GE23131-Programming Using C-2024

Attempts allowed: 3

This quiz has been configured so that students may only attempt it using the Safe Exam Browser.

Time limit: 2 hours

Grading method: Highest grade

Your attempts

Attempt 1						
Status	Finished					
Started	Monday, 23 December 2024, 5:33 PM					
Completed	Thursday, 28 November 2024, 4:50 PM					
Duration	25 days					
Review						

The Safe Exam Browser keys could not be validated. Check that you're using Safe Exam Browser with the correct configuration file.

GE23131-Programming Using C-2024

Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Thursday, 28 November 2024, 4:50 PM
Duration	25 days

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 != 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

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Question **1**

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Input Format

- 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:
1
3135
4
Output:
1
Input:
1
3135
99
Output:
0

<pre>1 #include <stdio.h> 2 int main() 3 *</stdio.h></pre>	
3 🔻 {	
4 int t;	
5 scanf("%d",&t);	
6 v while(t){	
7 int n;	
8 scanf("%d",&n);	
9 int a[n];	
10 for(int i=0;i <n;i< th=""><th>++)</th></n;i<>	++)
11 🔻	
12 scanf("%d",&a	[i])
13 }	
14 int k;	
15 scanf("%d",&k);	
16 int flag=0;	
17 for(int i=0;i <n;i< th=""><th>++)</th></n;i<>	++)
18 🔻	
19 for(int j=i+1	;j <n< th=""></n<>
20 🔻	
21 if(a[i]-a	[j]=
22	
23 }	
24 if(flag) break;}	
25 printf("%d\n",fla	g);
26 }	
27 }	

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

14 15 16 17 18 19 20 21 22 23 24 25 26 27	a[j]-a	[i]==k){f	Lag=1	;brea	ak
	Input	Expected	Got		
~	1 3 1 3 5 4	1	1	~	
~	1 3 1 3 5 99	0	0	✓	

Passed all tests!

10 11 ▼

12 13 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 Ni (where $1 \le x \le N \le Y$) 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 first line of input contains an integer, T (the number of test cases). Each line i of the T subsequent lines describes the ith test case as an integer, Ni (the number of days).

Constraints

$$1 \le N \le 2 \times 106$$

$$1 \le x \le N \le Y$$

Output Format

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

Sample Input 0

3

1

2

3

Sample Output 0

```
1
```

4

Explanation

Test Case 0: N = 1

Sam buys 1 chocolate on day 1, giving us a total of 1 chocolate. Thus, we print 1 on a new line.

day 2. This gives us a total of 1 chocolate.

Test Case 1: N = 2 Sam buys 1 chocolate on day 1 and 0 on

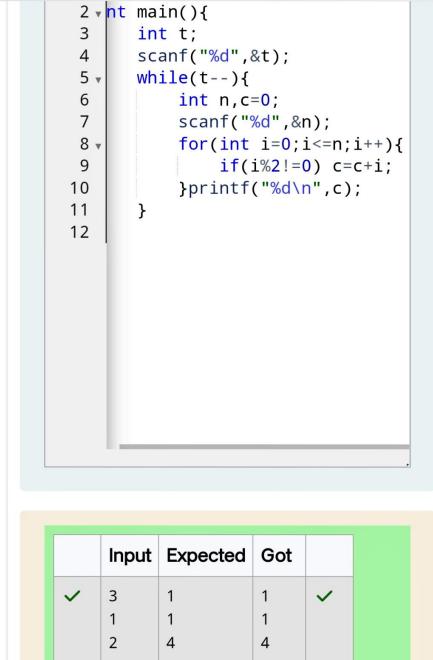
Thus, we print 1 on a new line.

Test Case 2: N = 3
Sam buys 1 chocolate on day 1, 0 on day 2,

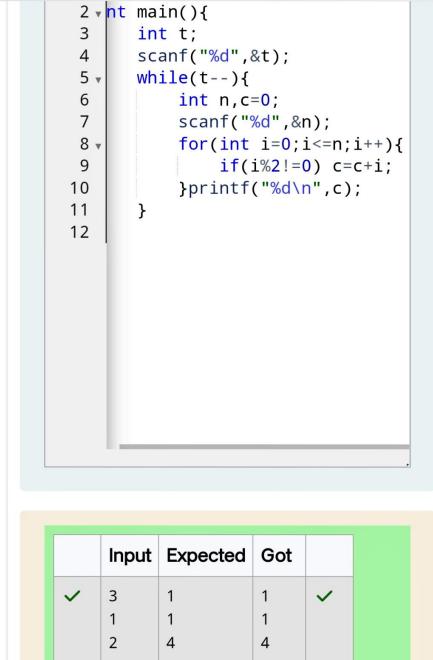
and 3 on day 3. This gives us a total of 4 chocolates. Thus, we print 4 on a new line.

Answer: (penalty regime: 0 %)

```
1  #include <stdio.h>
2  int main(){
    int t;
    scanf("%d",&t);
    while(t--){
    int n,c=0;
}
```



	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			



	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

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.

It has the following:

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

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

Constraints

 $2 \le n, m \le 105$

order.

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

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 $0 \le j < n$. 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 ≤ i < m.

- in nums (nums[0] = 1 and nums[2] = 2) that are \leq maxes[0]. For maxes[1] = 5, we have 4 elements in nums (nums[0] = 1, nums[1] = 4,nums[2] = 2, and nums[3] = 4) that are \leq maxes[1]. Thus, the function returns the array [2, 4]
 - as the answer.
- Sample Input 1

Sample Case 1

- 5
- 2
- 10 5
- 4
- 8
- 4
- 3

1

7

- 8
 - Sample Output 1

```
4
Explanation 1
We are given, n = 5
```

3

We are given, n = 5, nums = [2, 10, 5, 4, 8], m = 4, and maxes = [3, 1, 7, 8]. 1. For maxes[0] = 3, we have 1 element

in nums (nums[0] = 2) that is ≤ maxes[0].
2. For maxes[1] = 1, there are 0 elements in nums that are ≤ maxes[1].
3. For maxes[2] = 7, we have 3 elements

3. For maxes[2] = 7, we have 3 elements in nums (nums[0] = 2, nums[2] = 5, and nums[3] = 4) that are ≤ maxes[2].
4. For maxes[3] = 8, we have 4 elements

nums[3] = 4, and nums[4] = 8) that are \leq

Thus, the function returns the array [1, 0, 3,

in nums (nums[0] = 2, nums[2] = 5,

maxes[3].

4] as the answer.

10

```
Answer: (penalty regime: 0 %)
       #include <stdio.h>
    1
    2
       int main()
    3 ▼
       {
    4
            int s1,s2,ans;
           scanf("%d", &s1);
    5
            int ta[s1];
    6
    7
           for(int i=0;i<s1;i++)
           scanf("%d",&ta[i]);
    8
            scanf("%d",&s2);
    9
```

int tb[s2];



	Input	Expected	Got	
/	4	2	2	/
	1	4	4	
	4			
	2			
	2 4			
	2			
	3			
	5			
~	5	1	1	~
	2	0	0	
	10	3	3	
	5	4	4	
	4			
	8			
	4			
	3			
	1			

