RAJALAKSHMI ENGINEERING COLLEGE

MONIKA R 2024-CSE

M2

Started on	Sunday, 31 August 2025, 9:15 AM
State	Finished
Completed on	Sunday, 31 August 2025, 9:17 AM
Time taken	1 min 26 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 maxSum(int *arr, int n) {
    qsort(arr, n, sizeof(int), compare);

    int total = 0;
    for (int i = 0; i < n; i++) {
        total += arr[i] * i;
    }

    return total;
}

int main() {
    int n;
    scanf("%d", &n);

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

    int result = maxSum(arr, n);
    printf("%d\n", result);

    return 0;
}
```

	Input	Expected	Got	
✔	5 2 5 3 4 0	40	40	✔

	Input	Expected	Got	
✔	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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