EX-1.3

Title :

You are given a 0-indexed integer array nums. The distinct count of a subarray of nums is defined as: Let nums[i..j] be a subarray of nums consisting of all the indices from i to j such that 0 <= i <= j < nums.length. Then the number of distinct values in nums[i..j] is called the distinct count of nums[i..j]. Return the sum of the squares of distinct counts of all subarrays of nums. A subarray is a contiguous non-empty sequence of elements within an array.

Aim:

To design and implement a Python program that calculates the sum of the squares of the count of distinct elements for every subarray of a given integer array.

Algorithm

1. **Start**
2. Read the input integer array nums.
3. Initialize result to 0.
4. For i in range from 0 to length of nums - 1:
5. Create an empty set distinct_set.
6. For j in range from i to length of nums - 1:
7. Add nums[j] to distinct_set.
8. Calculate the size of distinct_set.
9. Add the square of this size to result.
10. Print or return result.
11. **End**

Input:

Enter elements of the array (space separated): 1 2 1

Output:

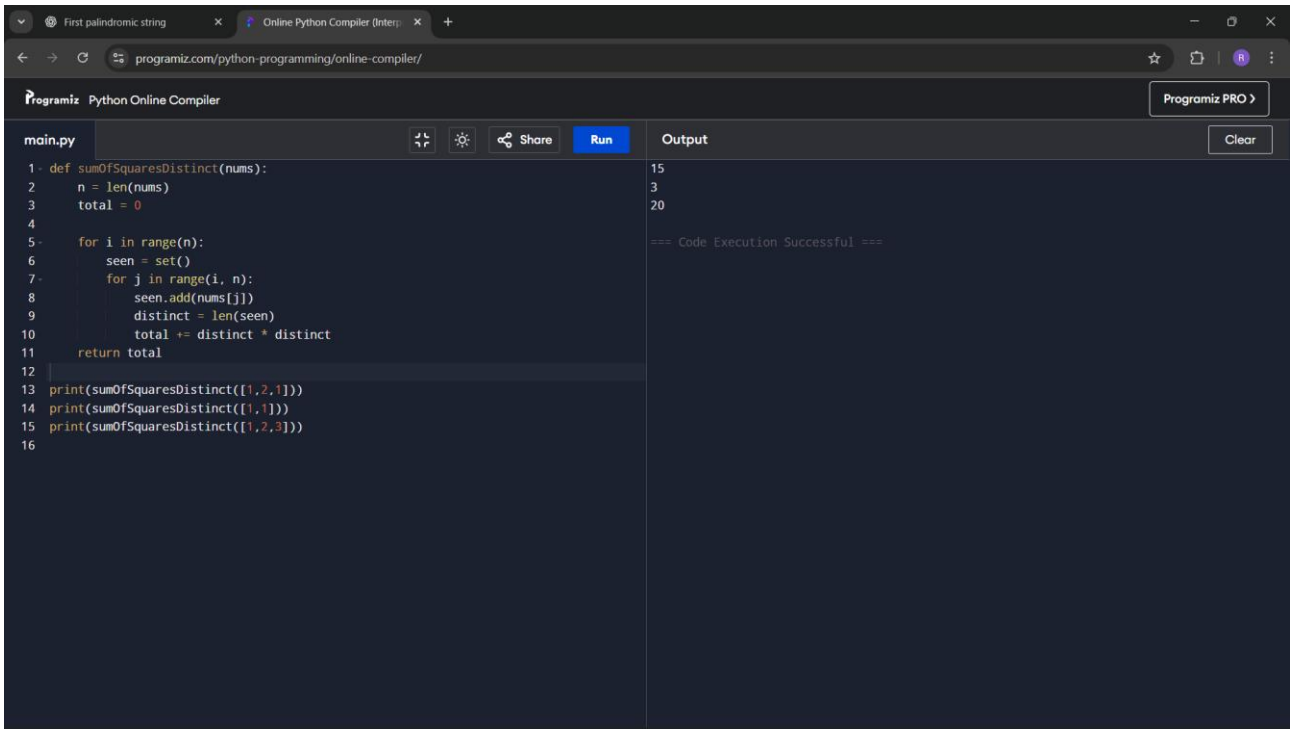
Sum of squares of distinct counts of all subarrays: 15

Performance Analysis:

Time complexity : $O(n^2)$

Space complexity: O(n)

program output:



Result :

Thus the given program to find the Sum of Squares of Distinct Counts of All Subarrays is executed and got output successfully.