Started on	Tuesday, 27 August 2024, 12:48 PM
State	Finished
Completed on	Tuesday, 27 August 2024, 1:02 PM
Time taken	14 mins 17 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

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>
#include <stdlib.h>

int compare(const void *a, const void *b) {
    return *(int *)a - *(int *)b;
}

int max_sum(int arr[], int n) {
    int sum = 0;

    // Sort the array in ascending order
    qsort(arr, n, sizeof(int), compare);

    // Calculate the sum of arr[i] * i
    for (int i = 0; i < n; i++) {
        sum += arr[i] * i;
    }

    return sum;
}

int main() {
    int n;


    scanf("%d", &n);

    int arr[n];


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

    int max_sum_value = max_sum(arr, n);

    printf("%d",max_sum_value);

    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.

◄ 3-G-Burger Problem

Jump to...

5-G-Product of Array elements-Minimum ►