CS23331-Design and Analysis of Algorithms-2023 Batch-CS

Quiz navigation

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Finish review

Status	Finished
Started	Wednesday, 19 March 2025, 10:48 PM
Completed	Wednesday, 19 March 2025, 10:56 PM
Duration	7 mins 51 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Flag question

Given an array of N integer, we have to maximize the sum of arr[i] * i, where i is the index of the element (i = 0, 1, 2, ..., N).Write an algorithm based on Greedy technique with a Complexity O(nlogn).

Input Format:

First line specifies the number of elements-n

The next n lines contain the array elements.

Output Format:

Maximum Array Sum to be printed.

Sample Input:

5

2 5 3 4 0

Sample output:

40

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int n;
    scanf("%d",&n);
    int a[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    for(int i=0;i<n-1;i++)
    {
        for(int j=0;j<n-1;j++)
        {
            if(a[j]>a[j+1])
            {
                int temp=a[j];
                a[j]= a[j+1];
                a[j+1]=temp;
            }
        }
    }
    int sum=0;
    for(int i=0;i<n;i++)
    {
        sum+=a[i]*i;
    }
    printf("%d\n",sum);
    return 0;
}
```

	Input	Expected	Got	
	5 2 5 3 4 0	40	40	
	10 2 2 2 4 4 3 3 5 5 5	191	191	
	2 45 3	45	45	

Passed all tests!

Correct

Marks for this submission: 1.00/1.00.

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