

Please solve the following problem in your preferred coding language.

All problems are functional (Don't need to take any input from the user)

Duration: 30 mins

There are n children standing in a line. Each child is assigned a rating value given in the integer array ratings.

You are giving candies to these children subjected to the following requirements:

- Each child must have at least one candy.
- Children with a higher rating get more candies than their neighbors.
- Return the minimum number of candies you need to have to distribute the candies to the children.
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Function signature:

Python

```
def candy_distribution(ratings: List[int]) -> int:  
    pass
```

Input:

- ratings: A list of integers representing the ratings of children.

Output:

- The candy_distribution function should return an integer representing the minimum number of candies required to distribute among the children while satisfying the given conditions.

Example:

Python

Input: ratings = [1,0,2]

Output: 5

Explanation: You can allocate to the first, second and third child with 2, 1, 2 candies respectively.

Output:

Python

Input: ratings = [1,2,2]

Output: 4

Explanation: You can allocate to the first, second and third child with 1, 2, 1 candies respectively.

The third child gets 1 candy because it satisfies the above two conditions.

Constraints:

- $n == \text{ratings.length}$
- $1 \leq n \leq 2 * 10^4$
- $0 \leq \text{ratings}[i] \leq 2 * 10^4$