

pytest as a Start

請照著投影片的操作做一遍

黃色框框是請你輸入的指令

綠色框框通常是應獲得的輸出

15 mins

- 確認 python 已安裝

```
>
PS C:\Users\ypcheng>
PS C:\Users\ypcheng>
PS C:\Users\ypcheng> d:
PS D:\> python
PS D:\> python
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
>>>
>>>
```

- 確認 pip 已安裝
你安裝的 python 夠新應該沒有問題

```
PS D:\> pip

Usage:
  C:\Users\ypcheng\AppData\Local\Microsoft\WindowsApps\PythonSoftwareFoundation.Python.3.11_qbz5n2kfra
  pip <command> [options]

Commands:
  install          Install packages.
  download         Download packages.
  uninstall        Uninstall packages.
  freeze           Output installed packages in requirements format.
  inspect          Inspect the python environment.
  list             List installed packages.
  show             Show information about installed packages.
  check            Verify installed packages have compatible dependencies.
  config           Manage local and global configuration.
  search           Search PyPI for packages.
  cache            Inspect and manage pip's wheel cache.
  index            Inspect information available from package indexes.
  wheel            Build wheels from your requirements.
  hash             Compute hashes of package archives.
  completion       A helper command used for command completion.
  debug            Show information useful for debugging.
  help             Show help for commands.

General Options:
  -h, --help       Show help.
  --debug          Let unhandled exceptions propagate outside the main subroutine, instead
                  to stderr.
  --isolated       Run pip in an isolated mode, ignoring environment variables and user con
  --require-virtualenv
                  Allow pip to only run in a virtual environment; exit with an error other
  --python <python>
                  Run pip with the specified Python interpreter.
  -v, --verbose    Give more output. Option is additive, and can be used up to 3 times.
  -V, --version    Show version and exit.
  -q, --quiet      Give less output. Option is additive, and can be used up to 3 times (cor
                  WARNING, ERROR, and CRITICAL logging levels).
```

• 安裝 pytest

```
PS D:\>
PS D:\> pip install pytest
Collecting pytest
  Downloading pytest-7.4.0-py3-none-any.whl (323 kB)
----- 323.6/323.6 kB 1.7 MB/s eta 0:00:00
Collecting iniconfig (from pytest)
  Downloading iniconfig-2.0.0-py3-none-any.whl (5.9 kB)
Collecting packaging (from pytest)
  Downloading packaging-23.1-py3-none-any.whl (48 kB)
----- 48.9/48.9 kB 2.6 MB/s eta 0:00:00
Collecting pluggy<2.0,>=0.12 (from pytest)
  Downloading pluggy-1.2.0-py3-none-any.whl (17 kB)
Collecting colorama (from pytest)
  Using cached colorama-0.4.6-py2.py3-none-any.whl (25 kB)
Installing collected packages: pluggy, packaging, iniconfig, colorama, pytest
WARNING: The scripts py.test.exe and pytest.exe are installed in 'C:\Users\ypcheng\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.11_qbz5n2kfra8p0\LocalCache\local-packages\Python311\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed colorama-0.4.6 iniconfig-2.0.0 packaging-23.1 pluggy-1.2.0 pytest-7.4.0
PS D:\> -
PS D:\>
PS D:\>
```

如果你想直接在命令列執行 `pytest`，請把這個路徑加到 `PATH` 環境變數
不過我們會用 `python -m pytest` 來執行 `pytest` 就可以不做這個動作

- 把 VSCode 執行起來

```
目錄: D:\pythontestzone

Mode                LastWriteTime         Length Name
----                -
d-----          2023/7/6   下午 08:58             codingzone
d-----          2022/10/26  下午 02:57             hellotest
d-----          2022/10/26  下午 05:07             pytest
d-----          2022/10/27  上午 12:00             pytestmore
d-----          2022/10/26  下午 11:36             resources
-a----          2022/10/26  下午 01:58             69 firstexample.py
-a----          2022/10/26  下午 10:44             65 pytest.code-workspace

PS D:\pythontestzone> cd .\codingzone\
PS D:\pythontestzone\codingzone> dir

目錄: D:\pythontestzone\codingzone

Mode                LastWriteTime         Length Name
----                -
d-----          2023/7/6   下午 08:58             ex1

PS D:\pythontestzone\codingzone> cd ex1
PS D:\pythontestzone\codingzone\ex1> code .
```

①

EXPLORER

OPEN EDITORS

GROUP 1

- helloworld.py

GROUP 2

- test_helloworld.py

EX1

- __pycache__
- .log
- .pytest_cache
- .vscode
- helloworld.py
- test_helloworld.py

helloworld.py

```
1 def helloworld():  
2     return "hello-world"
```

test_helloworld.py

```
1 from helloworld import helloworld  
2  
3 def test_hello_world():  
4     assert helloworld() == "hello-world"
```

TERMINAL

powershell

```
on.python.3.11_qbz5n2kfra8p0\localcache\local-packages\python311\site-packages (from pytest) (1.2.0)  
Requirement already satisfied: colorama in c:\users\ypcheng\appdata\local\packages\pythonsoftwarefoundation.python  
.3.11_qbz5n2kfra8p0\localcache\local-packages\python311\site-packages (from pytest) (0.4.6)  
PS D:\pythontestzone\codingzone\ex1>  
PS D:\pythontestzone\codingzone\ex1>  
PS D:\pythontestzone\codingzone\ex1> python -m pytest  
===== test session starts =====  
platform win32 -- Python 3.11.4, pytest-7.4.0, pluggy-1.2.0  
rootdir: D:\pythontestzone\codingzone\ex1  
collected 1 item  
  
test_helloworld.py . [100%]  
  
===== 1 passed in 0.01s =====  
PS D:\pythontestzone\codingzone\ex1>  
PS D:\pythontestzone\codingzone\ex1>
```

1. 建立一個新檔 helloworld.py 並且輸入一個 helloworld()
2. 建立一個測試檔 test_helloworld.py 並且輸入一個測試案例
3. 執行 python—m pytest
4. 結果如綠框的文字

Pytest 會自動在你的目錄中尋找檔案名稱有 test 的字串的 .py 來執行

test_XXXXX.py
XXXXX_test.py