from typing import List

class Solution:

def restoreIpAddresses(self, s: str) -> List[str]:

if 4 > len(s) > 12:

return []

res = []

for i in range(1, 4):

for j in range(1, 4):

for k in range(1, 4):

for l in range(1, 4):

if i + j + k + l != len(s):

continue

first = int(s[:i])

second = int(s[i:i + j])

third = int(s[i + j:i + j + k])

fourth = int(s[i + j + k:i + j + k + l])

if first <= 255 and second <= 255 and third <= 255 and fourth <= 255:

temp = f"{first}.{second}.{third}.{fourth}"

if len(temp) == len(s) + 3:

res.append(temp)

return res