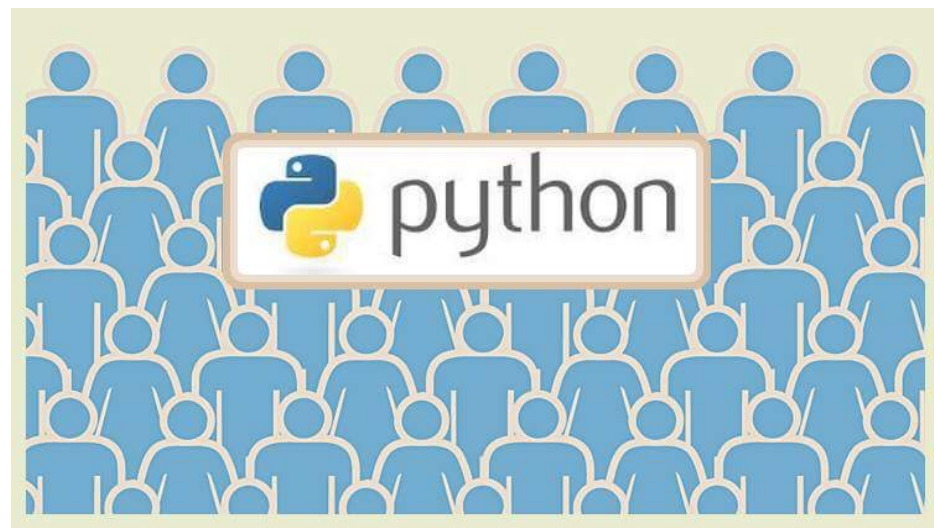


吳老師教學中心





吳老師教學中心



Python程式語言 ,大數據, 人工智慧,
機器學習,深度學習



- 吳老師教學中心粉絲團
- www.facebook.com/chaiyenwu/
- 吳老師教學會員中心
- <http://www.justinwu.com.tw/>



- 智慧手機App應用程式,iOS,Android.人工智慧,Fintech,大數據 , Python, 討論區
- <https://www.facebook.com/groups/2125450901013468/>





python 機器學習





Python 機器學習

下載及安裝Python軟體

吳佳諺 老師





- 1.下載及安裝Python軟體
- 2.Python直譯器與計算機
- 3.資料結構
- 4.控制結構
- 5.函數
- 6.類別
- 7.繼承
- 8.異常或錯誤處理
- 9.使用matplotlib畫圖
- 10.網站擷取使用Python
- 11.行程和執行緒
- 12.資料及檔案處理
- 13.SQLite資料庫
- 14.人機界面及影像處理
- 15.Python遊戲設計



1.下載及安裝Python軟體

1-1.在Mac下載及安裝Python軟體

1-2.在Window 10下載及安裝Python軟體

1-3下載及安裝PyCharm



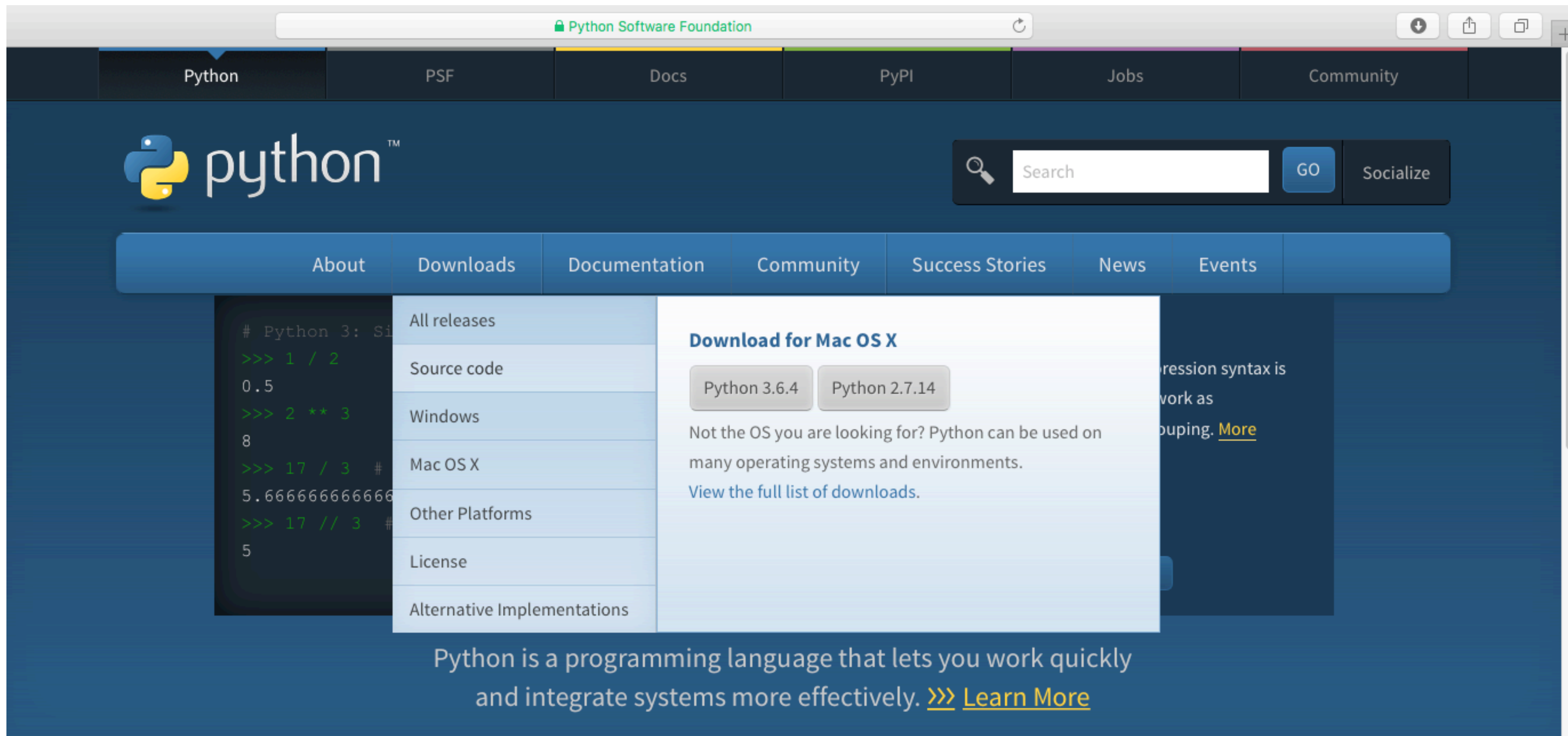
1-1.在Mac下載及安裝Python軟體

到python.org下載軟體

到Aanconda下載Python組合

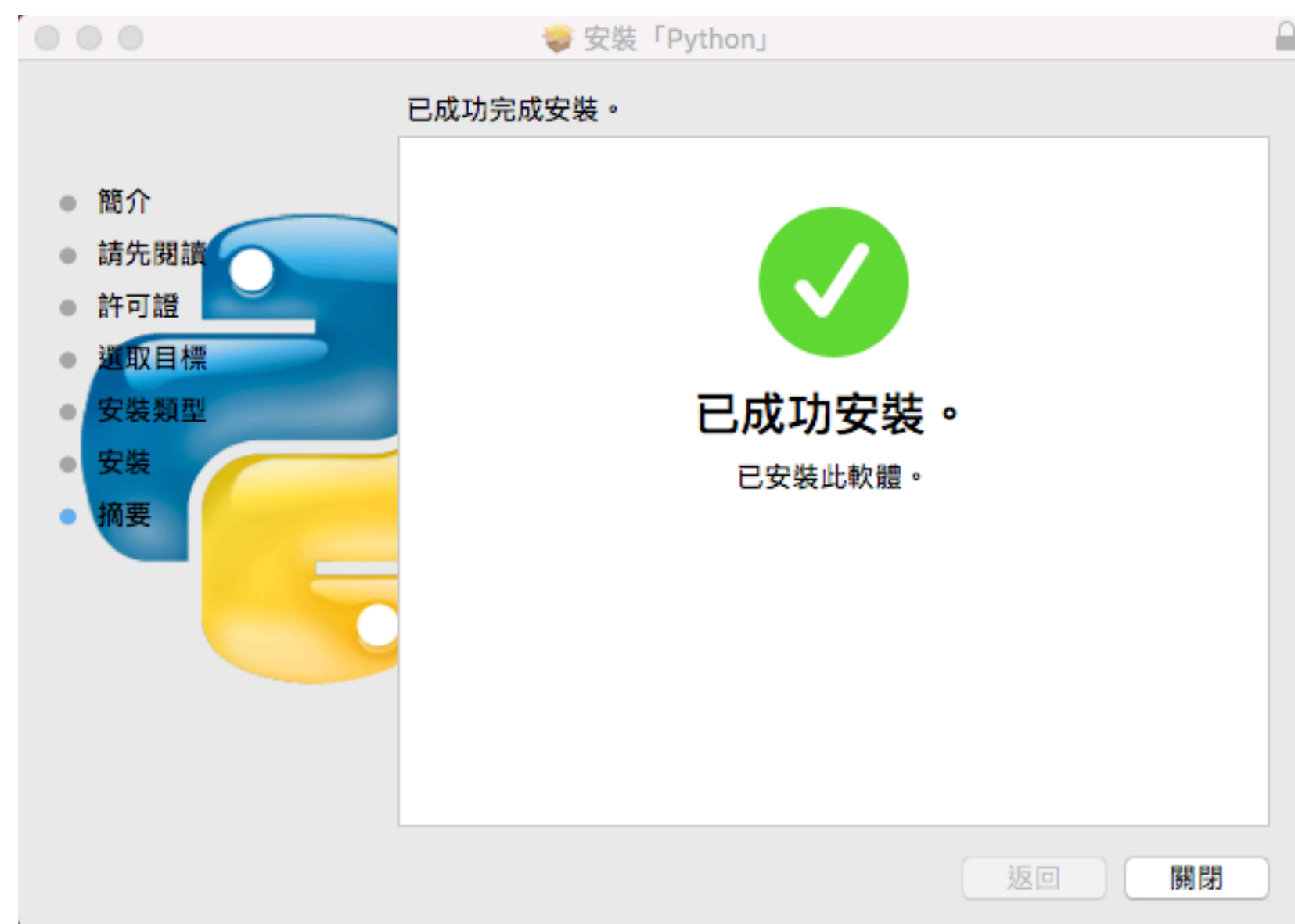


到python.org下載軟體



在Mac安裝Python



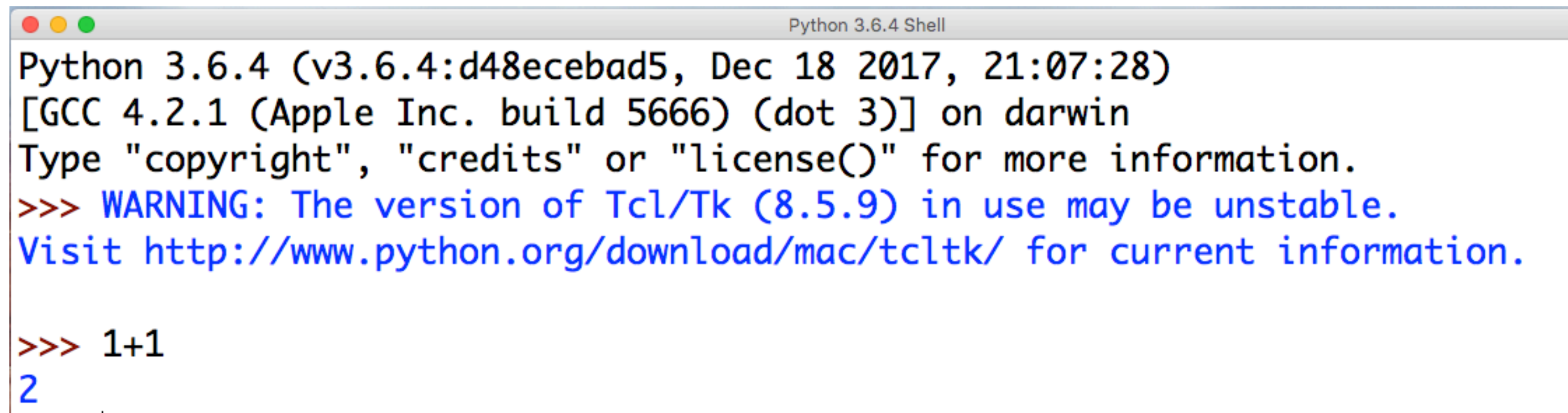


Python安裝

- 這是在Mac上安裝完的Python Launcher



這是安裝完Python的直譯環境



```
Python 3.6.4 (v3.6.4:d48ecebad5, Dec 18 2017, 21:07:28)
[GCC 4.2.1 (Apple Inc. build 5666) (dot 3)] on darwin
Type "copyright", "credits" or "license()" for more information.
>>> WARNING: The version of Tcl/Tk (8.5.9) in use may be unstable.
Visit http://www.python.org/download/mac/tcltk/ for current information.

>>> 1+1
2
```

使用pip install 套件名稱

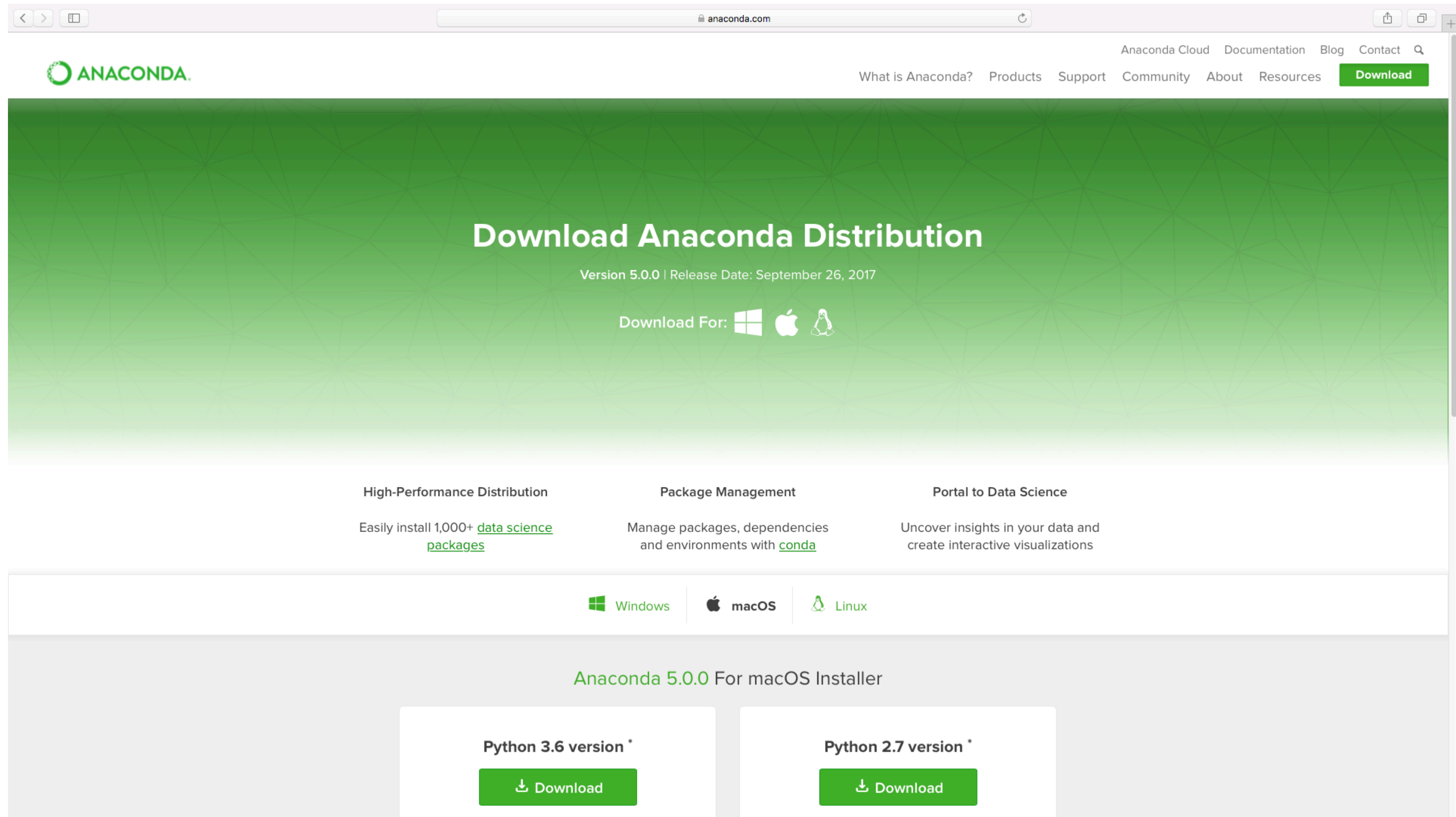
- 安裝套件
- pip install 套件名稱
- 解除安裝套件
- pip uninstall 套件名稱
- 檢視目前系統已經安裝的套件
- pip list

