Exp-2.8

Title:

Return all strings that are substrings of another string in the list.

Aim:

To design and implement a Python program to find all strings in a list that are substrings of another string in the same list.

Procedure:

1. Read the input list of strings words.
2. Initialize an empty result list.
3. For each string in words, check if it is a substring of any other string in words (excluding itself).
4. If yes, add it to the result list.
5. Return or print the result list.

Algorithm:

1. Start
2. For each word in the list:
    - For every other word, check if the first word is contained in the second.
    - If yes, add the word to the result list and break inner loop.
3. Return the result list.
4. Stop.

Input:

4

mass as hero superhero

3

leetcode et code

3

blue green bu

Output:

['as', 'hero']

['et', 'code']

[]

Program:

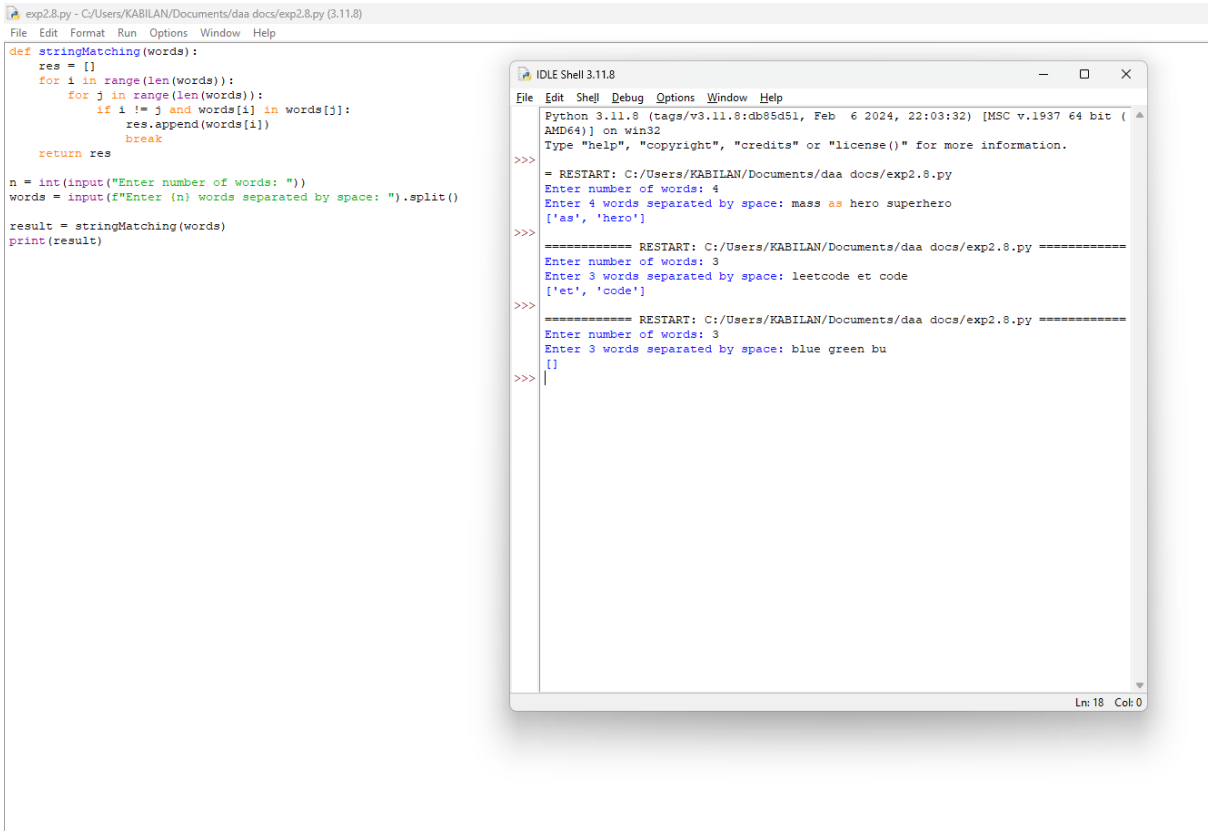
```
def stringMatching(words):
    res = []
    for i in range(len(words)):
        for j in range(len(words)):
            if i != j and words[i] in words[j]:
                res.append(words[i])
                break
    return res
n = int(input("Enter number of words: "))
words = input(f"Enter {n} words separated by space: ").split()

result = stringMatching(words)
print(result)
```

Performance Analysis:

Time Complexity: $O(n^2 * k)$

Space Complexity: $O(n)$

Program Output:



Result:

Thus the given program Substring Words Finder is executed and got output successfully.