Programming Exam 4

Date/Time: 2024.04.23 08:10 – 09:00

(程式檔命名**學號_quiz4.py**，上傳至 Moodle PE4 上傳區)

Problem: Longest Increasing Continuous Subsequence

Your task is to write a program to find the longest increasing continuous subsequence (LICS). The aim is to find the maximum length of a continuous subsequence with strictly increasing elements within an unsorted integer list. That said, your need to find the longest consecutive sequence of integer in the list that is in increasing order. The sequence must be continuous, meaning the elements in the sequence appear next to each other in the list. The input consists of a list of integers. The output is a list for longest increasing continuous subsequence (LICS), and an integer value representing its length. If there are multiple same-length LICS, you need to output any one of them.

Sample Input/Output (以下是你程式執行後須印出的結果)

```
c:\workspace>python pe4.py
Enter a sequence of integers separated by whitespace: 5 6 1 2 3 4
Length: 4
LICS: [1, 2, 3, 4]

c:\workspace>python pe4.py
Enter a sequence of integers separated by whitespace: 1 2 3 1 2 3 4 5
Length: 5
LICS: [1, 2, 3, 4, 5]

c:\workspace>python pe4.py
Enter a sequence of integers separated by whitespace: 1 1 1 1 1
Length: 1
LICS: [1]

c:\workspace>python pe4.py
Enter a sequence of integers separated by whitespace: 3 2 1
Length: 1
LICS: [3]

c:\workspace>python pe4.py
Enter a sequence of integers separated by whitespace: -2 0 3 4 5 6 1 2 3
Length: 6
LICS: [-2, 0, 3, 4, 5, 6]

c:\workspace>
```

(繳交是交 pe4.py 檔，不是交截圖)

Note: You need to write comments (註解) for each part in your code.