安裝

Anaconda,Numpy,Matplotlib

- 安裝Anaconda組合包
- 此包含Python,spyder,和科學大數據計算軟體
- 安裝Numpy,Matplotlib,Scipy

- 到Anconda下載Python組合包<https://www.anaconda.com/>



使用conda升級套件

```
justinwu — -bash — 80x24
Last login: Mon Oct 16 07:12:00 on console
[60-250-191-81:~ justinwu$ pip install scipy
Requirement already satisfied: scipy in ./anaconda3/lib/python3.6/site-packages
[60-250-191-81:~ justinwu$ pip install -U scipy
Requirement already up-to-date: scipy in ./anaconda3/lib/python3.6/site-packages
[60-250-191-81:~ justinwu$ conda install numpy
Fetching package metadata .....
Solving package specifications: .

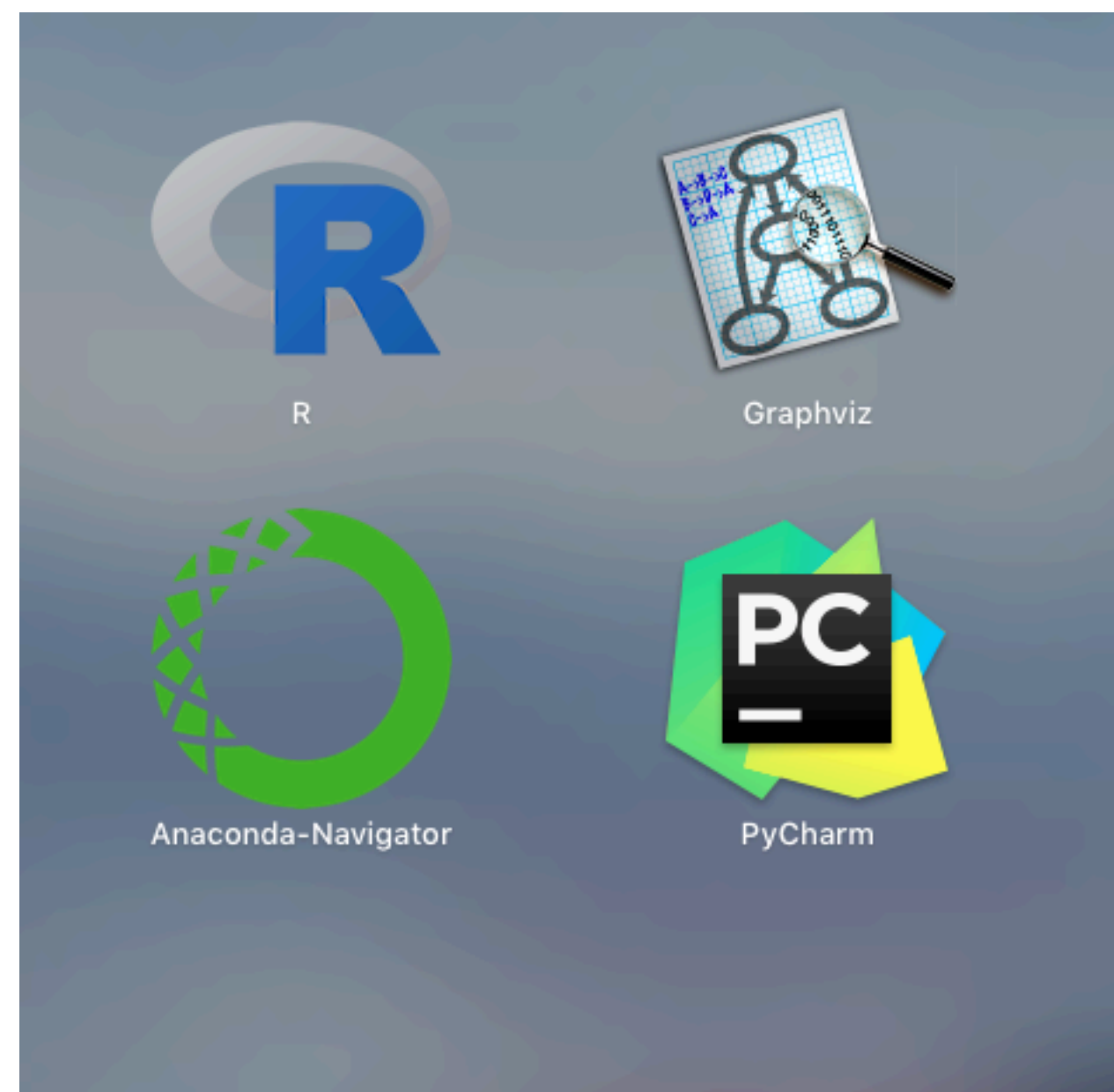
Package plan for installation in environment /Users/justinwu/anaconda3:

The following packages will be UPDATED:

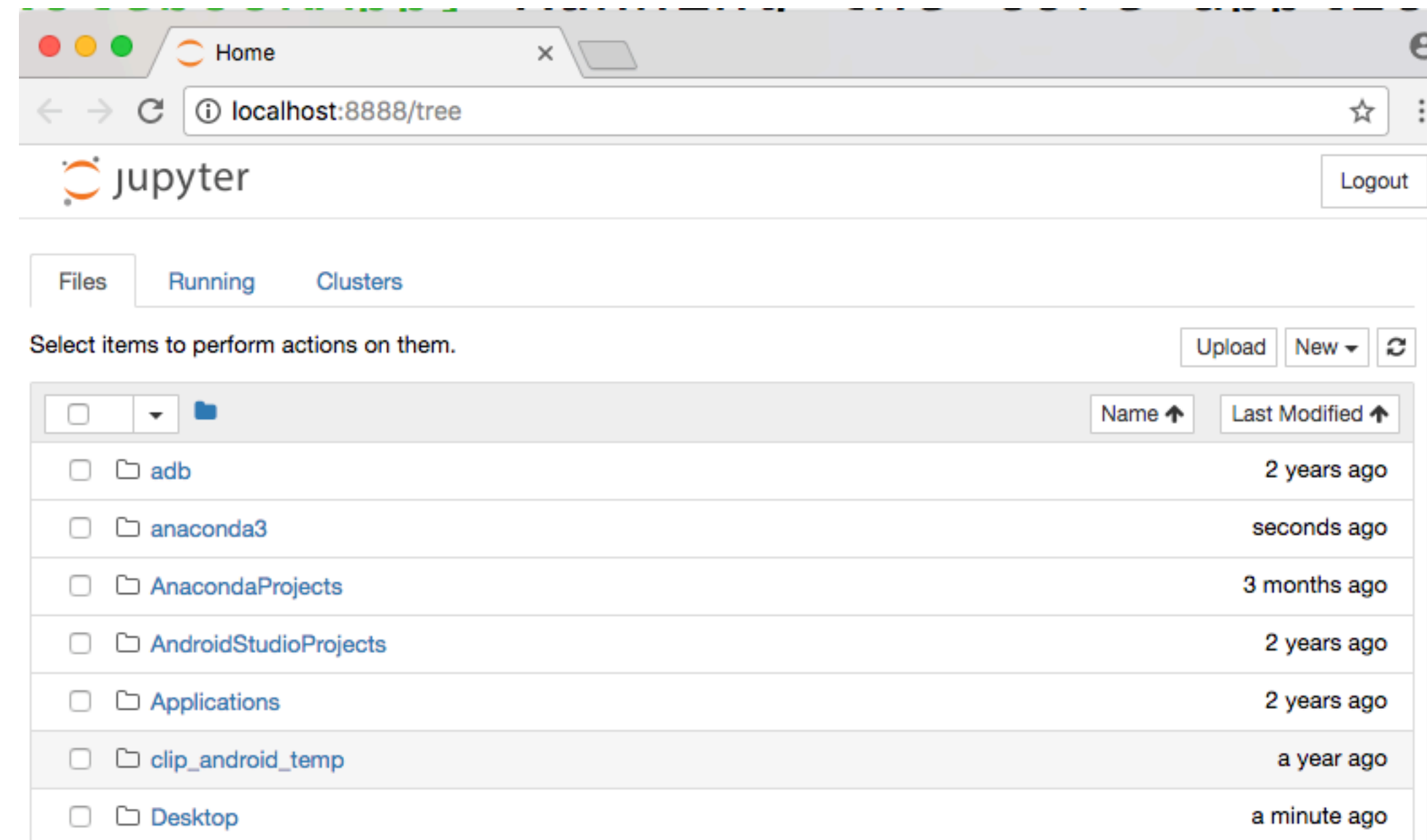
  anaconda: 5.0.0-py36hd9bc8a5_0 --> custom-py36_0
  numpy:    1.13.1-py36h93d791d_2 --> 1.13.3-py36h2cdce51_0

Proceed ([y]/n)?
anaconda-custo 100% |#####| Time: 0:00:00 238.23 kB/s
numpy-1.13.3-p 100% |#####| Time: 0:00:00 11.34 MB/s
60-250-191-81:~ justinwu$
```

