SAISANJAY SS 2024-CSE S2

Week-06-One-Dimensional Arrays

Week-06-01-Practice Session Coding

Question 1
Correct
Marked out of 3.00

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[i] - A[j] = k, i != j.

Source Code

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
int main()
{
    int t;
    scanf("%d",&t);

    for(int a=0 ; a<t ; a++)
    {
        int n;
        scanf("%d",&n);
        int a[n];

        for(int b=0;b<n;b++)
        {
            scanf("%d",&a[b]);
        }
        int k;
        scanf("%d",&k);
        int count=0,diff=0;
        for(int i=0;i<n ; i++)
        {
            for(int j=1;j<n;j++)
            {
                if((diff=a[i]-a[j]) && diff ==k && i!=j)
                {
                    count =1;
                    break;
                }
```

```
                }
                else if((diff =a[j]-a[i]) && diff == k && i!=j)
                {
                    count = 1;
                    break;
                }
            }
        }
        if(count)
        {
            printf("1\n");
        }
        else
        {
            printf("0\n");
        }
    }
    return 0;
}
```

Result

	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 Ni (where 1 ≤ x ≤ N ≤ 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.

Source Code

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
int main()
{
    int T;
    scanf("%d",&T);
    int a[T];

    for(int i=0;i<T;i++)
    {
        scanf("%d",&a[i]);
    }

    for(int t=0;t<T;t++)
    {
        int N = a[t];
        long long totalchocolate = 0;

        for(int i=0;i<=N;i++)
        {
            if(i%2!=0)
            {
                totalchocolate+=i;
            }
        }
        printf("%lld\n",totalchocolate);
    }
    return 0;
}
```

Result

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

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.

Source Code

```c
#include <stdio.h>
int main()
{
    int n,m;
    scanf("%d",&n);
    int a1[n];

    for(int i=0;i<n;i++)
    {
        scanf("%d",&a1[i]);
    }

    scanf("%d",&m);
    int a2[m];

    for(int j=0;j<m;j++)
    {
        scanf("%d",&a2[j]);
    }
    for(int i=0;i<m;i++)
    {
        int count = 0;
        for(int j=0;j<n;j++)
        {
            if(a1[j]<=a2[i])
            {
                count++;
            }
        }
        printf("%d\n",count);
    }
    return 0;
}
```

Result

	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	✓

Passed all tests! ✓