**1.3 SUM OF SQUARES OF DISTINCT COUNTS**

**AIM**:

To compute the sum of the squares of distinct counts of all possible subarrays of a given integer array.

**ALGORITHM:**

1. Initialize total sum = 0.

2. Generate all possible subarrays:

• Outer loop for starting index i.

• Inner loop for ending index j.

3. For each subarray nums[i..j]:

• Use a set to find the distinct elements.

• Let count = size of set.

• Add count \* count (square of distinct count) to total sum.

1. Return total sum after processing all subarrays.

PROGRAM:

A screenshot of a computer code

AI-generated content may be incorrect.

Input:

nums = [1,2,1]

Output:

A screenshot of a computer

AI-generated content may be incorrect.

**RESULT:**

Thus the program is successfully executed, and the output is verified.

**PERFORMANCE ANALYSIS:**

Time Complexity:

• Generating all subarrays = O(n^2)

• Counting distinct using set (up to O(n) each)

• Worst case = O(n^3)

• For small n this is fine.

Space Complexity:

• Temporary set of size up to O(n)

• So overall = O(n)