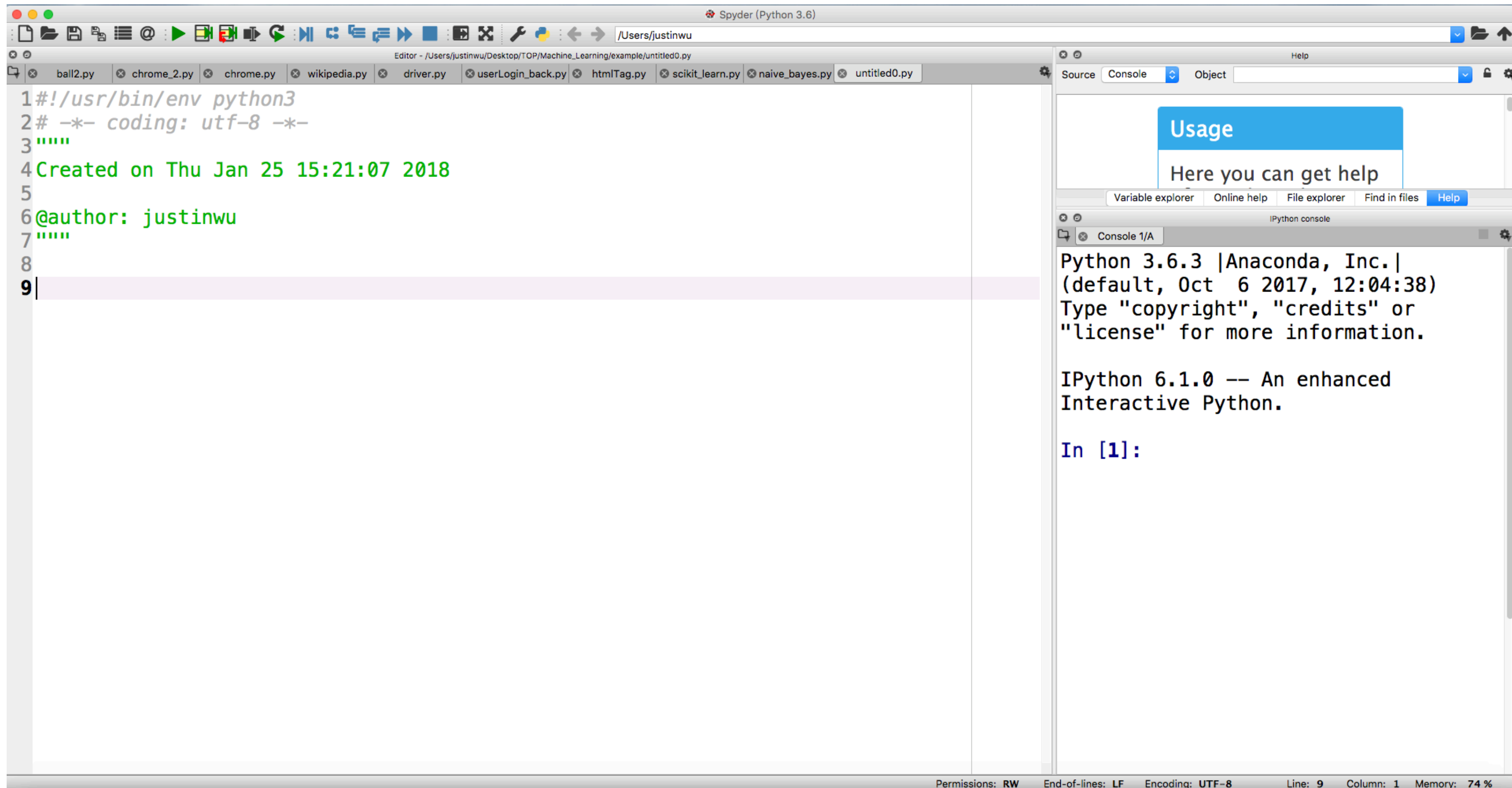
在Mac選取Launchpad打開 Anaconda Navigator



這是安裝的Jupyter Notebook



spyder



1-2.在Window 10下載及安裝Python軟體

- 1-2-1在Window 10下載及安裝Python軟體
- 1-2-2在Windows 10安裝Anaconda



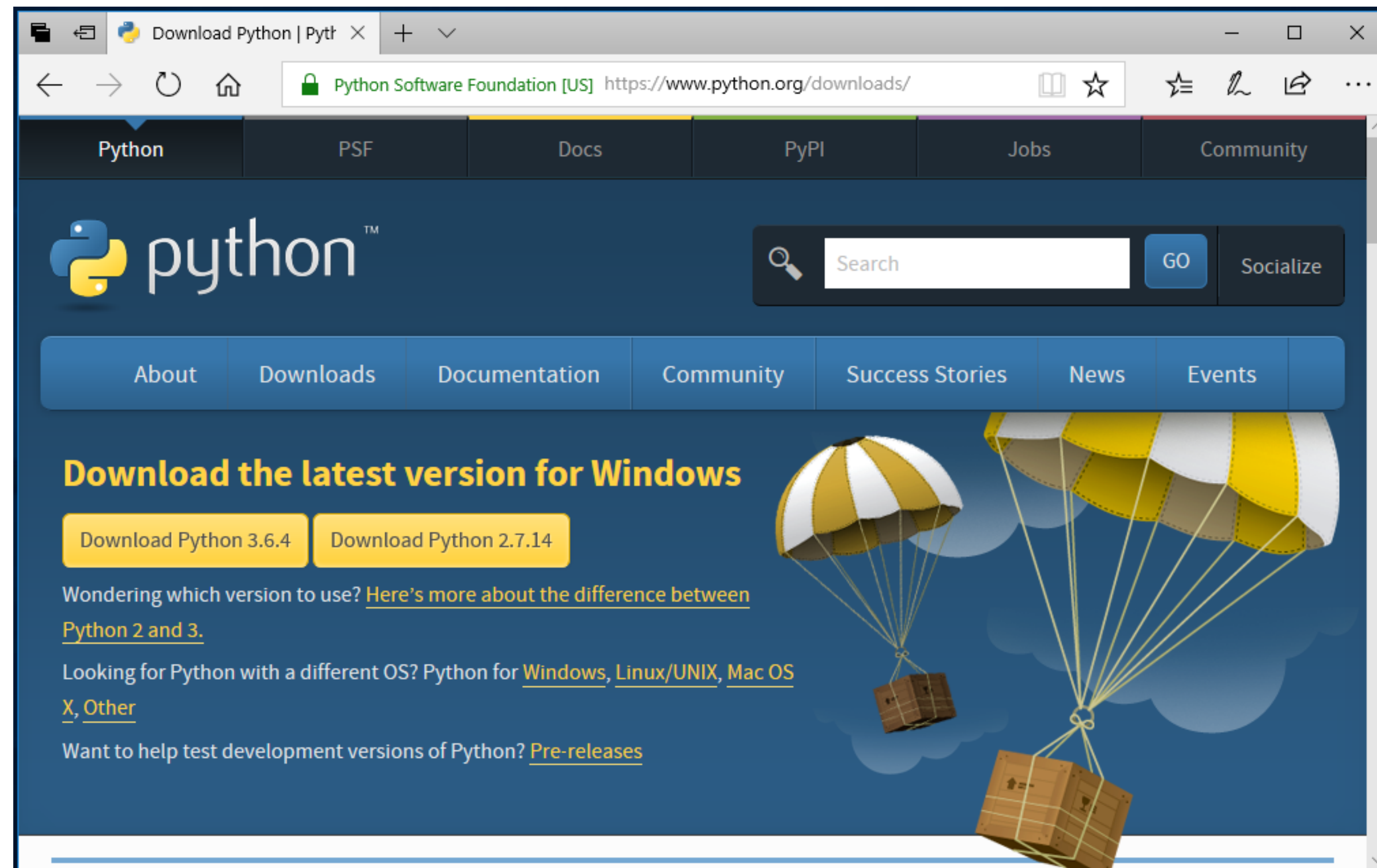
1-2-1在Window 10 下載及安裝Python軟體

到python.org下載軟體



到python.org下載軟體

- 下載最新Python3.6版



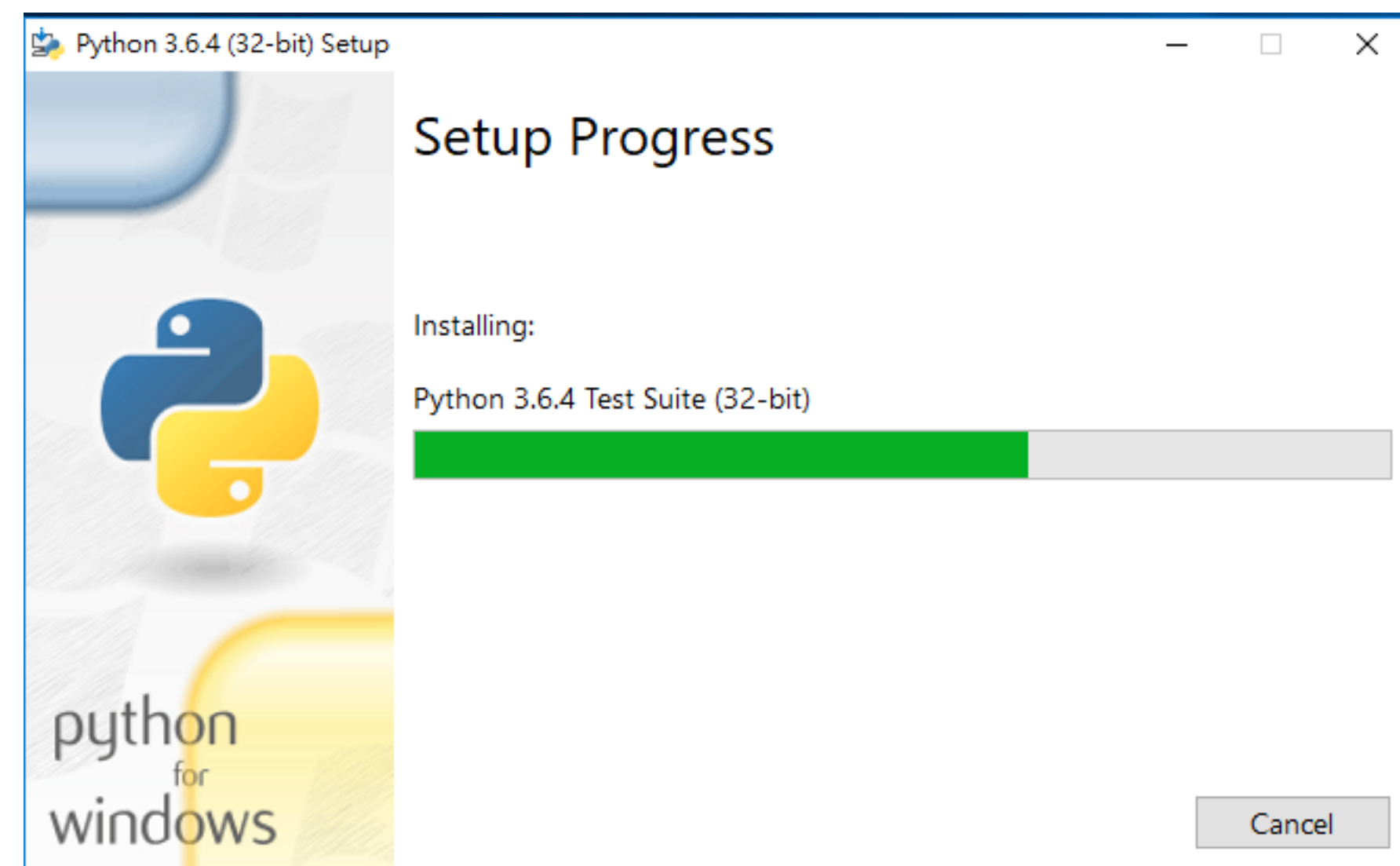
開始安裝3.6版

- 這是安裝程式軟體的路徑,預設是安裝在C:\Programs目錄下



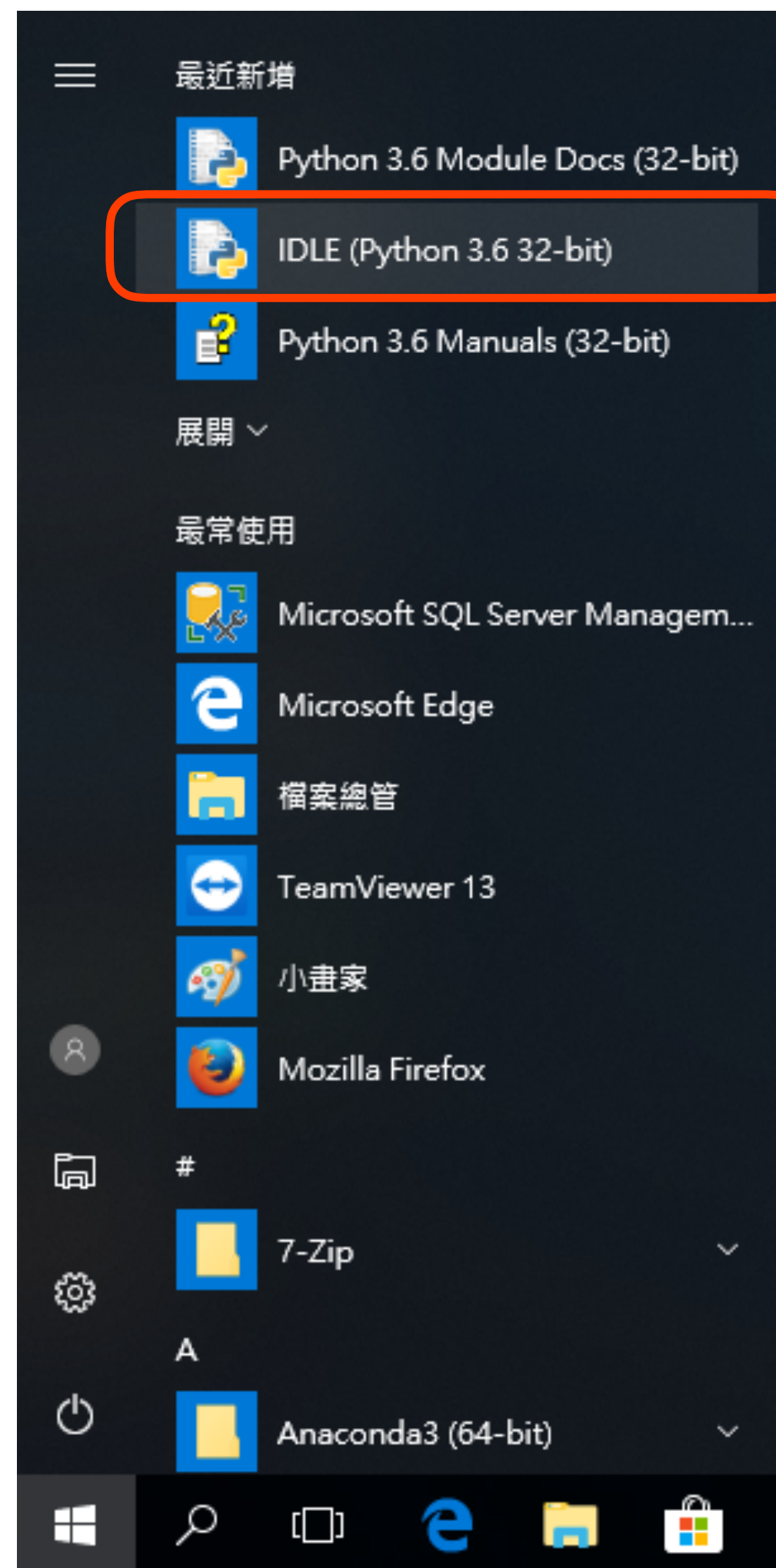
將Python路徑加入系統打勾

正在安裝中

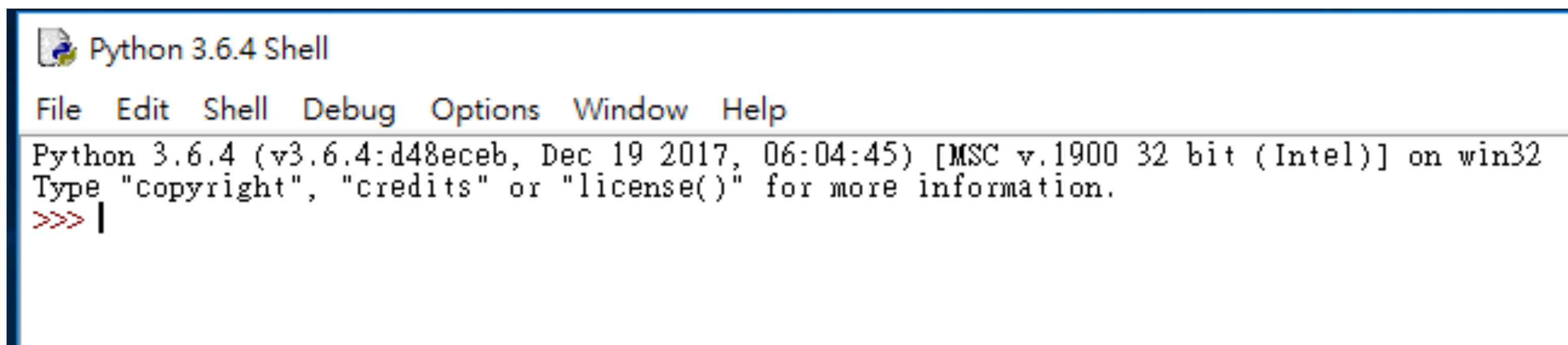




打開Python開發環境

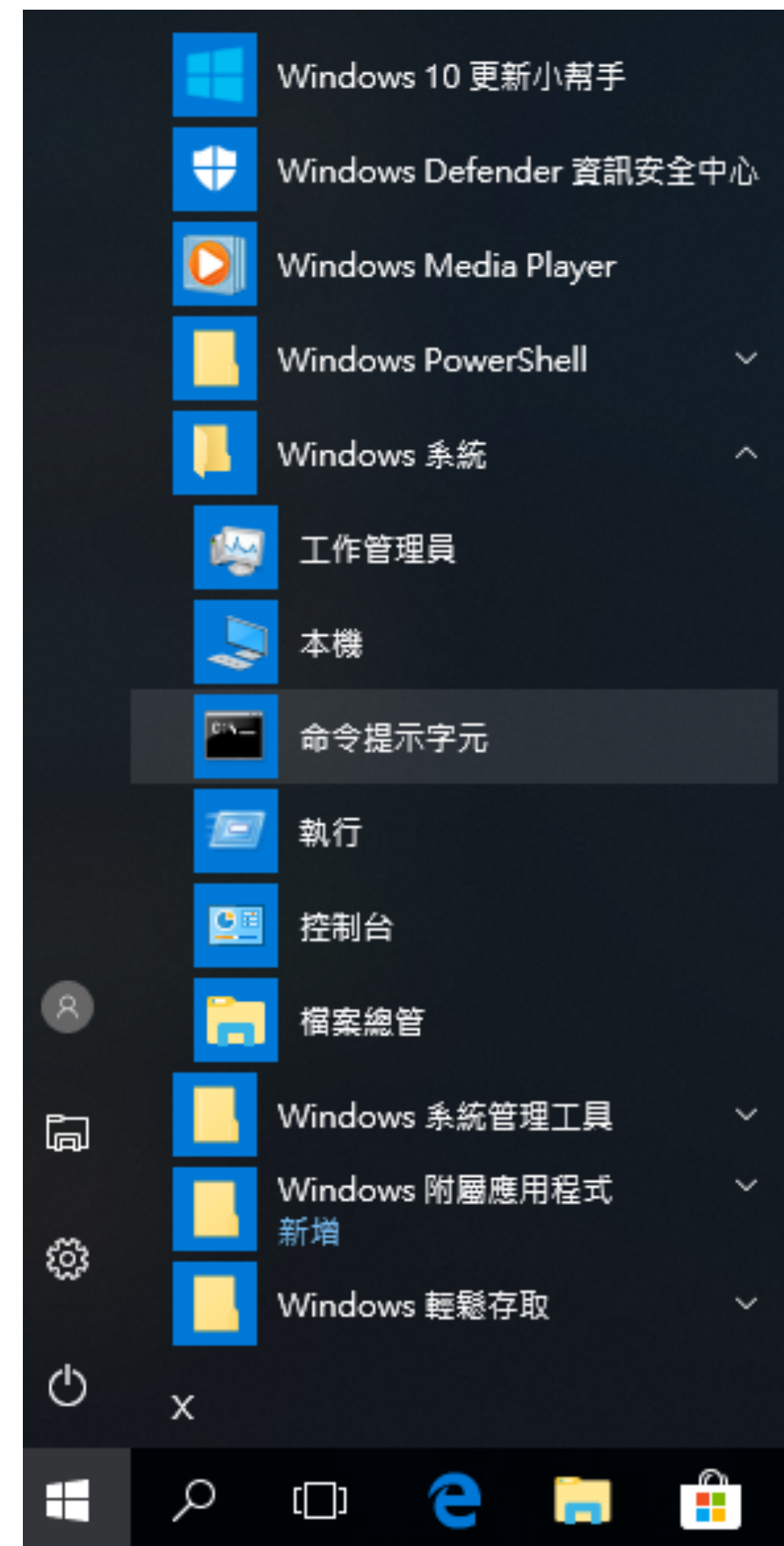


這是Python的Shell直譯器

A screenshot of the Python 3.6.4 Shell application window. The window has a title bar that says "Python 3.6.4 Shell". Below the title bar is a menu bar with the following items: File, Edit, Shell, Debug, Options, Window, and Help. The main area of the window displays the following text: "Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)] on win32", "Type 'copyright', 'credits' or 'license()' for more information.", and a red prompt ">>>" followed by a vertical cursor bar.

```
Python 3.6.4 Shell
File Edit Shell Debug Options Window Help
Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> |
```


按下win鍵,選取命令提示字元



在命令提示字元下輸入python



```
C:\> 命令提示字元
Microsoft Windows [版本 10.0.16299.192]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\User>python_
```

進入python直譯器

命令提示字元 - python

```
Microsoft Windows [版本 10.0.16299.192]  
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。  
  
C:\Users\User>python  
Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)] on win32  
Type "help", "copyright", "credits" or "license" for more information.  
>>> 1+1  
2  
>>>
```

離開python直譯器輸入exit()

```
C:\> 命令提示字元
Microsoft Windows [版本 10.0.16299.192]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\User>python
Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> 1+1
2
>>> exit()

C:\Users\User>
```


1-2-2在Windows 10安裝 Anaconda

- 安裝Anaconda, Numpy, Matplotlib
- 選取Python 3.6版本
- 使用conda安裝模組
- 選取Spyder
- 選取Jupyter Notebook

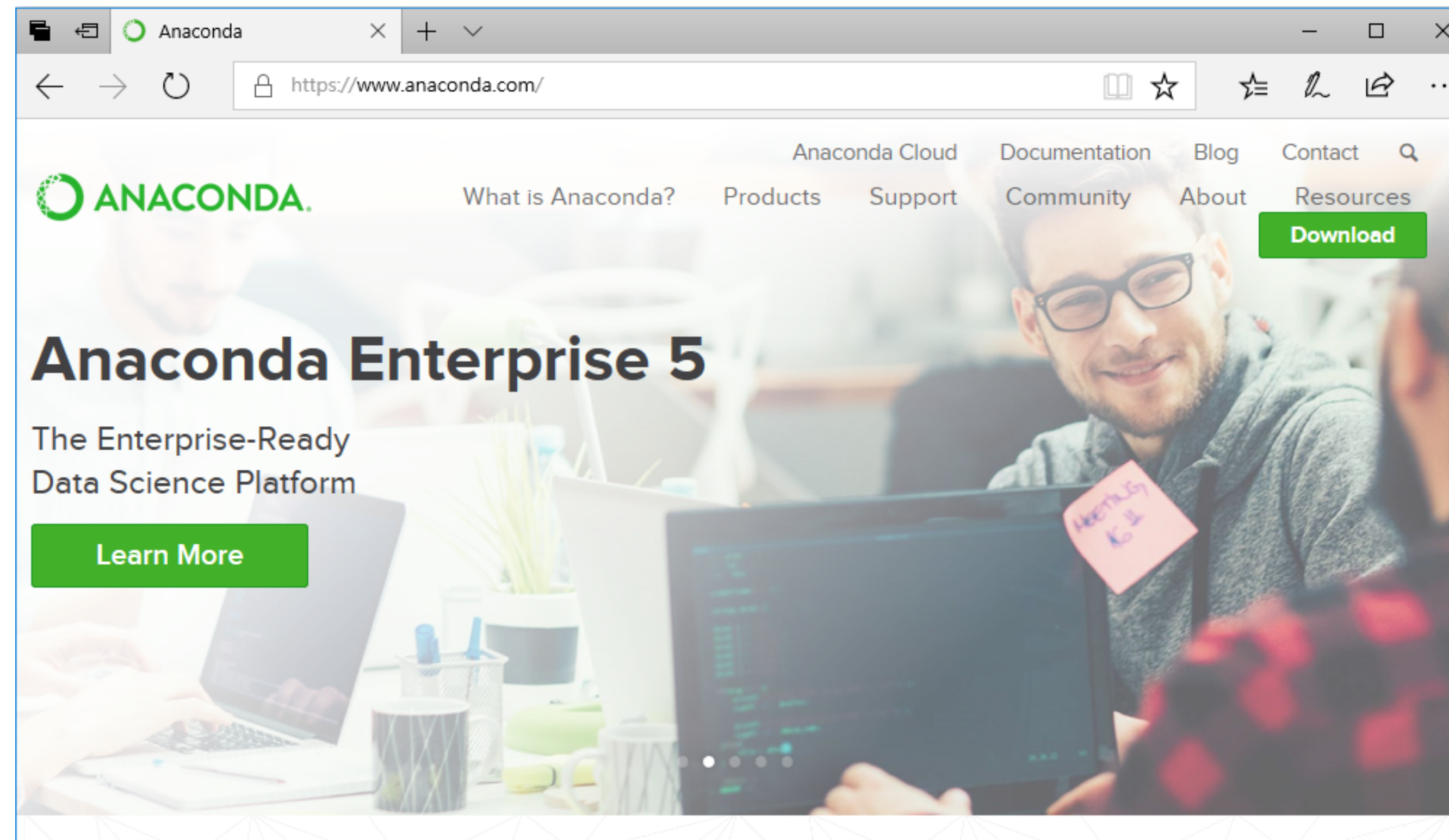
安裝

Anaconda,Numpy,Matplotlib

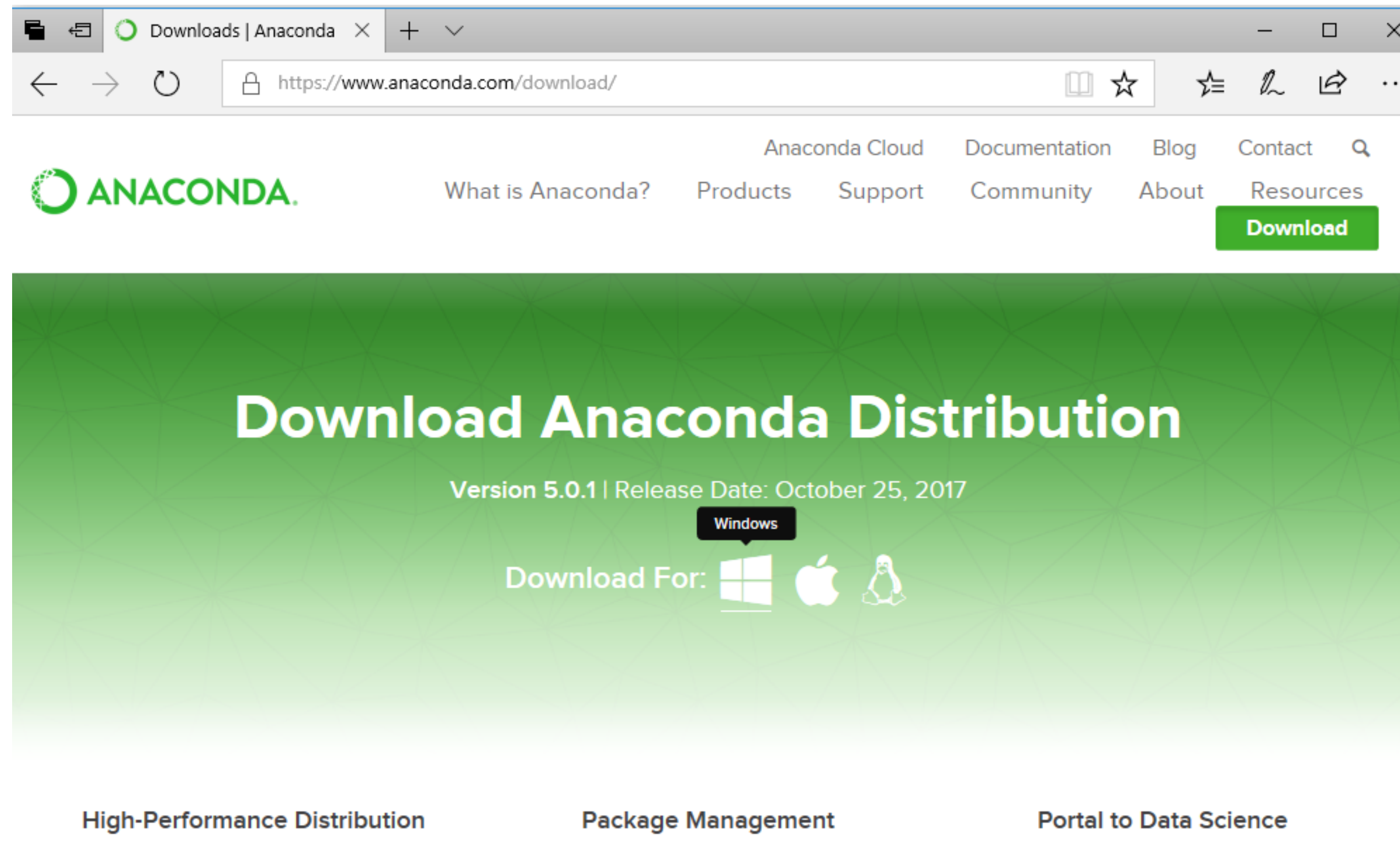
- 安裝Anaconda組合包
- 此包含Python,spyder,和科學大數據計算軟體
- 安裝Numpy,Matplotlib,Scipy

