

12371 - LAB 05

Instructions

1. Access the auto-grader at <https://c200.luddy.indiana.edu>
2. Please write the code for the problems in python language
3. The code should be readable with variables named meaningfully
4. Plagiarism is unacceptable and we have ways to find it, so do not do it
5. Don't change the function signature (name of the function and number and types of arguments) provided in this file.
6. Once you pass all the tests on the auto grader, show your work to the teaching assistant

Problem

Question

In the village of Numberville, a festival was planned with a twist: seating had to be arranged so that each person's number or table number could divide the other. Enter Lily, a young mathematician who solved the puzzle with ease. Thanks to her clever thinking, the festival succeeded, and Lily became a hero in the village. What could be the approach Lily followed to count the number of possible arrangements ?

Test cases

Example 1:

Input: $n = 2$

Output: 2

Explanation:

The first possible arrangement is [1,2]:

table[1] = 1, tablenum = 1 is divisible by personnum = 1

table[2] = 2, tablenum = 2 is divisible by personnum = 2

The second possible arrangement is [2,1]:

table[1] = 2, tablenum = 1 is divisible by personnum = 2

table[2] = 1, tablenum = 2 is divisible by personnum = 1

Example 2:

Input: $n = 4$

Output: 8

Function signature

```
def numArrangements(n):  
    return 0
```