Python Exercise 13 & 14 & 15

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1 Instructions

Finish the following exercises **without referring to your notes** on a piece of paper and scan a PDF file by 20:59 PM CST, Jan 24. The exercise takes no more than **40** minutes in total. Record the time it takes to finish, and write it down at the end of your answers.

2 Class Recap

In today's lesson, we went through sublists, list copying, nested loop, Zelle graphics, types of looping through list. We are going to do some practices in these areas.

Codes for every classes can be accessed here.

3 Sublists

1. Suppose we have a list called `digits = [[1,2,3],[4,5,6],[7,8,9]]`. Write down the following results.
   (a) `digits[0]`
   (b) `digits[1:]`
   (c) `digits[::-1]`
   (d) `digits[0:2][1][0]`
   (e) `len(digits)`
   (f) `len(digits[0])`
   (g) `len(digits) == len(digits[0])`
2. Write a program to print all individual elements in the list `digits`. For example, `1,2,3...`

4 List Copying

1. Suppose we use the same list `digits`, write down the value of `digits` after the following procedures.
   (a) `theNine = digits[2][2]; theNine = 100`
   (b) `digits[1][1] = 100`
   (c) `slice = digits[1][:]; slice[1] = 100`
   (d) `secondTwo = digits[1:]; secondTwo[0][0] = 100`

5 Nested Loop

1. Use `for` loop to print a multiplication table from 1 to 10.
2. If `lst1 = [1, 3, 5, 7, 8]; lst2 = [2, 2, 7, 9, 7]`, write a nested loop to find out all the pairs that sum up to 10 from these two lists.

6 Iteration On Loop

1. For a list `digits = list(range(100))`, write a program to output the all entries timing its index in a single string.