到ANACONDA網站

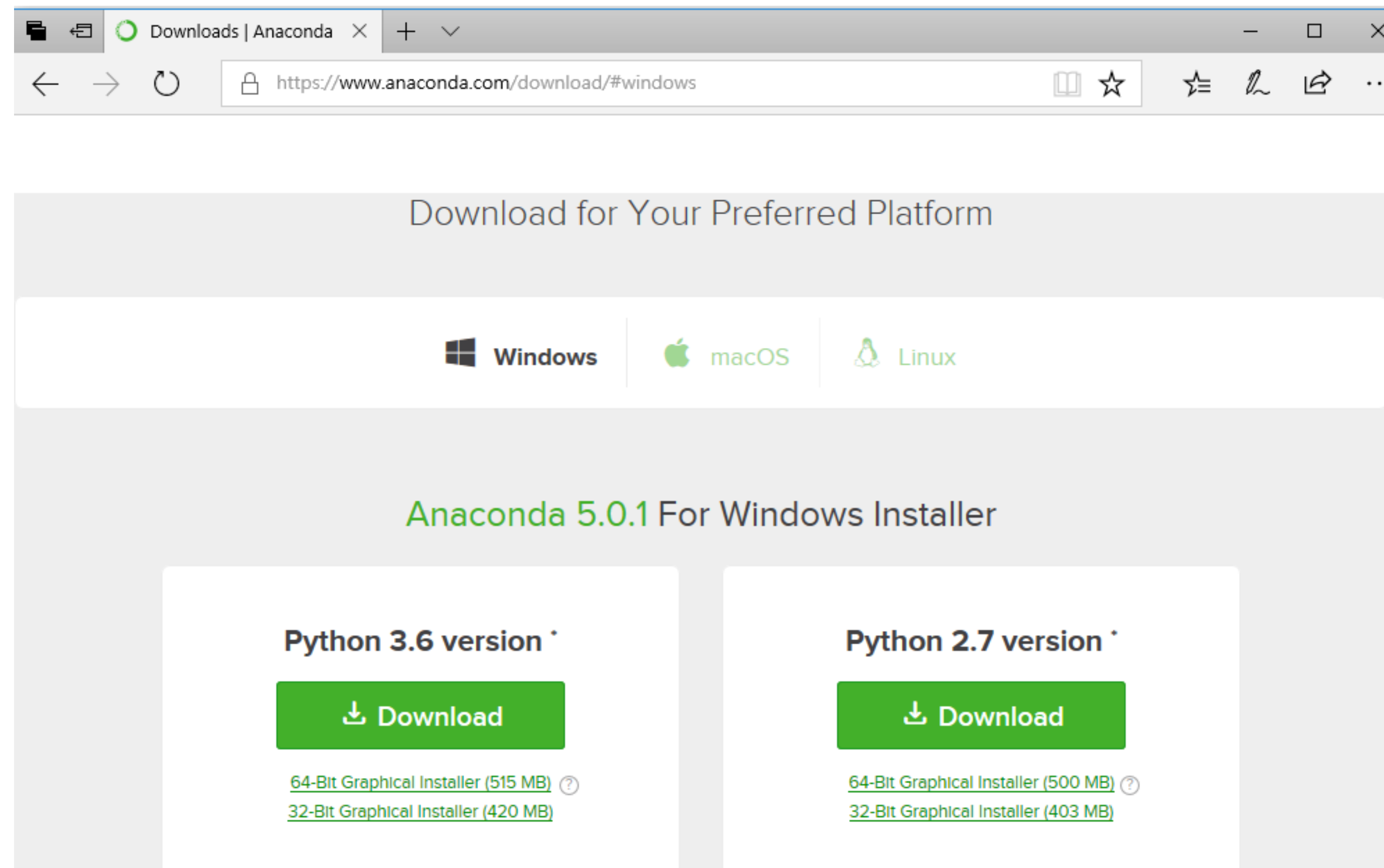
- 到Anconda下載Python組合包<https://www.anaconda.com/>



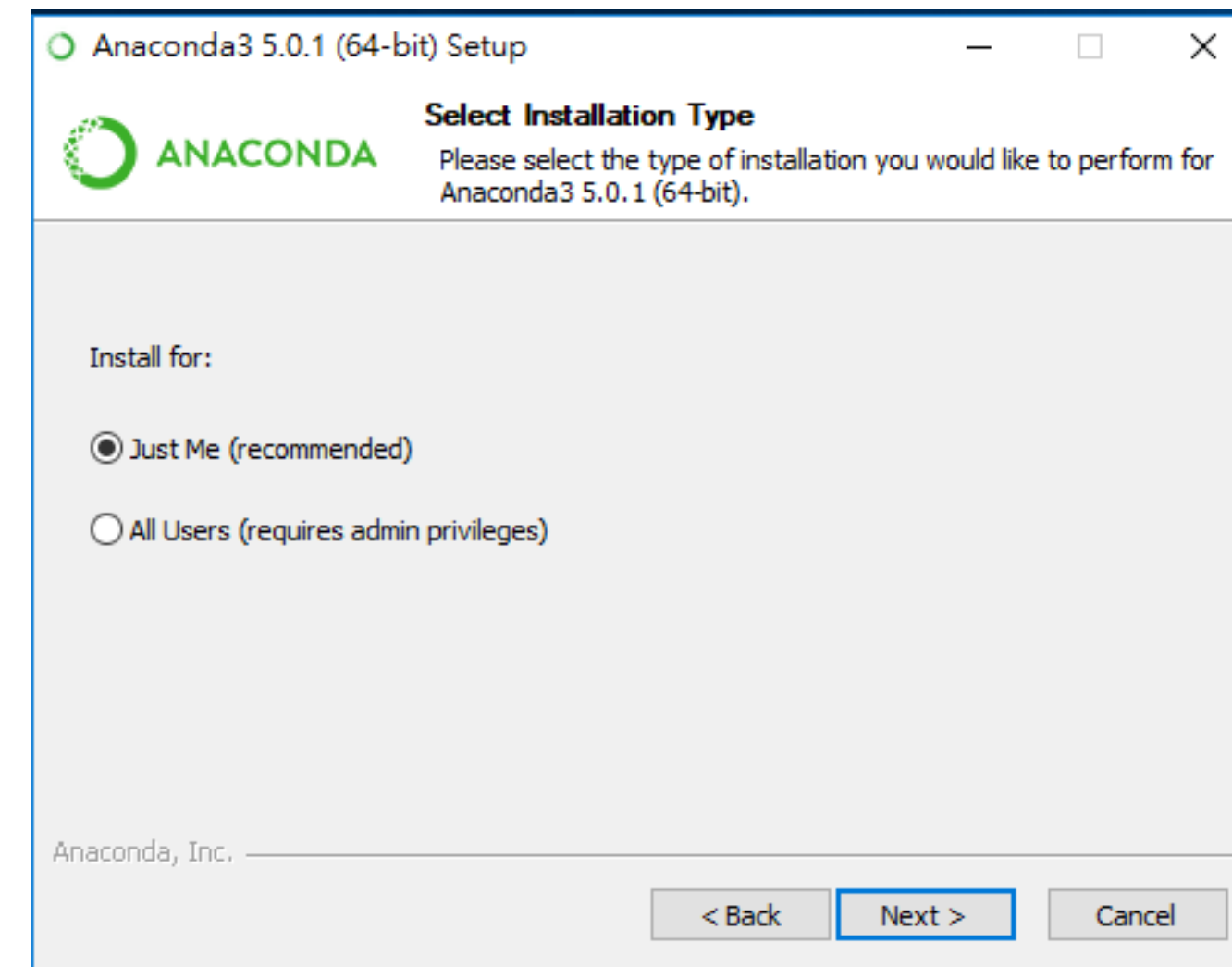
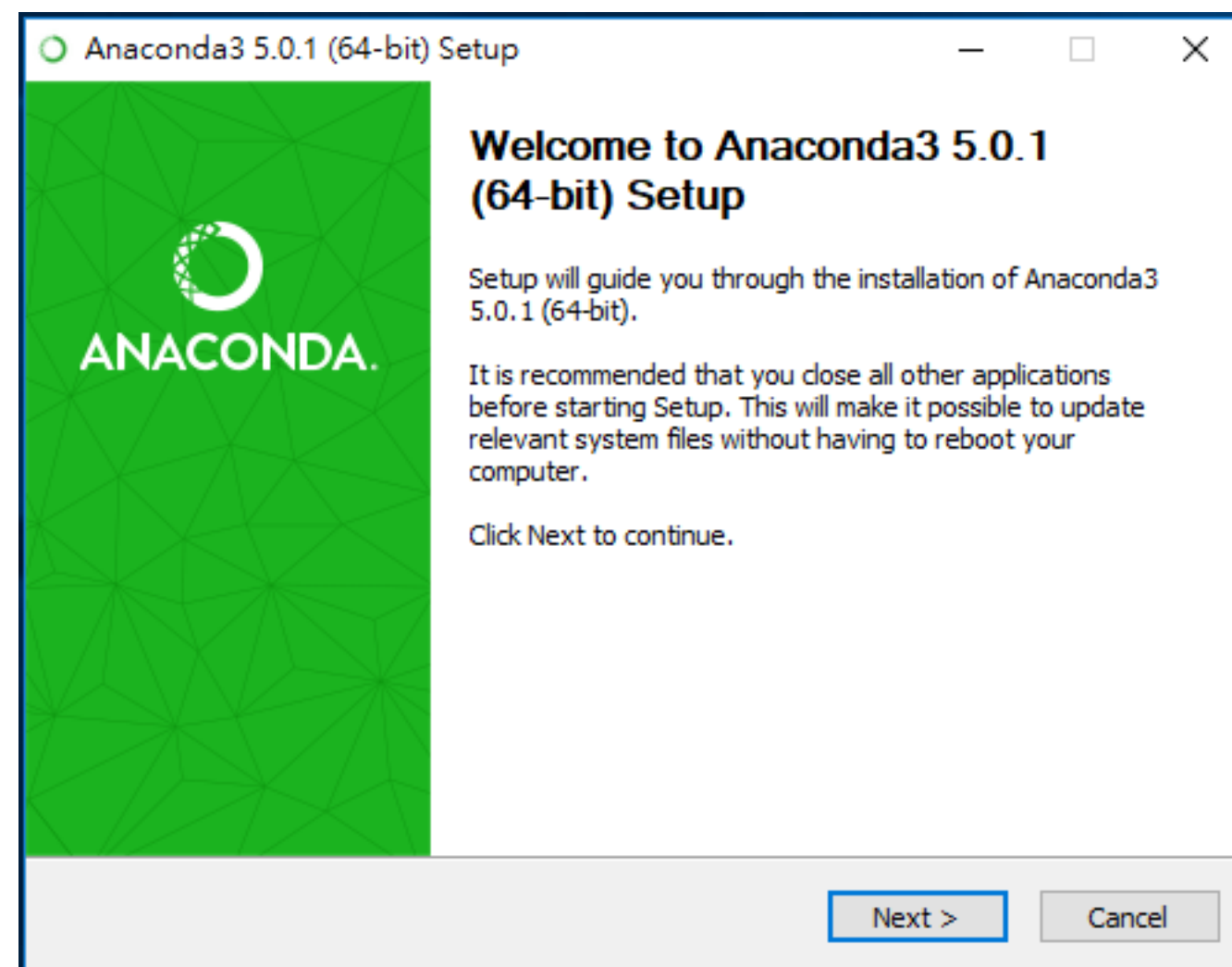
選取Windows下載



