

Started on Saturday, 30 August 2025, 7:35 PM

State Finished

Completed on Saturday, 30 August 2025, 8:05 PM

Time taken 30 mins 19 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  int compare(const void*a,const void*b)
4  {
5      int x = *(int*)a;
6      int y = *(int*)b;
7      if(x<y) return -1;
8      if(x>y) return 1;
9      return 0;
10 }
11 int main()
12 {
13     int n;
14     scanf("%d",&n);
15     int arr[n];
16     for(int i=0;i<n;i++)
17     {
18         scanf("%d",&arr[i]);
19     }
20     qsort(arr,n,sizeof(int),compare);
21     long long sum=0;
22     for(int i=0;i<n;i++)
23     {
24         sum+=(long long)arr[i]*i;
25     }
26     printf("%lld\n",sum);
27     return 0;
28 }
```

| | 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.