
10  
5  
4  
8  
4  
3  
1  
7  
8

Sample Output 1

1  
0  
3  
4

Explanation 1

We are given,  $n = 5$ ,  $\text{nums} = [2, 10, 5, 4, 8]$ ,  $m = 4$ , and  $\text{maxes} = [3, 1, 7, 8]$ .

1. For  $\text{maxes}[0] = 3$ , we have 1 element in  $\text{nums}$  ( $\text{nums}[0] = 2$ ) that is  $\leq \text{maxes}[0]$ .
2. For  $\text{maxes}[1] = 1$ , there are 0 elements in  $\text{nums}$  that are  $\leq \text{maxes}[1]$ .
3. For  $\text{maxes}[2] = 7$ , we have 3 elements in  $\text{nums}$  ( $\text{nums}[0] = 2$ ,  $\text{nums}[2] = 5$ , and  $\text{nums}[3] = 4$ ) that are  $\leq \text{maxes}[2]$ .
4. For  $\text{maxes}[3] = 8$ , we have 4 elements in  $\text{nums}$  ( $\text{nums}[0] = 2$ ,  $\text{nums}[2] = 5$ ,  $\text{nums}[3] = 4$ , and  $\text{nums}[4] = 8$ ) that are  $\leq \text{maxes}[3]$ .

Thus, the function returns the array [1, 0, 3, 4] as the answer.

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main(){
3     int s1,s2,ans;
4     scanf("%d",&s1);
5     int ta[s1];
6     for(int i=0;i<s1;i++)
7         scanf("%d",&ta[i]);
8     scanf("%d",&s2);
9     int tb[s2];
10    for(int i=0;i<s2;i++)
11        scanf("%d",&tb[i]);
12    for(int j=0;j<s2;j++)
13    {
14        ans=0;
15        for(int i=0;i<s1;i++)
16        {
17            if(tb[j]>=ta[i])
18                ans++;
19        }
20        printf("%d\n",ans);
21    }
22    return 0;
23 }
```

	Input	Expected	Got	
✓	4	2	2	✓
	1	4	4	
	4			
	2			
	4			
	2			
	3			
	5			
✓	5	1	1	✓
	2	0	0	
	10	3	3	
	5	4	4	
	4			
	8			
	4			
	3			
	1			
	7			
	8			

Passed all tests! ✓