選取Python 3.6版本

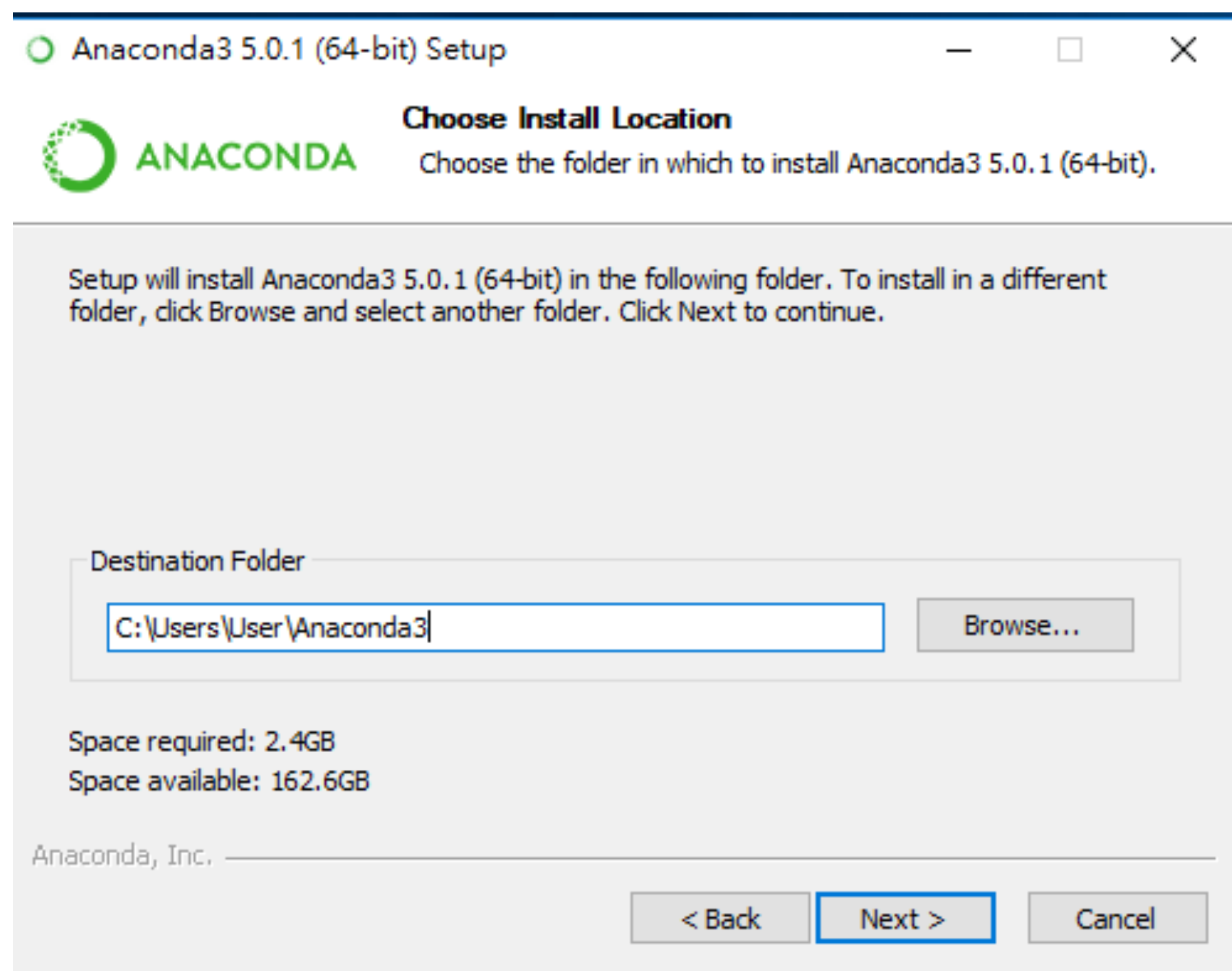


開始安裝

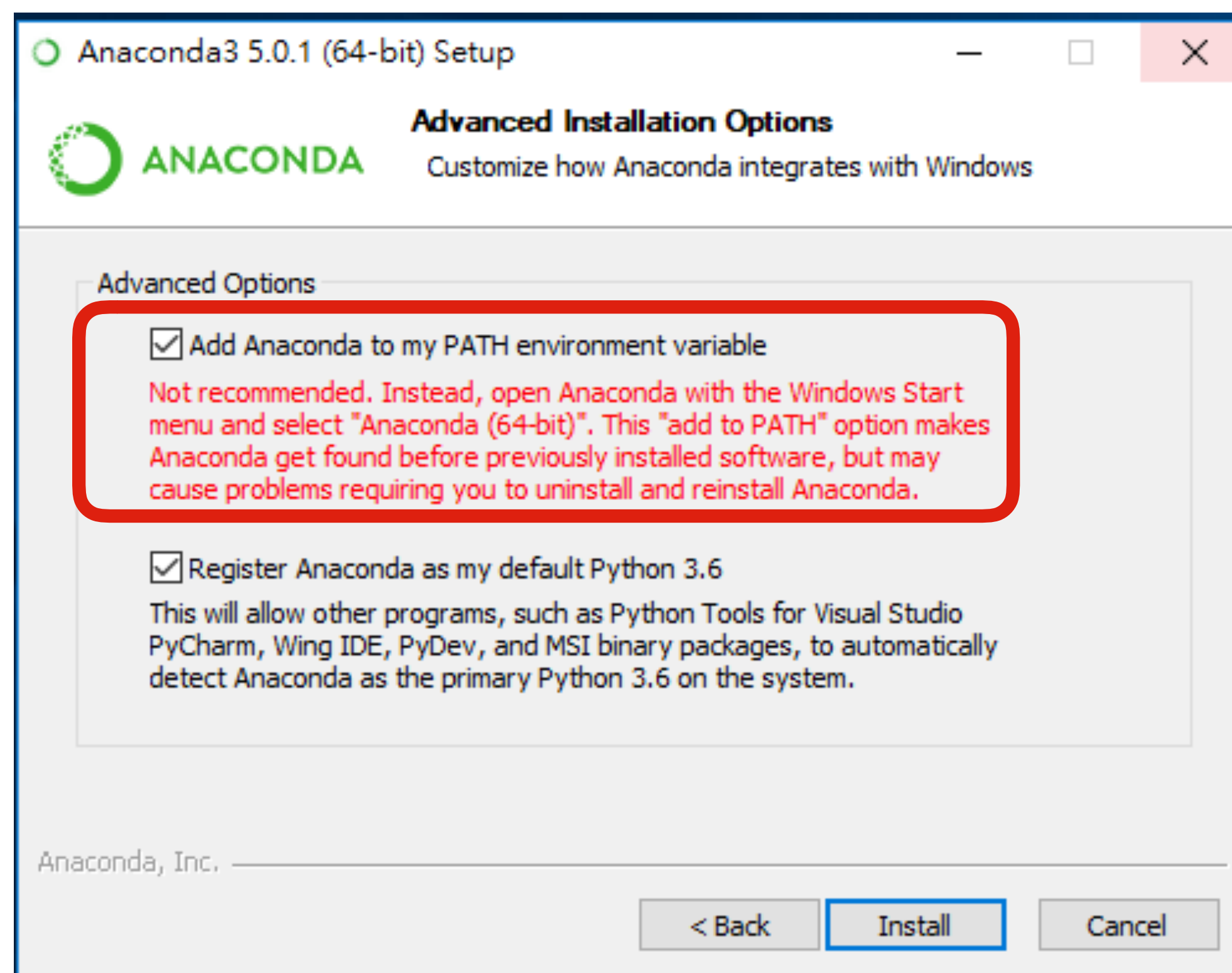


設定Anaconda的安裝目錄

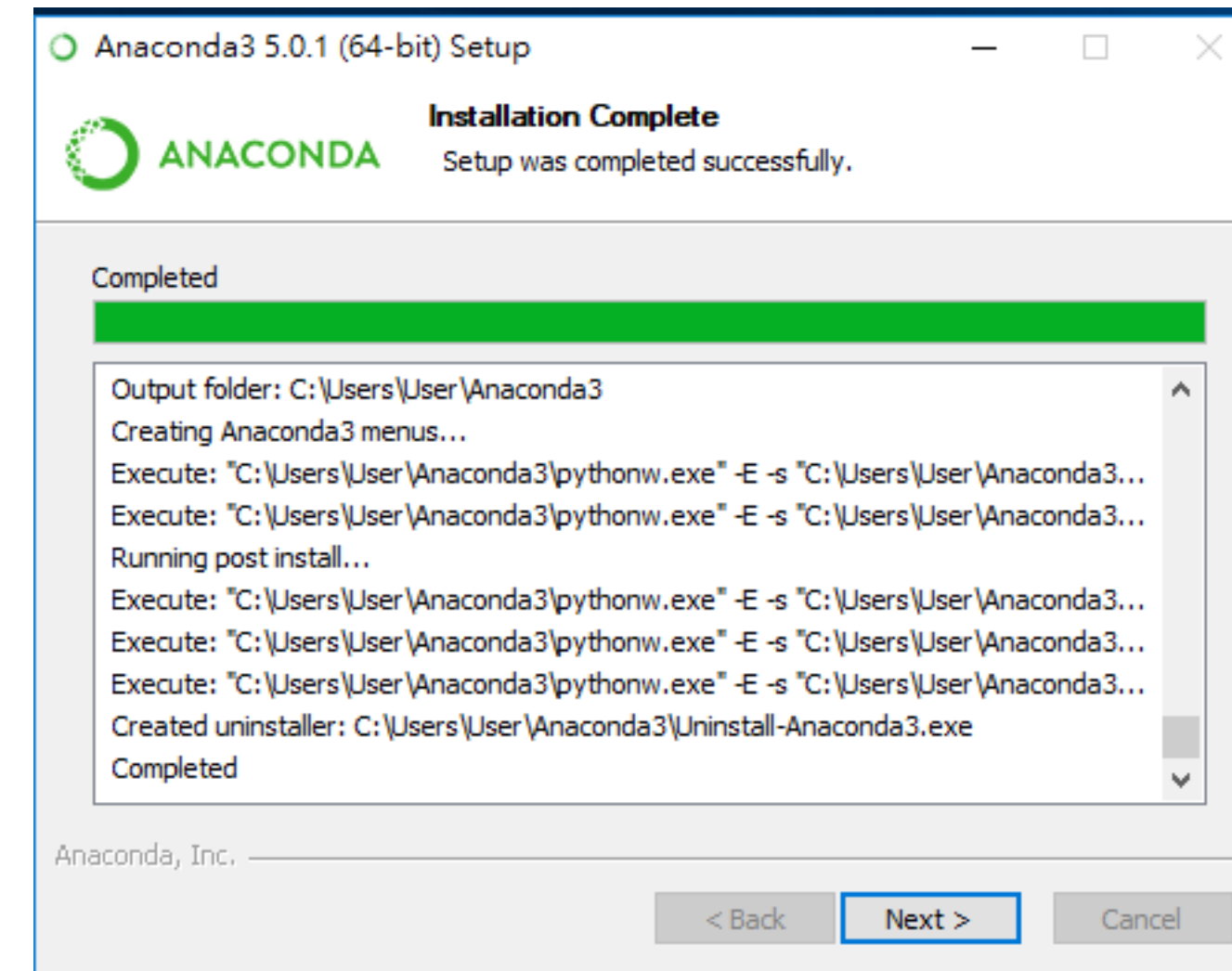
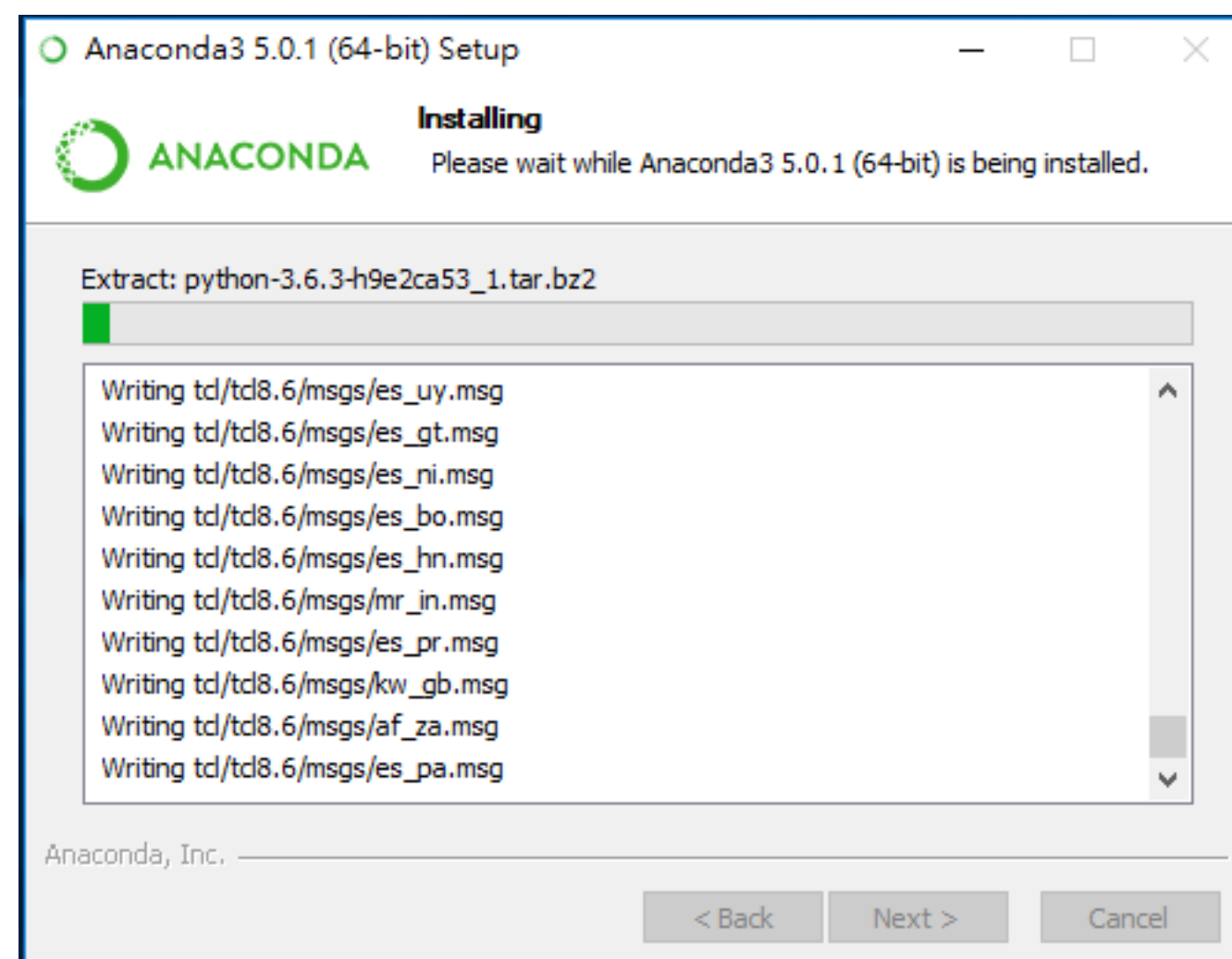
- 使用預設



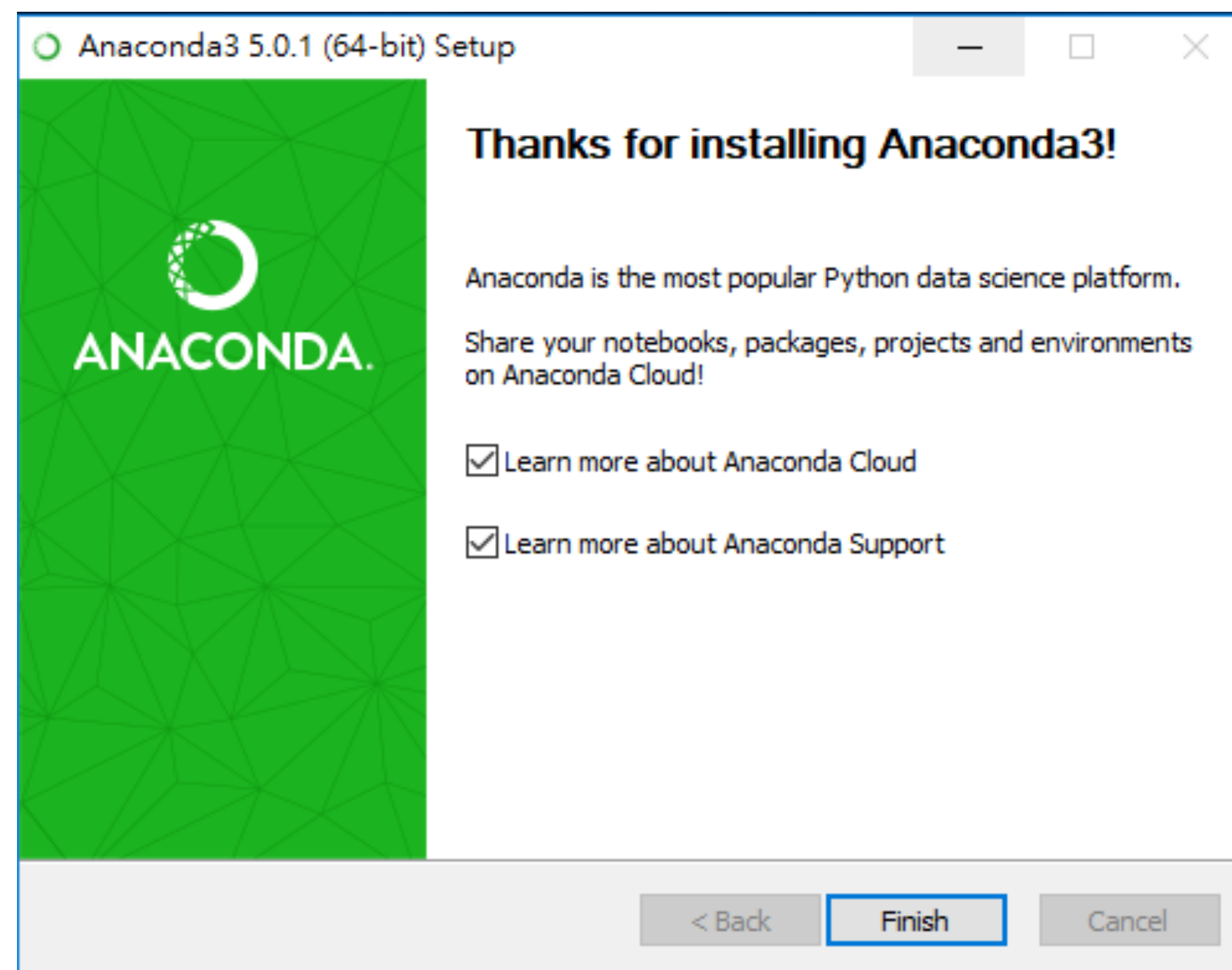
增加Anaconda到環境變數路徑



安裝過程中



安裝完成



使用conda安裝模組

- conda install numpy

```
命令提示字元
Microsoft Windows [版本 10.0.16299.192]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\User>conda install numpy
Fetching package metadata .....
Solving package specifications: .

Package plan for installation in environment C:\Users\User\Anaconda3:

The following packages will be UPDATED:

  anaconda: 5.0.1-py36h8316230_2 --> custom-py36h363777c_0
  conda:    4.3.30-py36h7e176b0_0 --> 4.4.7-py36_0
  numpy:    1.13.3-py36ha320f96_0 --> 1.13.3-py36h4a99626_2
  pycosat:  0.6.2-py36hf17546d_1 --> 0.6.3-py36h413d8a4_0

Proceed ([y]/n)? y

anaconda-custo 100% |#####| Time: 0:00:00 578.37 kB/s
numpy-1.13.3-p 100% |#####| Time: 0:00:03 1.18 MB/s
pycosat-0.6.3- 100% |#####| Time: 0:00:00 1.11 MB/s
conda-4.4.7-py 100% |#####| Time: 0:00:00 1.18 MB/s
```

conda install matplotlib

```
命令提示字元

C:\Users\User>conda --version
conda 4.4.7

C:\Users\User>conda install matplotlib
Solving environment: done

## Package Plan ##

  environment location: C:\Users\User\Anaconda3

  added / updated specs:
    - matplotlib

The following packages will be downloaded:

package | build | size
-----|-----|-----
openssl-1.0.2n | h74b6da3_0 | 5.4 MB
certifi-2017.11.5 | py36hb8ac631_0 | 196 KB
matplotlib-2.1.2 | py36h016c42a_0 | 6.5 MB
-----|-----|-----
Total: | | 12.1 MB

The following packages will be UPDATED:

certifi: 2017.7.27.1-py36h043bc9e_0 --> 2017.11.5-py36hb8ac631_0
matplotlib: 2.1.0-py36h11b4b9c_0 --> 2.1.2-py36h016c42a_0
openssl: 1.0.2l-vcl4hcac20b0_2 --> 1.0.2n-h74b6da3_0

Proceed ([y]/n)? y

Downloading and Extracting Packages
openssl 1.0.2n: ##### | 100%
certifi 2017.11.5: ##### | 100%
matplotlib 2.1.2: ##### | 100%
Preparing transaction: done
Verifying transaction: done
Executing transaction: done

C:\Users\User>
```


