Problem 1227: Airplane Seat Assignment Probability

Problem Information

Difficulty: Medium
Acceptance Rate: 67.02%
Paid Only: No
Tags: Math, Dynamic Programming, Brainteaser, Probability and Statistics

Problem Description

`n` passengers board an airplane with exactly `n` seats. The first passenger has lost the ticket and picks a seat randomly. But after that, the rest of the passengers will:

* Take their own seat if it is still available, and * Pick other seats randomly when they find their seat occupied

Return _the probability that the_`nth` _person gets his own seat_.

Example 1:

Input: n = 1 **Output:** 1.00000 **Explanation:** The first person can only get the first seat.

Example 2:

Input: n = 2 **Output:** 0.50000 **Explanation:** The second person has a probability of 0.5 to get the second seat (when first person gets the first seat).

Constraints:

* `1 <= n <= 105`

Code Snippets

C++:

```
class Solution {
public:
double nthPersonGetsNthSeat(int n) {

}
};
```

Java:

```
class Solution {
public double nthPersonGetsNthSeat(int n) {

}
}
```

Python3:

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