CS23331-Design and Analysis of Algorithms-2023 Batch-CSE

Quiz navigation

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Finish review

Started on	Friday, 4 October 2024, 7:18 PM
State	Finished
Completed on	Friday, 4 October 2024, 7:21 PM
Time taken	3 mins 5 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Flag question

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>

// Function to sort array in ascending order (using quicksort or any efficient sorting method)
void sort(int arr[], int n) {
    int i, j, temp;
    for (i = 0; i < n - 1; i++) {
        for (j = i + 1; j < n; j++) {
            if (arr[i] > arr[j]) {
                temp = arr[i];
                arr[i] = arr[j];
                arr[j] = temp;
            }
        }
    }
}

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

    return 0;
}

```

	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.

Finish review

⇥ 3-G-Burger Problem

Jump to...

5-G-Product of Array elements-Minimum ⇤