

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

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

	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 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).

```

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

	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 maxes[i] representing the total number of elements 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

```

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

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