加分題於期末考週上傳程式(.py 檔案)

如何把輸入的一連串數字資料變成 list (題目若有輸入 list 可參考此段程式碼)

x=input()

x=list(map(int, x.split(",")))

print(x)

執行結果：

使用者輸入：1,2,4,5,7

輸出：[1,2,4,5,7]

1. [longest common prefix] Write a function to find the longest common prefix string amongst an array of strings. If there is no common prefix, return an empty string.
   Example_1: input: strings=['flower','flow','flight']; output: 'fl'
   Example_2: input: strings=['dog','racecar','car']; output:'' (an empty string)

2. [letter combination of a phone number] Given a string containing digits from 2-9 inclusive, return all possible letter combinations that the number could represent. Return the answer in any order. A mapping of digits to letters (just like on the telephone buttons) is given below. Note that 1 does not map to any letters.

   Example_1: input: digits='23', output:['ad','ae','af','bd','be','bf','cd','ce','cf']
   Example_2: input: digits='', output:[]
   Example_3: input: digits='2', output: ['a','b','c']

3. Write a python program to print out the following graph based on your input.
   Input:7 (an odd number)
   Output
   ```
      *
     ***
    *****
   *******
   ```

```
*****
 ***
  *
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4. [count and say] For each substring, say the number of digits, then say the digit. Finally, concatenate every said digit.

   Example: Input: '3322251'(string) , output:"23321511'(string)

   "3322251"

   two 3's, three 2's, one 5, and one 1

   2 3 + 3 2 + 1 5 + 1 1

   "23321511"

5. [Isomorphic Strings]

   Given two strings s and t, *determine if they are isomorphic.*

   Two strings s and t are isomorphic if the characters in s can be replaced to get t. All occurrences of a character must be replaced with another character while preserving the order of characters. No two characters may map to the same character, but a character may map to itself.

   Constraint: s and t are strings of letters.

   Example_1: input: s='egg', t='add', output: True

   Example_2: input: s='foo', t='bar', output: False