

Count Number of Teams

There are n soldiers standing in a line. Each soldier is assigned a **unique** rating value.

You have to form a team of 3 soldiers amongst them under the following rules:

- Choose 3 soldiers with index (i, j, k) with rating $(\text{rating}[i], \text{rating}[j], \text{rating}[k])$.
- A team is valid if: $(\text{rating}[i] < \text{rating}[j] < \text{rating}[k])$ or $(\text{rating}[i] > \text{rating}[j] > \text{rating}[k])$ where $(0 \leq i < j < k < n)$.

Return the number of teams you can form given the conditions. (soldiers can be part of multiple teams).

Example 1:

Input: `rating = [2,5,3,4,1]`

Output: 3

Explanation: We can form three teams given the conditions. $(2,3,4)$, $(5,4,1)$, $(5,3,1)$.

Example 2:

Input: `rating = [2,1,3]`

Output: 0

Explanation: We can't form any team given the conditions.

Example 3:

Input: `rating = [1,2,3,4]`

Output: 4

Constraints:

- $n == \text{rating.length}$
- $3 \leq n \leq 1000$
- $1 \leq \text{rating}[i] \leq 10^5$
- All the integers in rating are **unique**.