Sankify Python 3 課程 Lesson 1、2 說明

Script	done
Video	done

Lesson 1 : Input, print and numbers

> https://snakify.org/en/lessons/print_input_numbers/

How to read and write in Python

```
a = 88
b = 66
print(a + b)
print(a - b)
print(a * b)
print(a / b)
print(a // b)
print(a % b)
```

```
154
22
5808
1.3333333333333333
1
22
```

```
print("What is your name?")
name = input()
print("Hi " + name + '!')
```

```
What is your name?
 Young
Hi Young!
```

Sum of numbers and strings

```
a = input()
b = input()
print("a + b = ", a + b)
```

```
 12
 34
a + b =  1234
```

```
a = int(input())
b = int(input())
print("a + b = ", a + b)
```

```
 12
 34
a + b =  46
```

```
print("*" * 1)
print("*" * 2)
print("*" * 3)
print("*" * 4)
print("*" * 5)
```

```
*
**
***
****
*****
```

Snakify 範例解析：Apple sharing

✏️ `N students take K apples` and distribute them among each other evenly. The remaining (the indivisible) part remains in the basket. `How many apples will each single student get? How many apples will remain in the basket?` The program reads the numbers `N` and `K`. It should print the two answers for the questions above.

```
N = int(input())
K = int(input())

print(K//N)
print(K%N)
```

Snakify 範例解析：Two timestamps

✏️ A timestamp is three numbers: `a number of hours, minutes and seconds`. Given two timestamps, calculate `how many seconds is between them`. The moment of the first timestamp occurred before the moment of the second timestamp.

```
h1 = int(input())
m1 = int(input())
s1 = int(input())
h2 = int(input())
m2 = int(input())
s2 = int(input())
tc1 = (h1*60+m1)*60+s1
tc2 = (h2*60+m2)*60+s2
print(tc2-tc1)
```

Snakify 範例解析：School desks

✏️ A school decided to replace the desks in three classrooms. `Each desk sits two students`. Given the number of students in each class, print the smallest possible number of desks that can be purchased.

```
a = int(input())
b = int(input())
c = int(input())

print((a+1)//2+(b+1)//2+(c+1)//2)
```

Lesson 2 : Integer and float numbers

> https://snakify.org/en/lessons/integer_float_numbers/

Integer arithmetic

```
a = 2
b = 8
print(a + b)
print(a - b)
print(a * b)
print(a / b)
print(a // b)
```

```
print(a % b)
print(a ** b)
```

```
10
-6
16
0.25
0
2
256
```

Floating-point numbers

```
print(float("3.14"))
print(float("3"))
print(float("0"))
```

```
3.14
3.0
0.0
```

Floating-point to Integer

```
print(int(1.3))
print(int(1.7))
print(int(-1.3))
print(int(-1.7))
```

```
1
1
-1
-1
```

```
print(round(1.3))
print(round(1.7))
print(round(-1.3))
print(round(-1.7))
```

```
1
2
-1
-2
```

Floating-point real numbers can't be represented with exact precision due to hardware limitations.

```
print(0.1 + 0.2)
print(0.2 + 0.4)
print(0.3 + 0.2)
```

```
0.30000000000000004
0.6000000000000001
0.5
```

Snakify 範例解析：Fractional part

✏️ Given a positive real number, print its fractional part.

```
n = float(input())
print(n-int(n))
```

Snakify 範例解析：First digit after decimal point

✏️ Given a positive real number, print its first digit to the right of the decimal point.

```
n = float(input())
print(int(n*10)%10)
```

Snakify 範例解析：Digital clock

✏️ Given the integer N - the number of minutes that is passed since midnight - `how many hours and minutes` are displayed on the `24h digital clock?`

```
n = int(input())

print(n//60, n%60)
```

Snakify 範例解析：Clock face - 2

✏️ Hour hand turned by `α degrees` since the midnight. Determine the angle by which minute hand turned since the start of the current hour. Input and output in this problems are floating-point numbers.

```
a = float(input())

print(a%30*(60/30)*6)
```