Python programming

Chapter 5 algorithms

- **Collections**

  means that we can put multiple values in a single variable

  list: friends = ['Joseph', 'Glenn', 'Sally']

  not a string, it's a list of strings

  → explanation: There's also a order in list

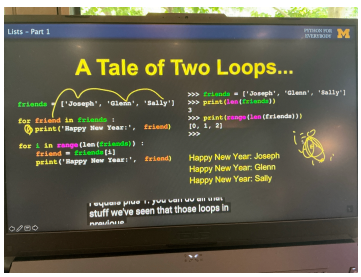
0	1	2
Joseph	Glenn	Sally

  So if you do this: print(friends[1])
  you will get = 'Glenn'

  - The function "len()" can measure the length of a list.

  - The function "range()" aims to create the sequence of numbers

    eg. list_of_numbers = list(range(5))
    print(list_of_numbers) ⇒ [0, 1, 2, 3, 4]



  - The function "append()" can help you add the extra values in the lists. / same function "pop()" which will remove the items in the list. (The last item in the list 的)

    delimiter n. 分隔符

- **Combination of lists and strings**

  - The function "split()" can help you divide the strings into lists.

    eg. line = 'A lot of spaces'
    etc = line.split()
    print(etc) ⇒ ['A', 'lot', 'of', 'spaces']

  - The function "insert()" can add item in the specific place in the list.

    eg: fruit = ["apple", "banana", "lemon"]
    fruit.insert(1, "strawberry")
    print(fruit) → ["apple", "strawberry", "banana", "lemon"]

- **Calculation of lists**

  (1) List1 = [0] * 5
  print(List1) → [0, 0, 0, 0, 0]

  (2) List2 = [0, 1, 2, 3, 4]

  New_List = List1 + List2
  print(New_List) → [0, 0, 0, 0, 0, 0, 1, 2, 3, 4]

- **List comprehension**

  you can use any mathematical methods in list to create a new list.

  eg. Mylist = [1, 2, 3, 4, 5, 6]
  Mutlist = [i * i for i in Mylist]
  print(Mutlist) → [1, 4, 9, 16, 25, 36]