conda更新

```
C:\> 命令提示字元

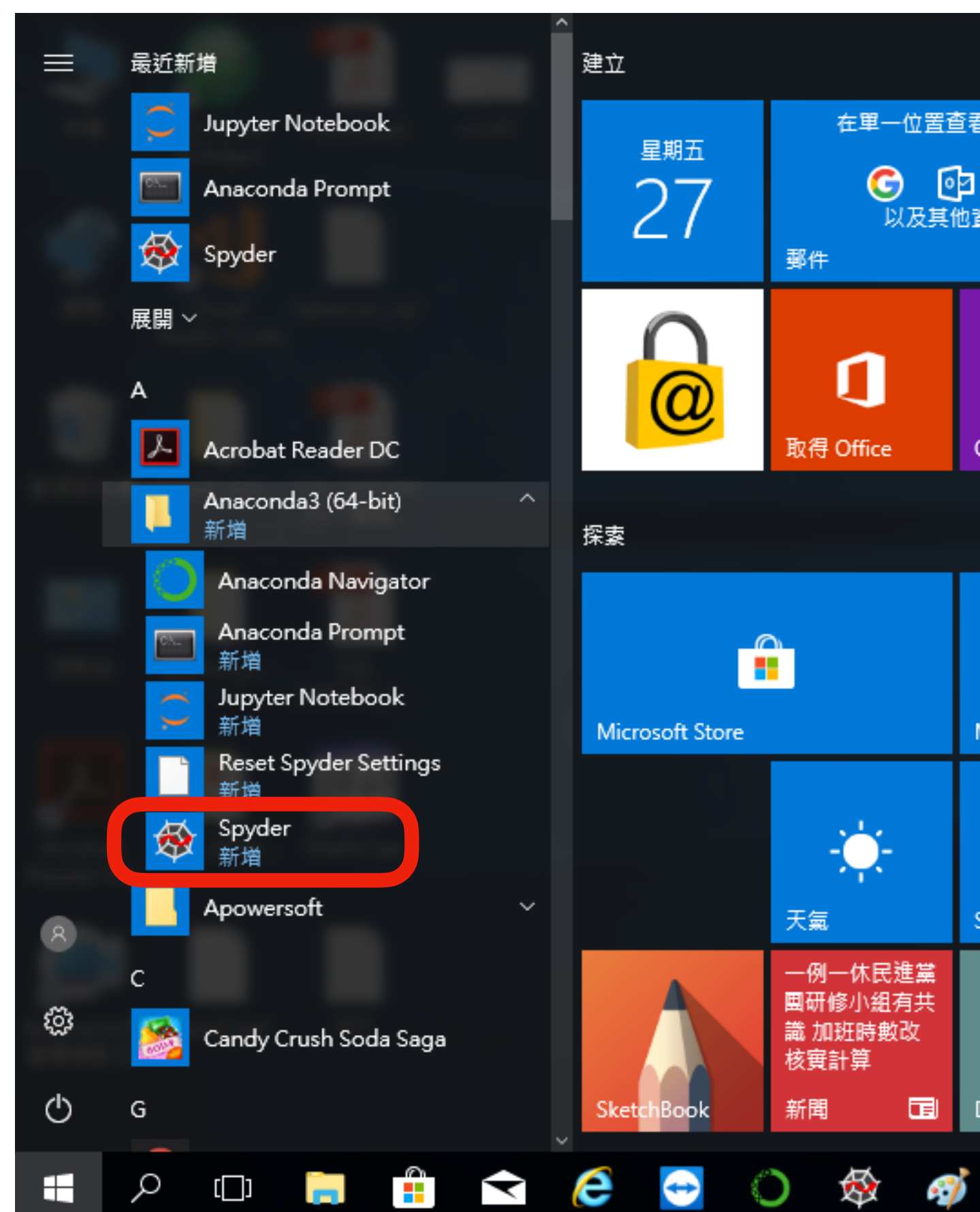
Microsoft Windows [版本 10.0.16299.192]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\User>conda update conda
Solving environment: done

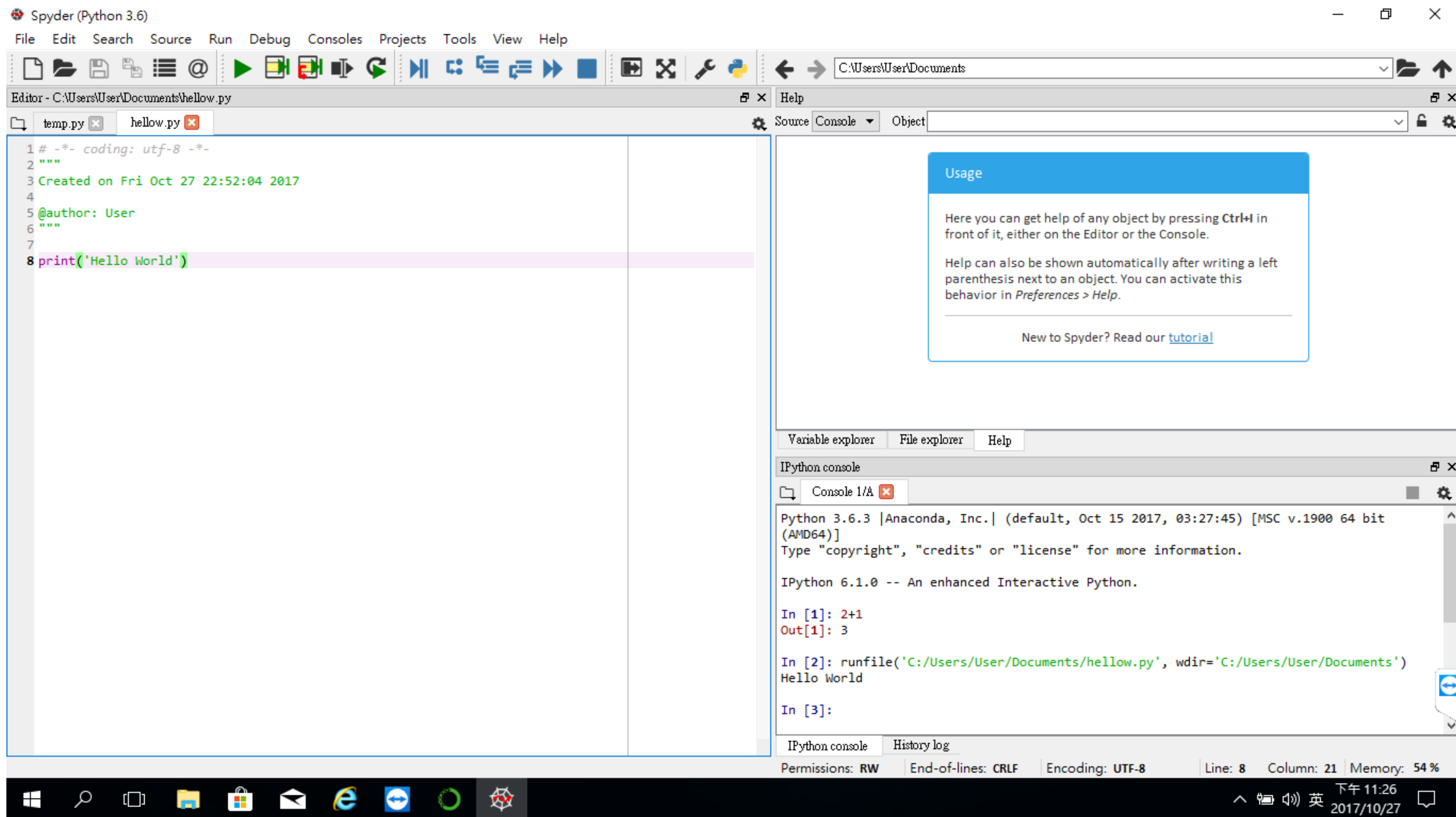
# All requested packages already installed.

C:\Users\User>
```

