



KARTHIK J 2024-IT ▾

**K2****Started on** Wednesday, 3 September 2025, 1:37 PM**State** Finished**Completed on** Wednesday, 3 September 2025, 1:37 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  $\text{arr}[i] * i$ , where  $i$  is the index of the element ( $i = 0, 1, 2, \dots, N$ ). Write an algorithm based on Greedy technique with a Complexity  $O(n \log n)$ .

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 %)

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 // Comparison function for ascending sort
5 int compare(const void *a, const void *b) {
6     return (*(int *)a - *(int *)b);
7 }
8
9 int main() {
10     int n;
11     scanf("%d", &n);
12
13     int arr[n];
14     for (int i = 0; i < n; i++) {
15         scanf("%d", &arr[i]);
16     }
17
18     // Sort the array in ascending order
19     qsort(arr, n, sizeof(int), compare);
20
21     long long maxSum = 0;
22     for (int i = 0; i < n; i++) {
23         maxSum += (long long)i * arr[i];
24     }
25
26     printf("%lld\n", maxSum);
27     return 0;
28 }
29
```

	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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