



Week 05 - Looping and Strings

≡ Memo	
≡ Week	5
≡ 課程單元	Python 基礎程式設計：迴圈、字串

學習目標

- Python 基礎程式設計：迴圈 (Lesson 4, Lesson 6)、字串 (Lesson 5)
- Snakify 範例解析：Lesson 4, Lesson 5

參考資料

- Python 官方網站 (<https://www.python.org/>)
- Snakify - 線上學習網
- Zuvio - 大學師生互動平台



Python 測試開發工具 <https://jupyter.org/try>

課程設計

Snakify 線上學習工具 Lesson 4、Lesson 5、與 Lesson 6 原理說明

Snakify - Python 3 Interactive Course

In the previous lessons we dealt with sequential programs and conditions. Often the program needs to repeat some block several times. That's where the loops come in handy. There are for and while loop operators in Python, in this lesson

https://snakify.org/en/lessons/for_loop_range/

Snakify 範例解析 - The number of zeros

https://snakify.org/en/lessons/for_loop_range/problems/how_many_zeroes/



Given N numbers: the first number in the input is N, after that N integers are given. Count the number of zeros among the given integers and print it.



You need to count the number of numbers that are equal to zero, not the number of zero digits.

```
N = int(input())

cnt = 0
for i in range(N):
    v = int(input())
    if v==0:
        cnt+=1
print(cnt)
```

課堂練習 1 - Count the number of zero 『digits』



請參考 The number of zeros 範例，這次要算的是『0』這個字出現的次數，而不是計算0數值。

```
N = int(input())

# add your code here
```



Snakify 範例解析 - Lost card

https://snakify.org/en/lessons/for_loop_range/problems/lost_card/



There was a set of cards with numbers from 1 to N. One of the card is now lost. Determine the number on that lost card given the numbers for the remaining cards.

```
N = int(input())

all = N
sum = 0
for i in range(1, N):
    all += i
    sum += int(input())
print(all-sum)
```



Given a number N, followed by N - 1 integers - representing the numbers on the remaining cards (distinct integers in the range from 1 to N). Find and print the number on the lost card.

```
N = int(input())

all = (1+N)*N//2
sum = 0
for i in range(1, N):
    sum += int(input())
print(all-sum)
```

Snakify 範例解析 - The first and last occurrence

https://snakify.org/en/lessons/strings_str/problems/first_and_last_occurrences/



Given a string that may or may not contain a letter of interest. Print the index location of the first and last appearance of f. If the letter f occurs only once, then output its index. If the letter f does not occur, then do not print anything.

Don't use loops in this task.

```
s = input()
if s.count('f')==1:
    print(s.find('f'))
elif s.count('f')>1:
    print(s.find('f'),s.rfind('f'))
```

Snakify 範例解析 - The second occurrence

https://snakify.org/en/lessons/strings_str/problems/second_occurrence/



Given a string that may or may not contain the letter of interest. Print the index location of the second occurrence of the letter f. If the string contains the letter f only once, then print -1, and if the string does not contain the letter f, then print -2.

```
s = input()
fs = s.count('f')
if fs < 2:
    print(fs - 2)
else:
    print(s.find('f', s.find('f') + 1))
```

Snakify 範例解析 - Replace within the fragment

https://snakify.org/en/lessons/strings_str/problems/replace_inside_fragment/



Given a string. Replace every occurrence of the letter h by the letter H, except for the first and the last ones.

```
s = input()

l = s.find('h')
r = s.rfind('h')

print(s[:l+1] + s[l+1:r].replace('h', 'H') + s[r:])
```

Snakify 範例解析 - Delete every third character

https://snakify.org/en/lessons/strings_str/problems/delete_every_third_char/



Given a string. Delete from it all the characters whose indices are divisible by 3.

```
s = input()
s1 = ""
for i in range(len(s)//3+1):
    s1 += s[1:3]
    s = s[3:]

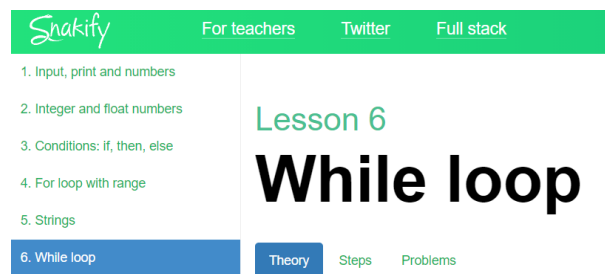
print(s1)
```

```
s = input()
t = ''
for i in range(len(s)):
    if i % 3 != 0:
        t = t + s[i]
print(t)
```

課堂作業

Homework 01 - Snakify Python 程式問題練習。 驗收期限：期中考前一週 (10/31)。

- 請完成 Lesson 6 中的所有題目。
- 請務必先註冊且登入你的 Snakify 帳號。



https://snakify.org/en/lessons/while_loop/