

16. What does the following function do for a given Linked List ...	+ 1.5 - 0.75
17. The recurrence relation capturing the optimal execution time...	+ 2.0 - 1.0
18. What are the time complexities of finding 8th element from b...	+ 1.5 - 0.75
19. A queue is implemented using an array such that ENQUEUE and ...	+ 1.5 - 0.75
20. Which one of the following is TRUE for any simple connected ...	+ 1.0 - 0.5
2 Programming Questions	
21. Chocolate Distribution	+ 35.0

Question 21

Chocolate Distribution

Problem There are N persons standing in a line. Each person is assigned a rating value. You are required to assign a minimum number of chocolates such that the following conditions are satisfied, and the total number of chocolates is minimum.

- Each person must have at least one chocolate.
- Persons with a higher rating get more chocolates than their neighbors.

What is the minimum chocolates you must give?

Input Format

The first line of the input is an integer, the number of persons. Each of the following lines contains a rating assigned to each person.

Constraints

0 < N < 10⁵

0 < rating < 10⁵

Output Format

Output a single line containing the minimum number of chocolates you need to buy.

3

1

2

2

Sample Output 0

4

Explanation 0

Here 1, 2, 2 is the rating. Note that when two persons have equal rating, the first person gets 1 chocolate and the second person gets 2 chocolates. Hence optimal distribution will be 1, 2, 1.

Sample Input 1

10

2

4

2

6

1

7

9

2

1

Sample Output 1

19

Explanation 1

Optimal distribution will be 1,2,1,2,1,2,3,4,2,1

Sample Input

3

1

2

2

Sample Output

4

Note: Your code should be able to convert the sample input into the sample output. However, this is not enough to pass all test cases. Therefore, your code must solve this problem statement.

Time Limit: 10.0 sec(s) for each input file

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes

Allowed Languages: C, C++, C++14, Java, Java 8, JavaScript(Node.js), Objective-C, Pascal, Python 3

New Submission

C++14 (g++ 5.4.0)

```
1  #include<bits/stdc++.h>
2  using namespace std;
3  int main()
4  {
5      int n,x;
6      cin>>n;
7      int ar[n],c[n],t=0, tot_candies=0;
8      c[0]=1;
9      cin>>ar[0];
10     for(x=1;x<n;x++)
11     {
12         cin>>ar[x];
13         if(ar[x]>ar[x-1])
14             c[x]=c[x-1]+1;
15         else
16             c[x]=1;
17     }
18     tot_candies= c[n-1];
19     for(x=n-2;x>=0;x--)
20     {
21         t=1;
22         if(ar[x]>ar[x+1])
23         {
24             t= c[x+1]+1;
25         }
26         tot_candies += max(t,c[x]);
27         c[x]=t;
28     }
29     if(n==0)
30         cout<<"0";
31 }
```

☒ Provide custom input

COMPILE & TEST

SUBMIT

Submission ID: 25611115 / 5 seconds ago

RESULT: Accepted

Score	Time (sec)	Memory (KiB)	Language
35.0	0.53703	64	C++14

Input	Result	Time (sec)
Input #1	Accepted	0.110137
Input #2	Accepted	0.105895
Input #3	Accepted	0.110251
Input #4	Accepted	0.110042
Input #5	Accepted	0.100708

Compilation Log

No compilation log for this submission.