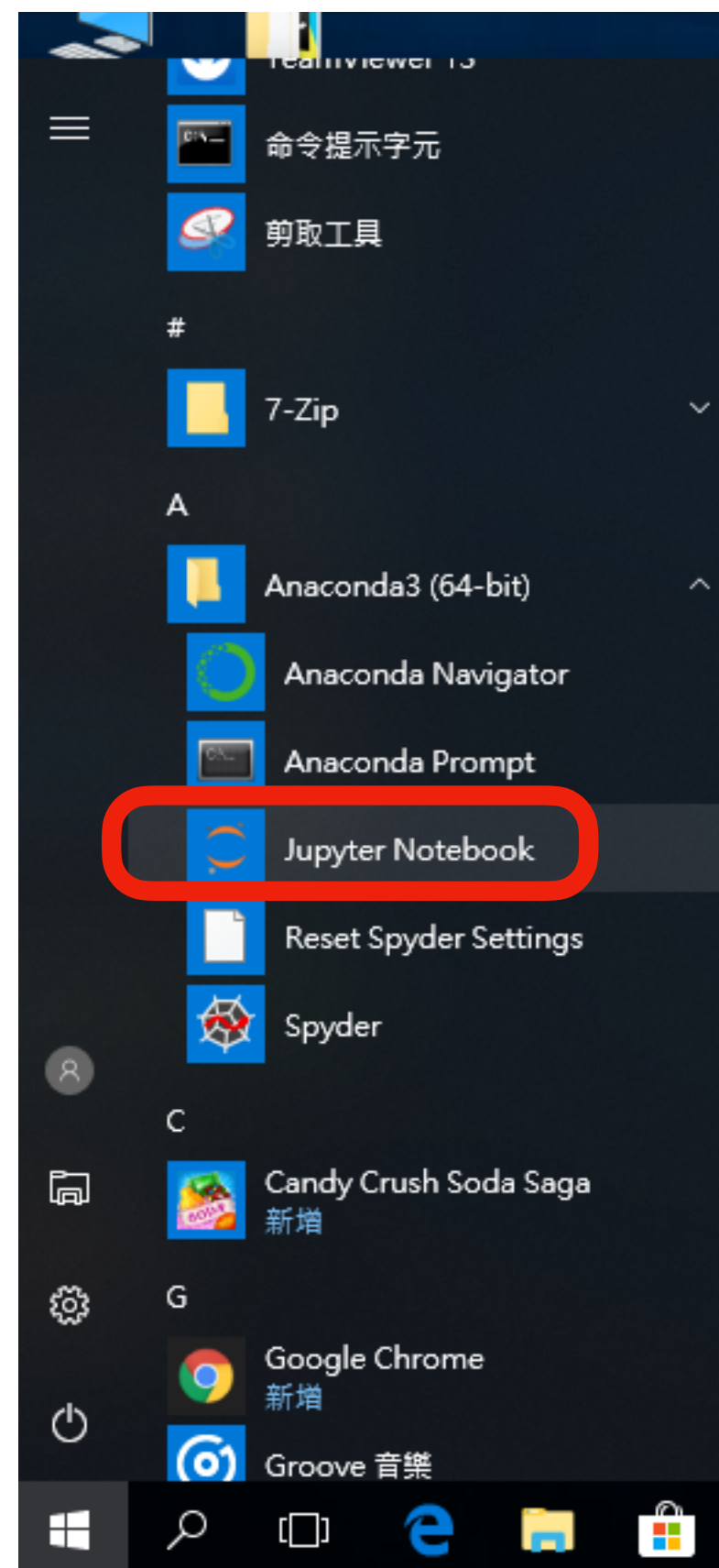
選取Spyder



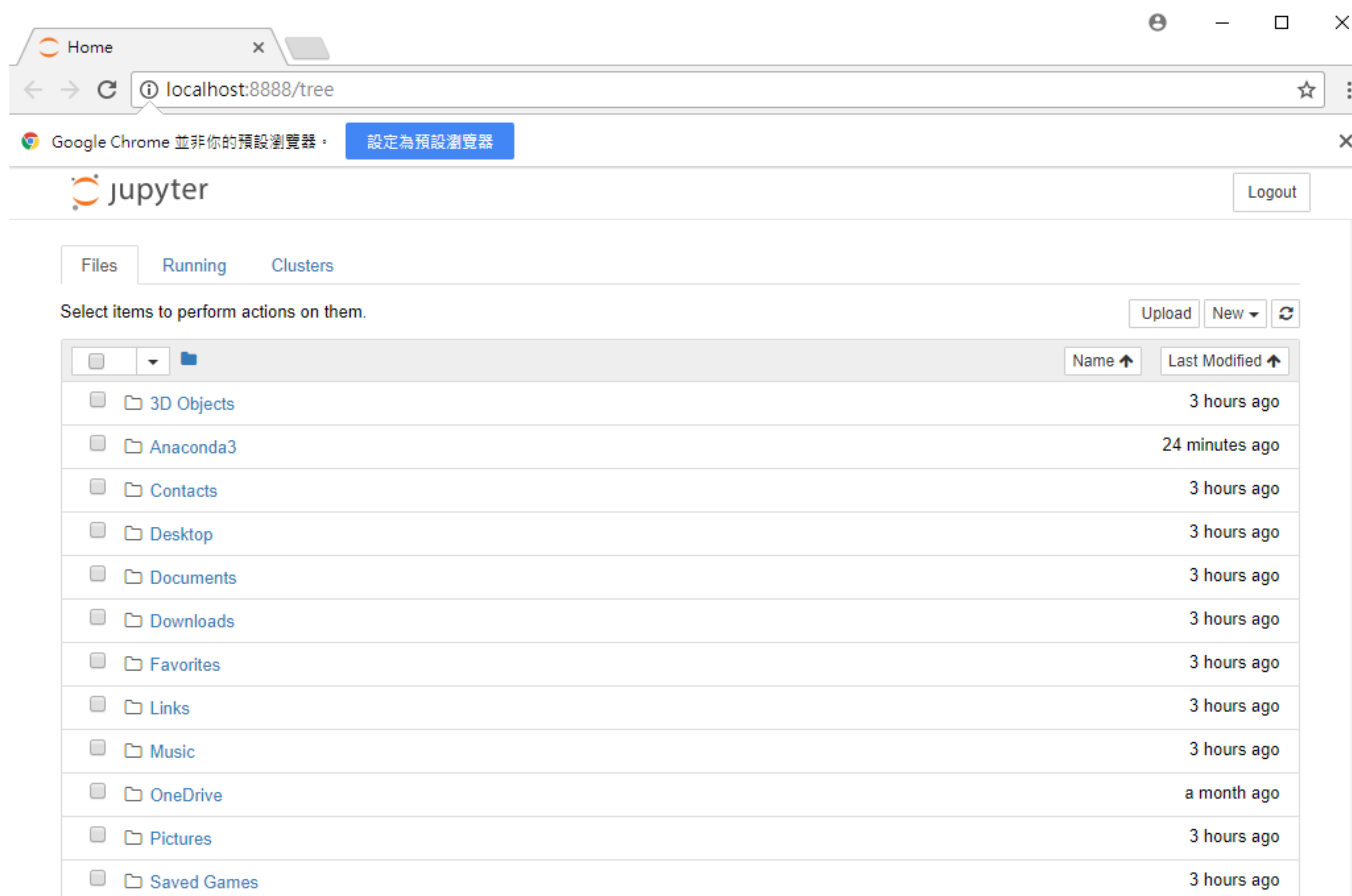
執行Spyder



選取Jupyter Notebook

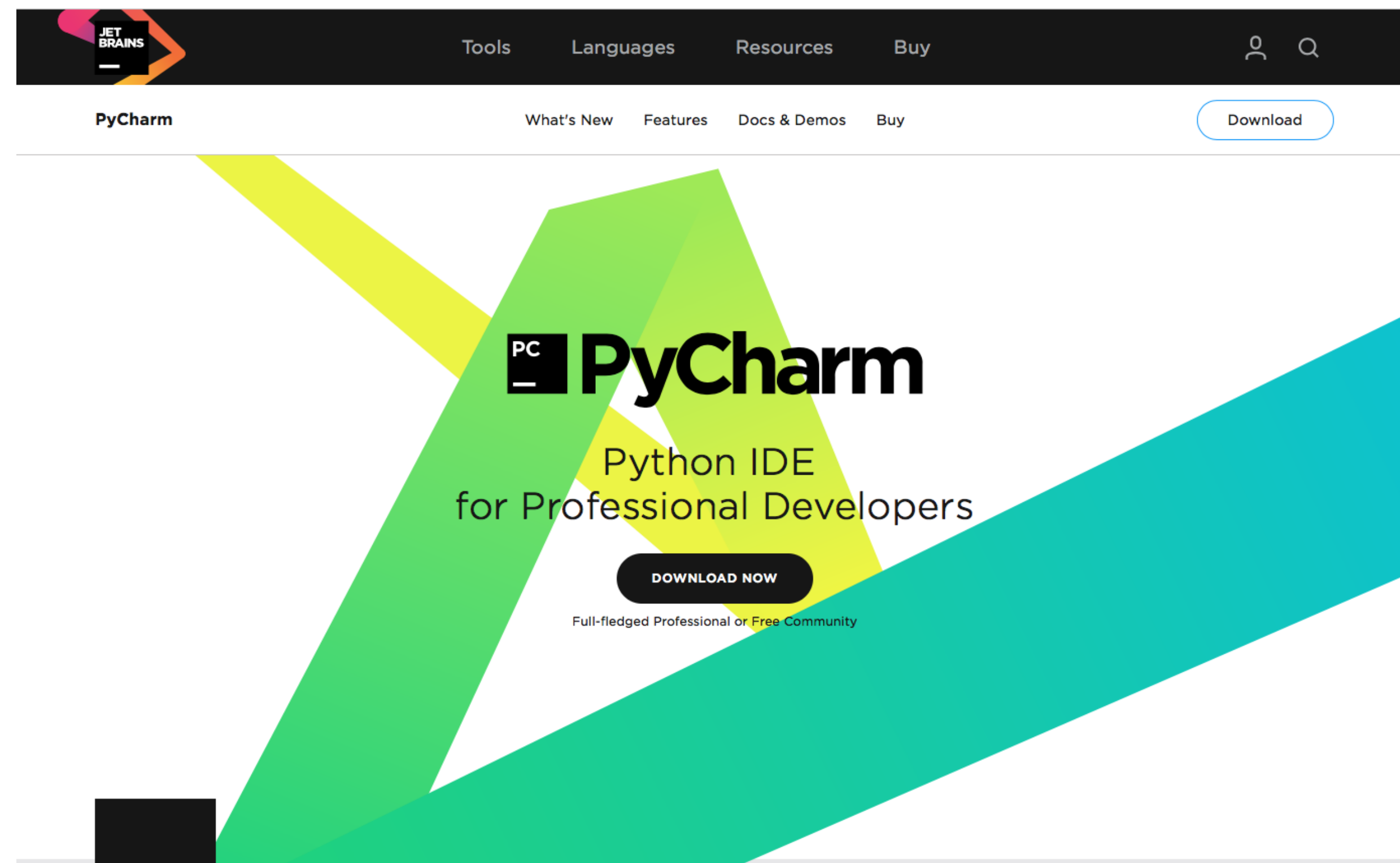


打開網頁版的Jupyter



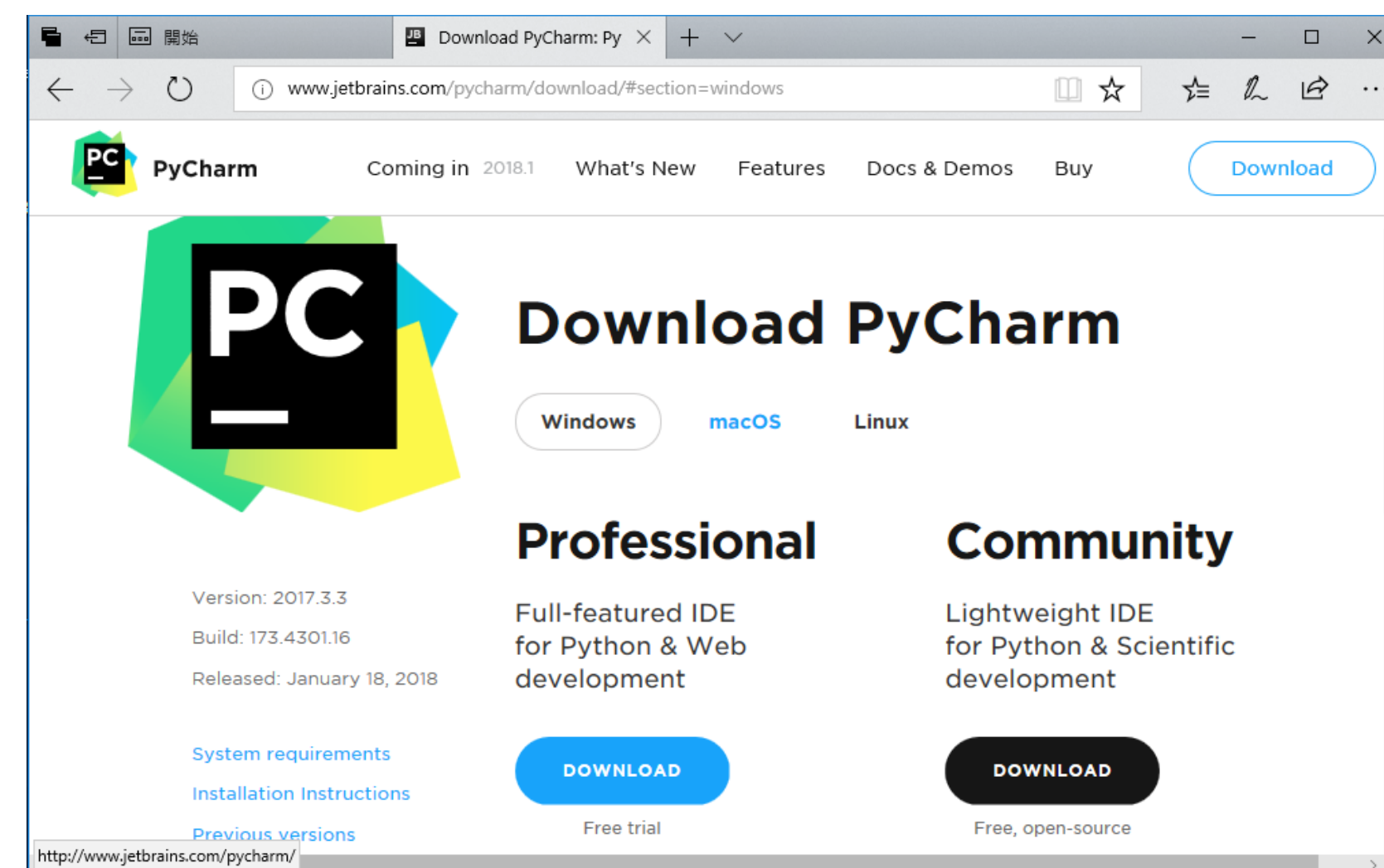
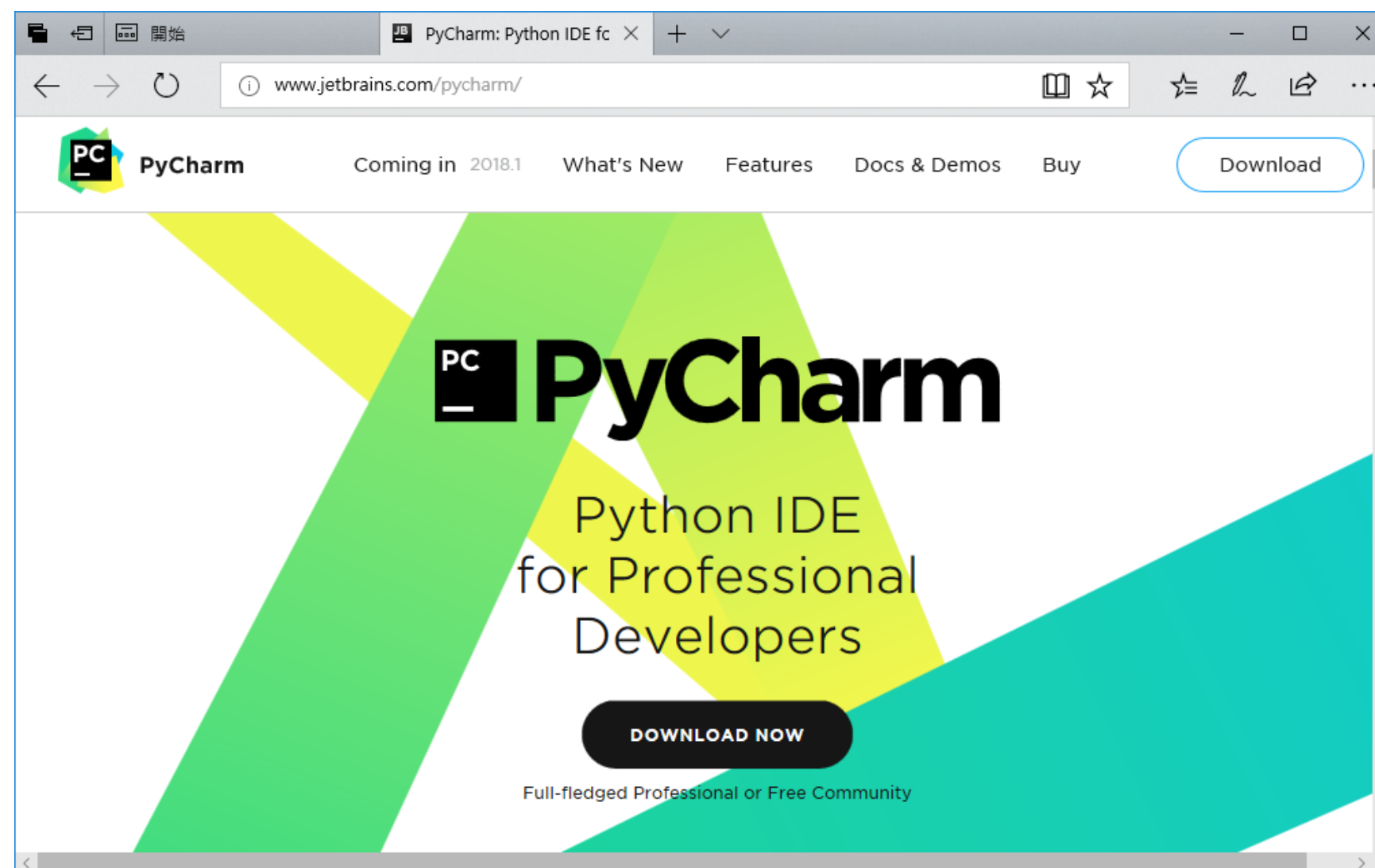
1-3 下載及安裝PyCharm

