

Problem 1641: Count Sorted Vowel Strings

Problem Information

Difficulty: Medium

Acceptance Rate: 79.10%

Paid Only: No

Tags: Math, Dynamic Programming, Combinatorics

Problem Description

Given an integer `n`, return _the number of strings of length_`n` _that consist only of vowels (_`a`_,_`e`_,_`i`_,_`o`_,_`u`_) and are**lexicographically sorted**._

A string `s` is **lexicographically sorted** if for all valid `i` , `s[i]` is the same as or comes before `s[i+1]` in the alphabet.

Example 1:

Input: n = 1 **Output:** 5 **Explanation:** The 5 sorted strings that consist of vowels only are ["a", "e", "i", "o", "u"].

Example 2:

Input: n = 2 **Output:** 15 **Explanation:** The 15 sorted strings that consist of vowels only are ["aa", "ae", "ai", "ao", "au", "ee", "ei", "eo", "eu", "ii", "io", "iu", "oo", "ou", "uu"]. Note that "ea" is not a valid string since 'e' comes after 'a' in the alphabet.

Example 3:

Input: n = 33 **Output:** 66045

Constraints:

* `1 <= n <= 50`

Code Snippets

C++:

```
class Solution {  
public:  
    int countVowelStrings(int n) {  
  
    }  
};
```

Java:

```
class Solution {  
    public int countVowelStrings(int n) {  
  
    }  
}
```

Python3:

```
class Solution:  
    def countVowelStrings(self, n: int) -> int:
```