RAJALAKSHMI ENGINEERING COLLEGE

7 SIVA S 2024-CSE S2

Started on	Wednesday, 8 October 2025, 3:58 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 3:59 PM
Time taken	36 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>

// Comparison function for ascending sort
int compare(const void *a, const void *b) {
    return (*(int *)a - *(int *)b);
}

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

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

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

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

    printf("%lld\n", maxSum);
    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.

Back to Course