



# **Reinvent the wheel**

20210511 / Slide 3

# Python Function

- 關鍵字 (keyword) 用在函數 (function) 或方法 (method) 中回傳數值，這是說如果函數或方法需要回傳值 (return value) 的話，就要加上 **return** 陳述，基本上函數或方法只會回傳一個數值。

# Example 1, define and return

```
def get_10():  
    return 10
```

```
print(get_10())
```

## Example 2, parameter

```
def get_p(p):  
    return p  
print(get_p(5))
```

## Example 3, local variable

```
def get_a():  
    a = 0  
    return a  
  
print(get_a())
```

# Variable Scope

- Local Variable
- Global Variable

# Global Variable -1

```
x = "global"  
def foo():  
    print("x inside:", x)
```

```
foo()  
print("x outside:", x)
```

```
--
```

```
x inside: global  
x outside: global
```

# Global Variable - 2

```
x = "global"  
def foo():  
    x = x * 2  
print(x)  
foo()
```



# Local Variable -1

```
def foo():  
    y = "local"  
foo()  
print(y)
```

# Local variable 2

```
def foo():  
    y = "local"  
    print(y)  
foo()
```

# Global & Local var

```
x = "global "
```

```
def foo():
```

```
    global x y = "local"
```

```
    x = x * 2
```

```
    print(x)
```

```
    print(y)
```

```
foo()
```

# Answer

global global  
local

# Global & Local var - 2

```
x = 5
```

```
def foo():
```

```
    x = 10
```

```
    print("local x:", x)
```

```
foo()
```

```
    print("global x:", x)
```

# Answer

local x: 10

global x: 5

# Exercise

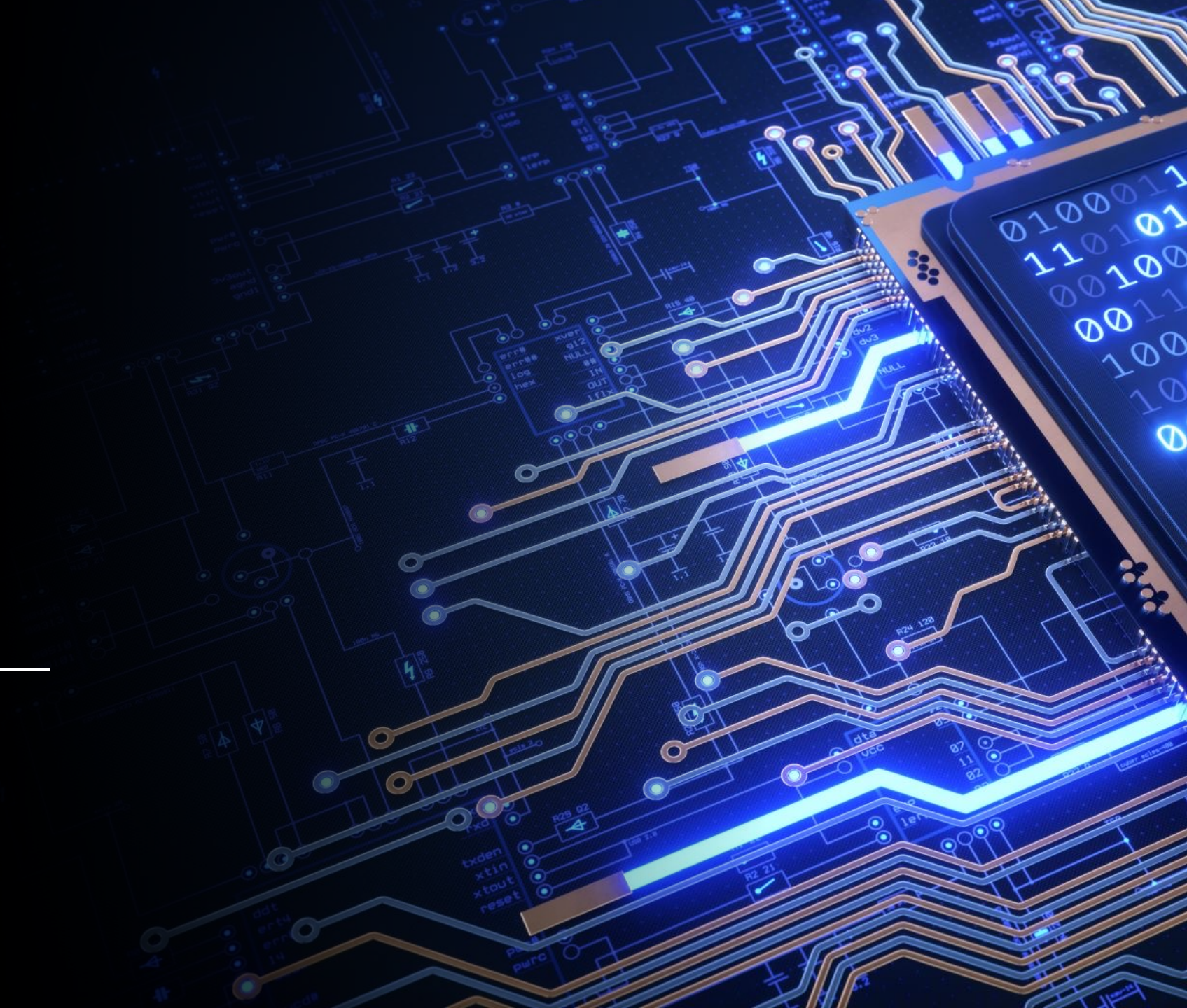
1. Create a function getPriceA() and return 12
2. Create a function setPriceA with 1 parameter
3. Update getPriceA function to support variable 'a' from setPriceA a
4. Create getPriceB and setPriceB for var b as well
5. Create one more function sum() with getPriceA & getPriceB and return the value
6. Request for input A and B 1 by 1 and set PriceA & PriceB
7. Print out the sum value to user



