



Started on	Sunday, 31 August 2025, 10:14 AM
State	Finished
Completed on	Sunday, 31 August 2025, 10:15 AM
Time taken	11 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 ($i = 0, 1, 2, \dots, N$). 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 maxSum(int *arr, int n) {
10     qsort(arr, n, sizeof(int), compare); // Sort array ascending
11
12     int total = 0;
13     for (int i = 0; i < n; i++) {
14         total += arr[i] * i;
15     }
16
17     return total;
18 }
19
20 int main() {
21     int n;
22     scanf("%d", &n);
23
24     int arr[n];
25     for (int i = 0; i < n; i++) {
26         scanf("%d", &arr[i]);
27     }
28
29     int result = maxSum(arr, n);
30     printf("%d\n", result);
31
32     return 0;
33 }
```

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

	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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