

# Candy

For this problem we need to distribute candies according to two rules:

1. Every child must have at least 1 candy.
2. Children with higher ratings than their neighbors must get more candies.

We must minimize the total candies distributed.

## [Key Idea: Two-Pass Greedy:]

**Steps:** 1. Initialize all candies to 1 (minimum requirement)

2. Left to right pass:

- If  $\text{rating}[i] > \text{rating}[i-1]$ , give candies  $[i] = \text{candies}[i-1] + 1$

3. Right to left pass:

- If  $\text{rating}[i] > \text{rating}[i+1]$ , ensure  $\text{candies}[i] = \max(\text{candies}[i], \text{candies}[i+1] + 1)$ .

4. Sum candies.

## [Complexity:]

Time:  $O(n)$  (two passes)

Space:  $O(n)$  (candies array) - can be optimized to  $O(1)$  but more complex