# Tic Tac Toe

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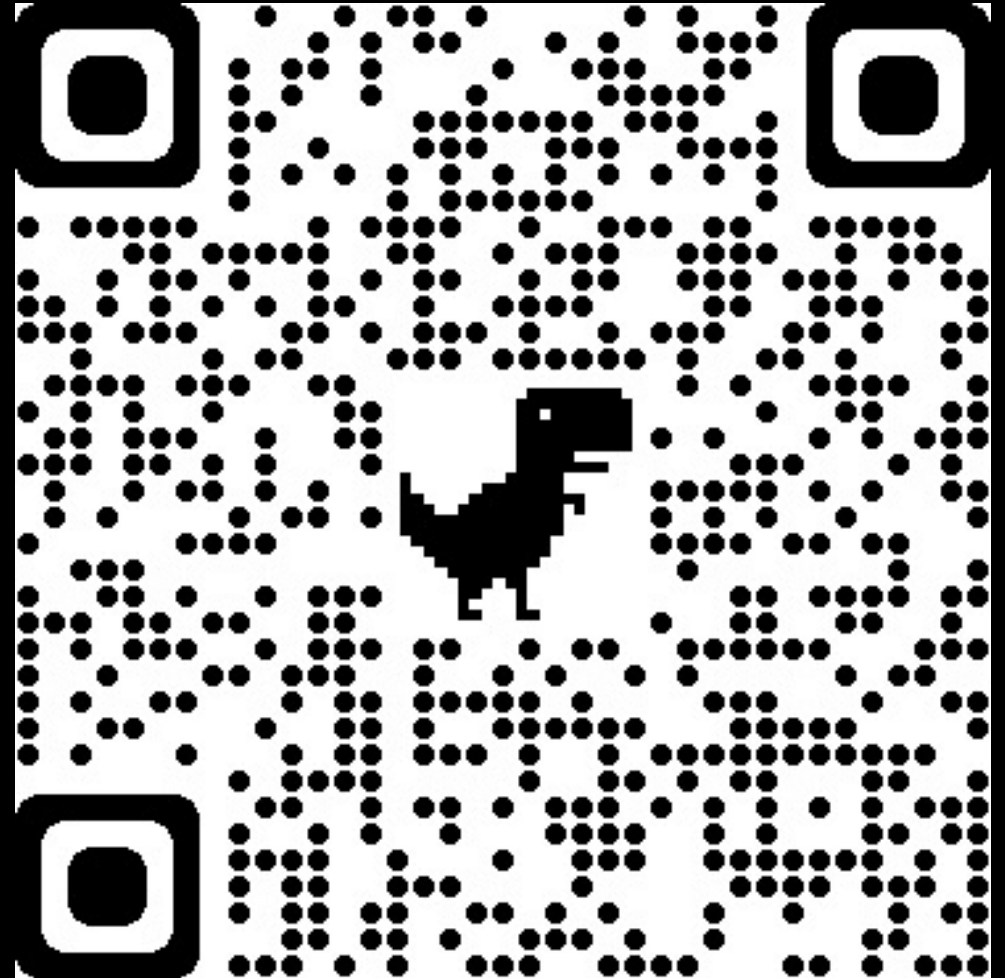
Show me the code





# Download

<https://drive.google.com/drive/folders/11QGE8QIh6F-b2iU7HlnZHmOWrEOdqeMO>



# Exercise / Homework

- Create Tic Tac Toe Game with 2 users input
- Input Players' name
- Print the game space
- Create the game space to store game state.
- Request x,y coordinate as input (e.g. "0,0", "2,2", "1,2" etc)
- Verify the input
- Print the updated game space
- Check the game is over and announce player name