- <https://www.jetbrains.com/pycharm/>

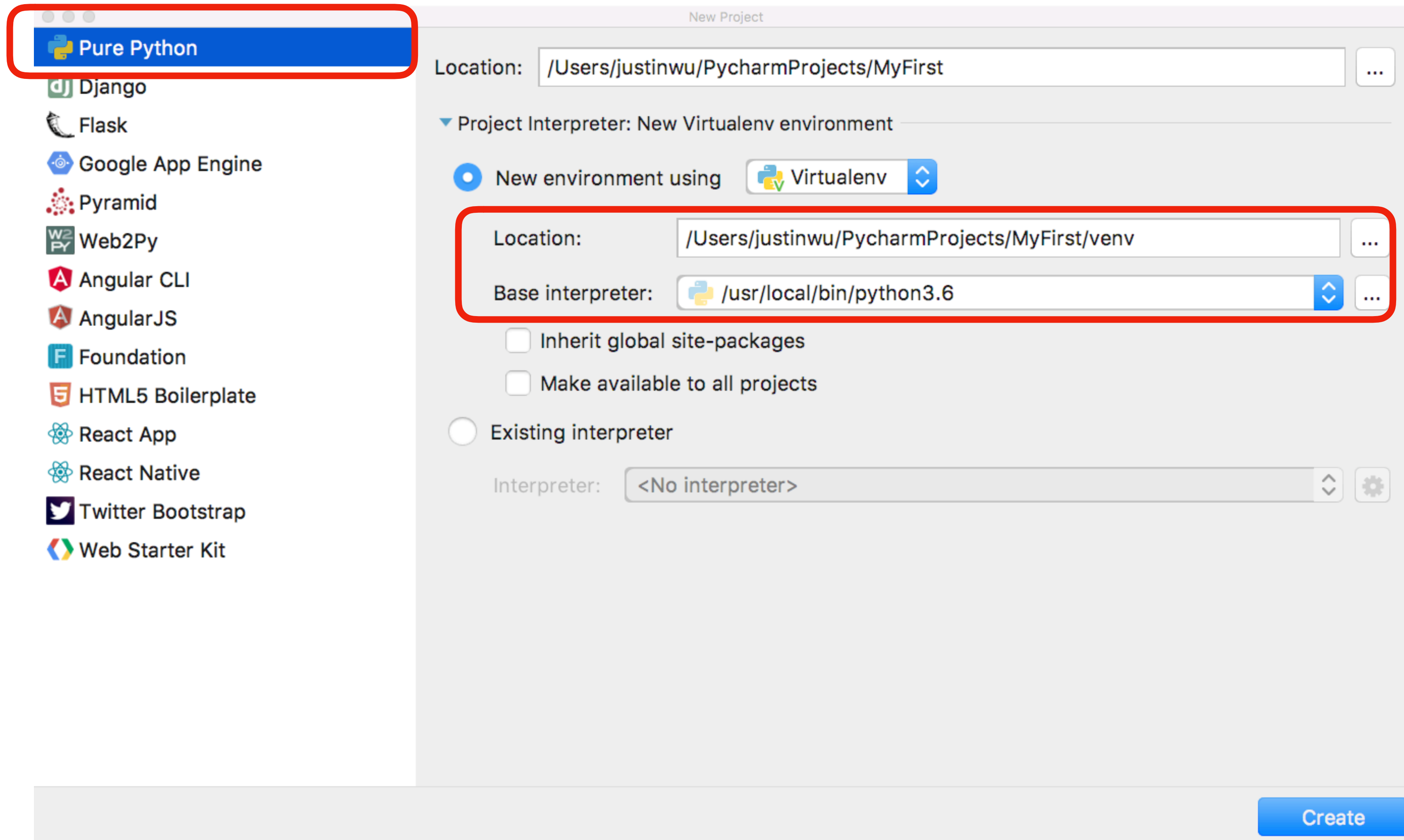


1-3-1 在Mac下載及安裝 PyCharm

- 我們將PyCharm下載後,在Mac電腦安裝,下載Community版

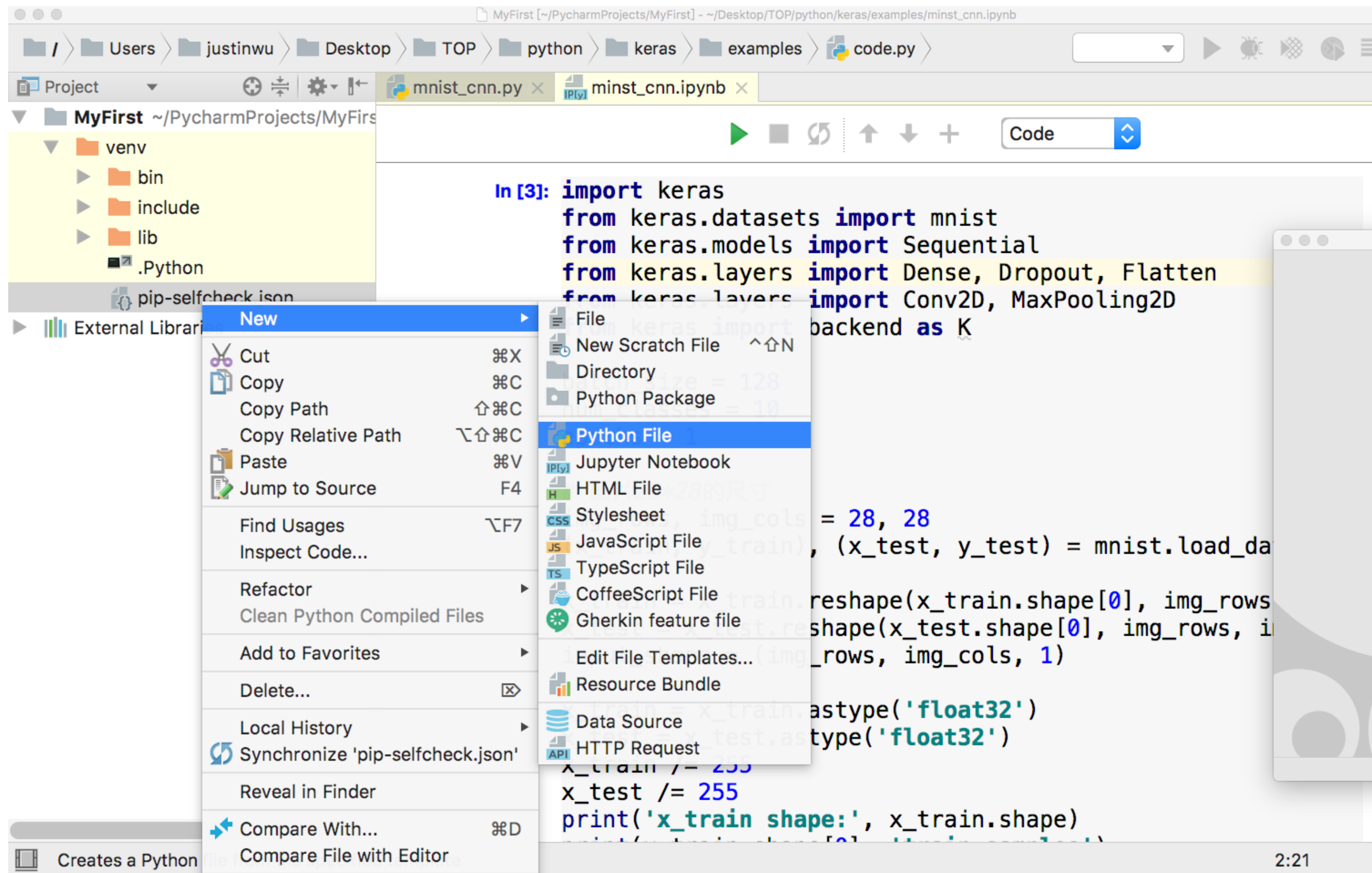


安裝完Python後,設定直譯器路徑



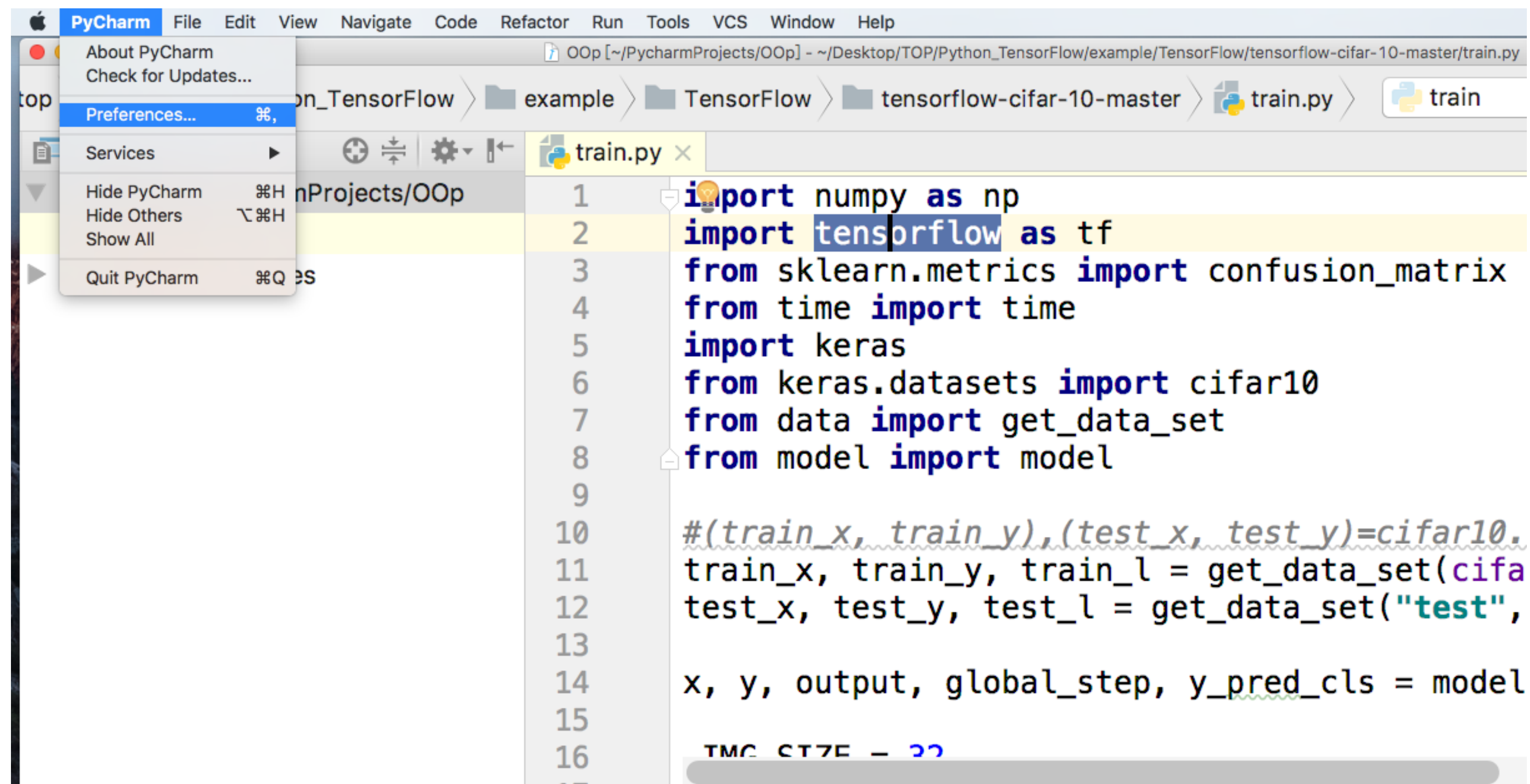
Pycharm可以使用Python和 Jupyter notebook的檔案

- 我們可以新增Python的檔案
- 選取File->NEW->Python File

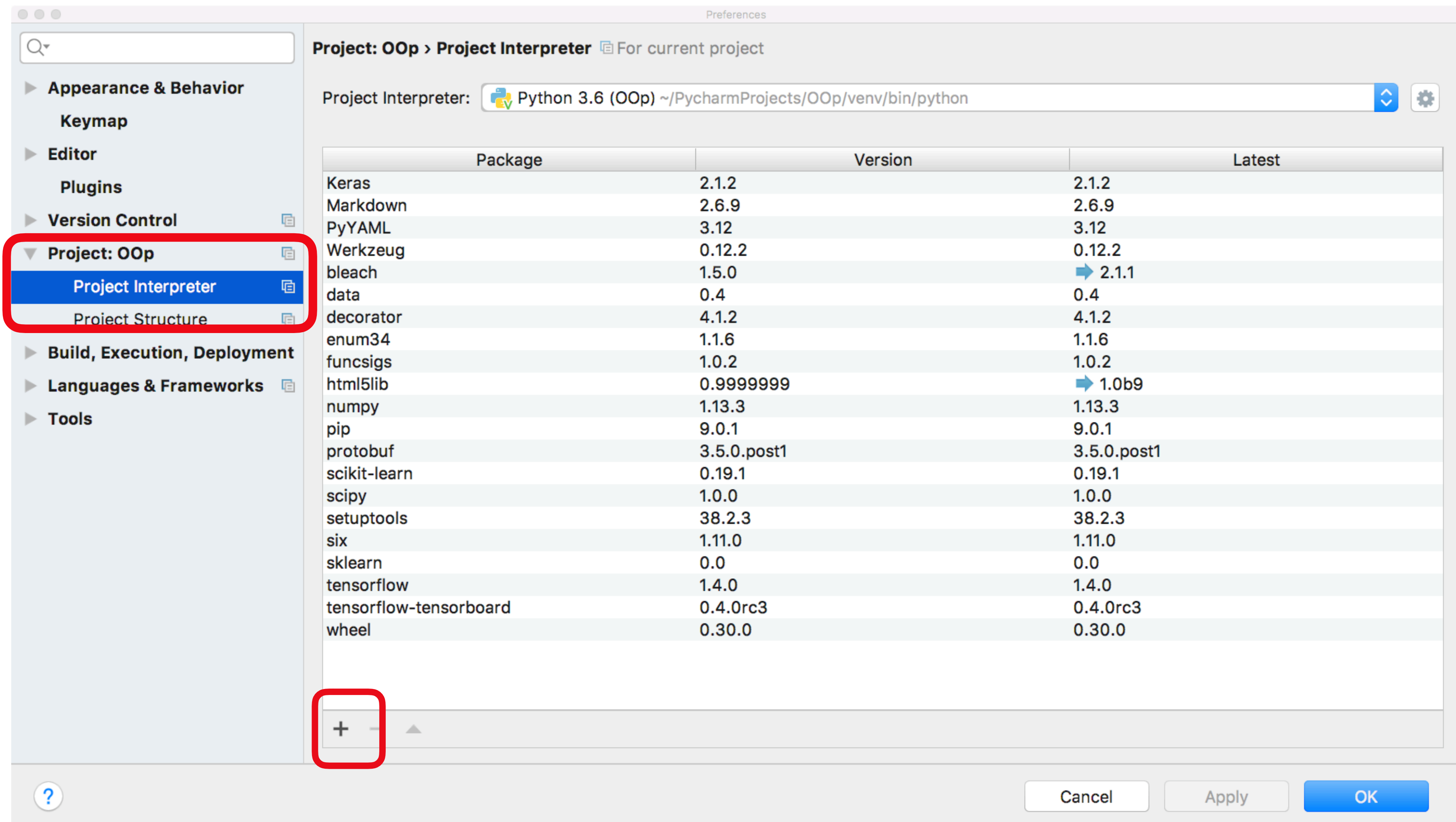


1-3-2在Pycharm新增函式庫

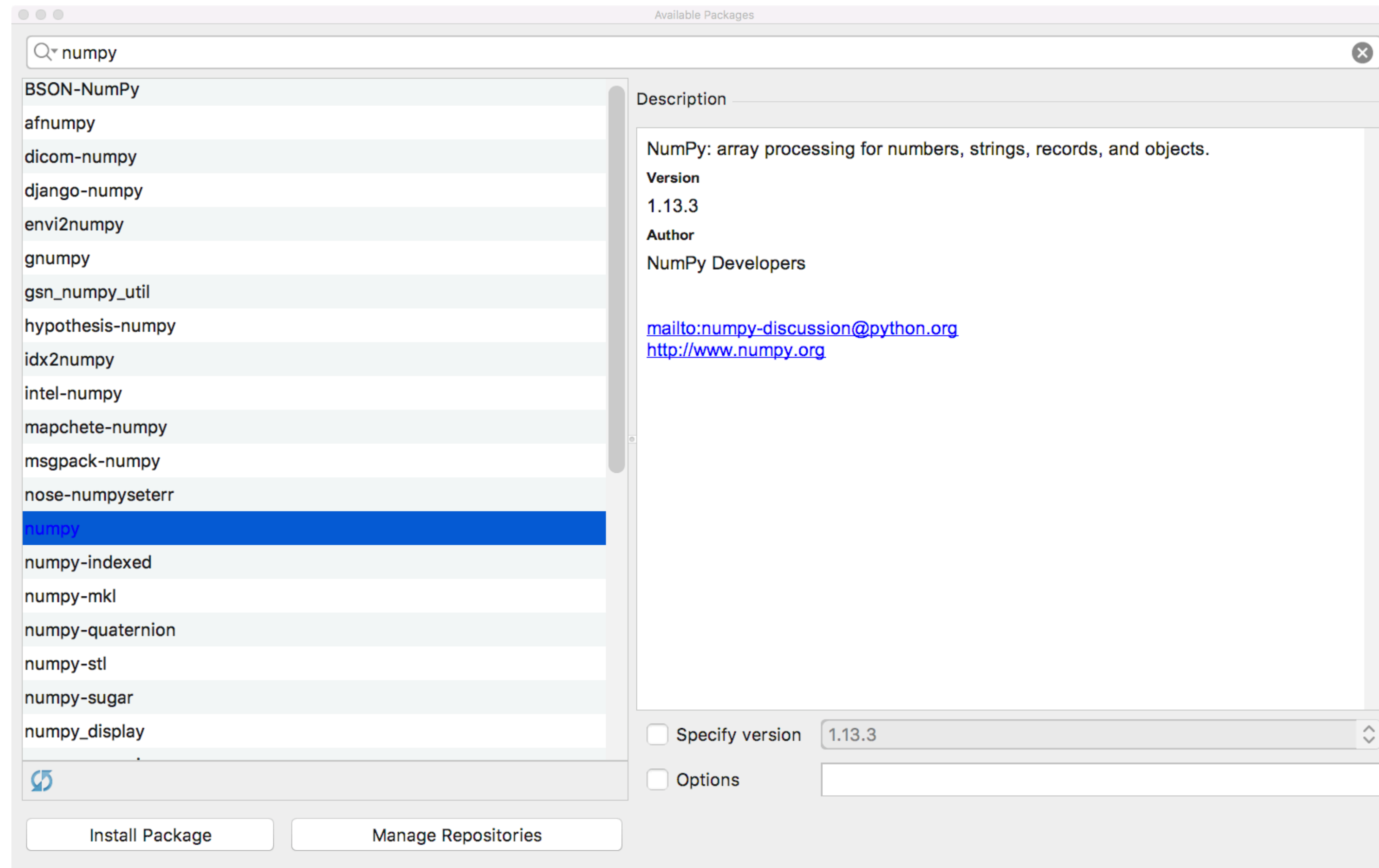
- 選取PyCharm->Preference



選取直譯器，選取 +

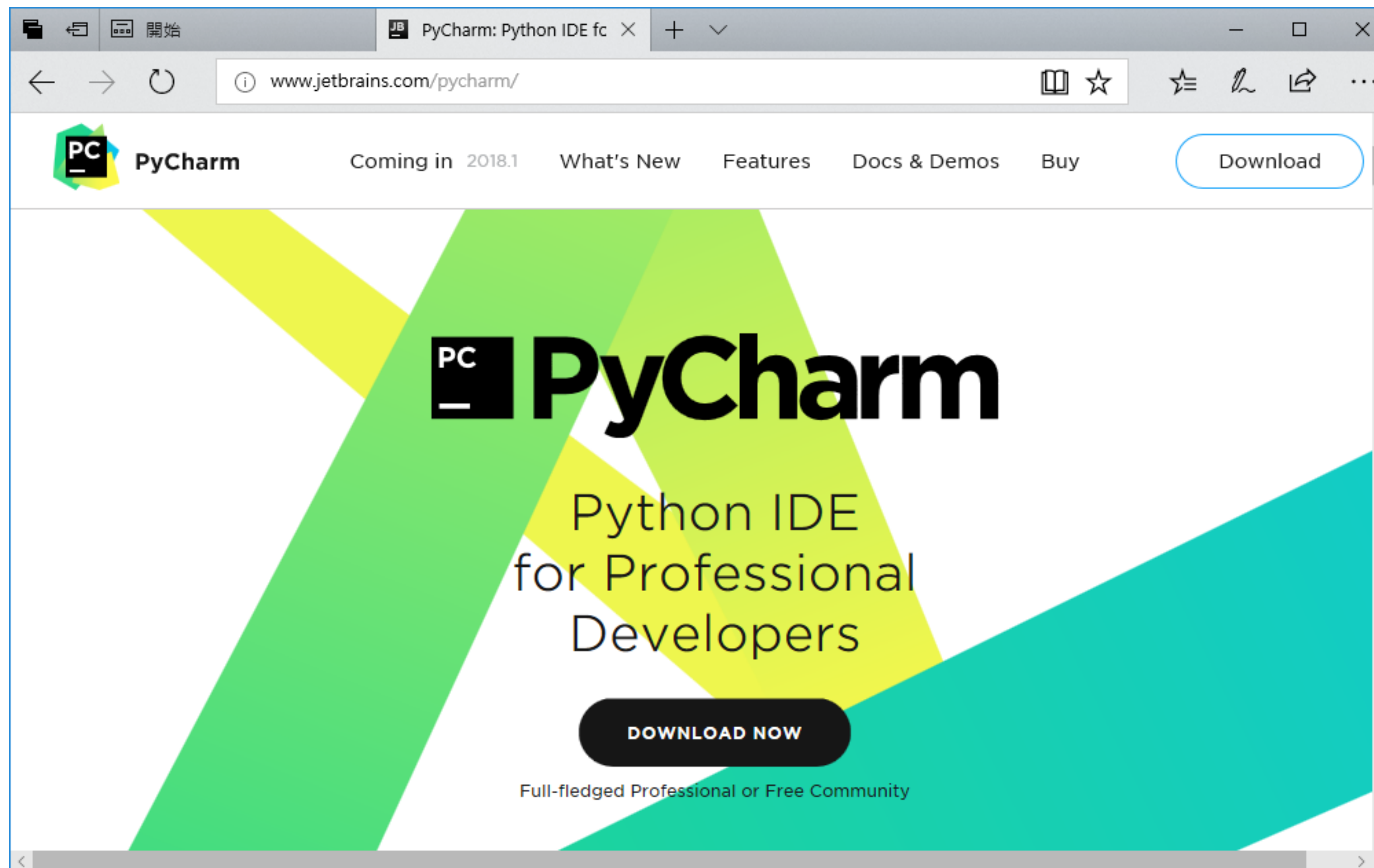


選取函式庫，再安裝install Package

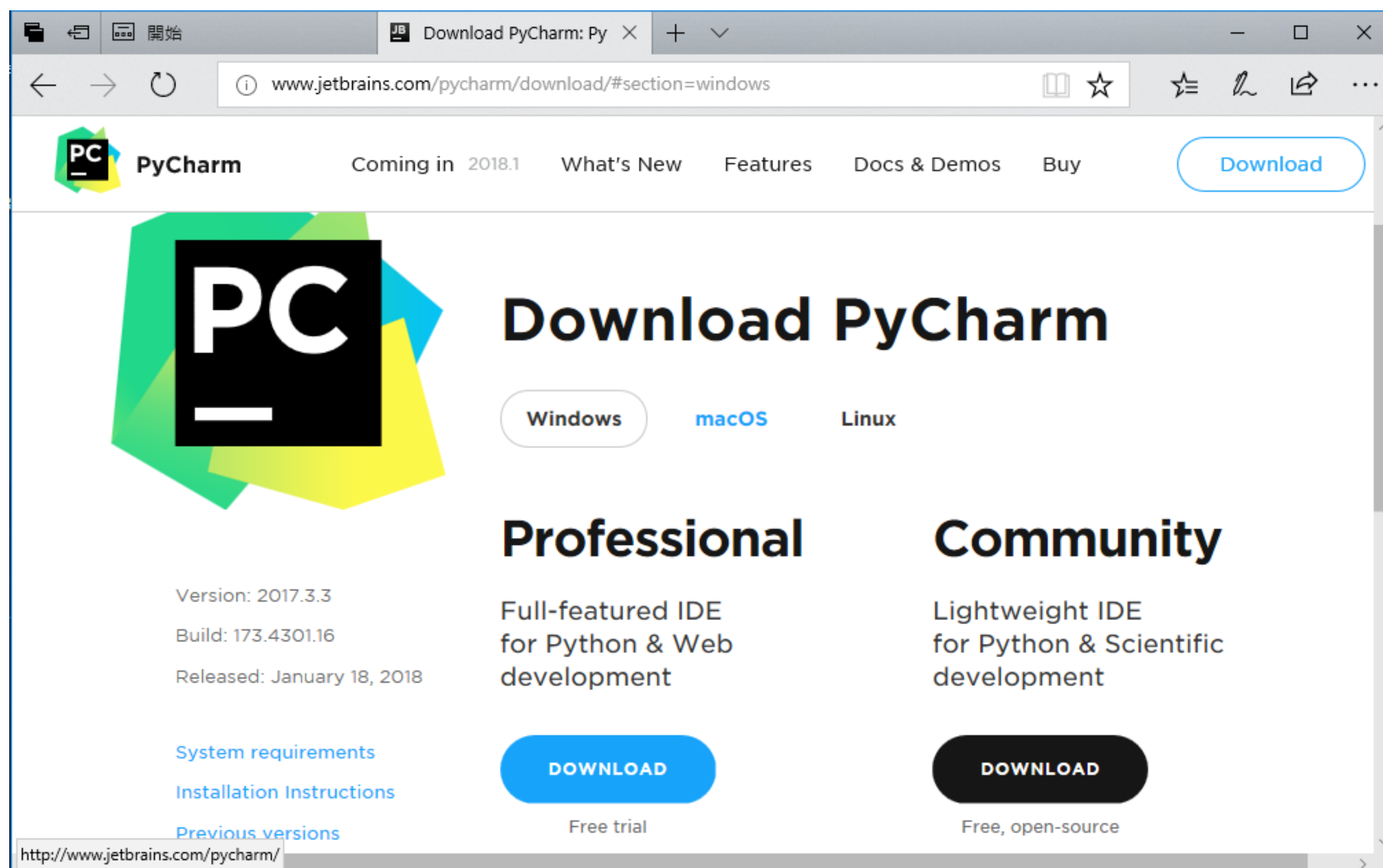


1-3-3在Windows 10下安裝 Pycharm

- <https://www.jetbrains.com/pycharm/>



下載Community版



The screenshot shows a web browser window with the address bar displaying `www.jetbrains.com/pycharm/download/#section=windows`. The page features the PyCharm logo on the left, which includes a stylized 'PC' on a black square. To the right of the logo, the heading 'Download PyCharm' is followed by three tabs: 'Windows' (selected), 'macOS', and 'Linux'. Below these tabs, two columns are presented: 'Professional' and 'Community'. The 'Professional' column describes it as a 'Full-featured IDE for Python & Web development' and includes a blue 'DOWNLOAD' button with a 'Free trial' note below it. The 'Community' column describes it as a 'Lightweight IDE for Python & Scientific development' and includes a black 'DOWNLOAD' button with a 'Free, open-source' note below it. On the left side, below the logo, version information is listed: 'Version: 2017.3.3', 'Build: 173.4301.16', and 'Released: January 18, 2018'. At the bottom left, there are links for 'System requirements', 'Installation Instructions', and 'Previous versions'. The browser's address bar at the bottom shows the URL `http://www.jetbrains.com/pycharm/`.

PyCharm

Coming in 2018.1

What's New

Features

Docs & Demos

Buy

Download

Download PyCharm

Windows macOS Linux

Professional

Full-featured IDE for Python & Web development

Version: 2017.3.3
Build: 173.4301.16
Released: January 18, 2018

[System requirements](#)
[Installation Instructions](#)
[Previous versions](#)

DOWNLOAD

Free trial

Community

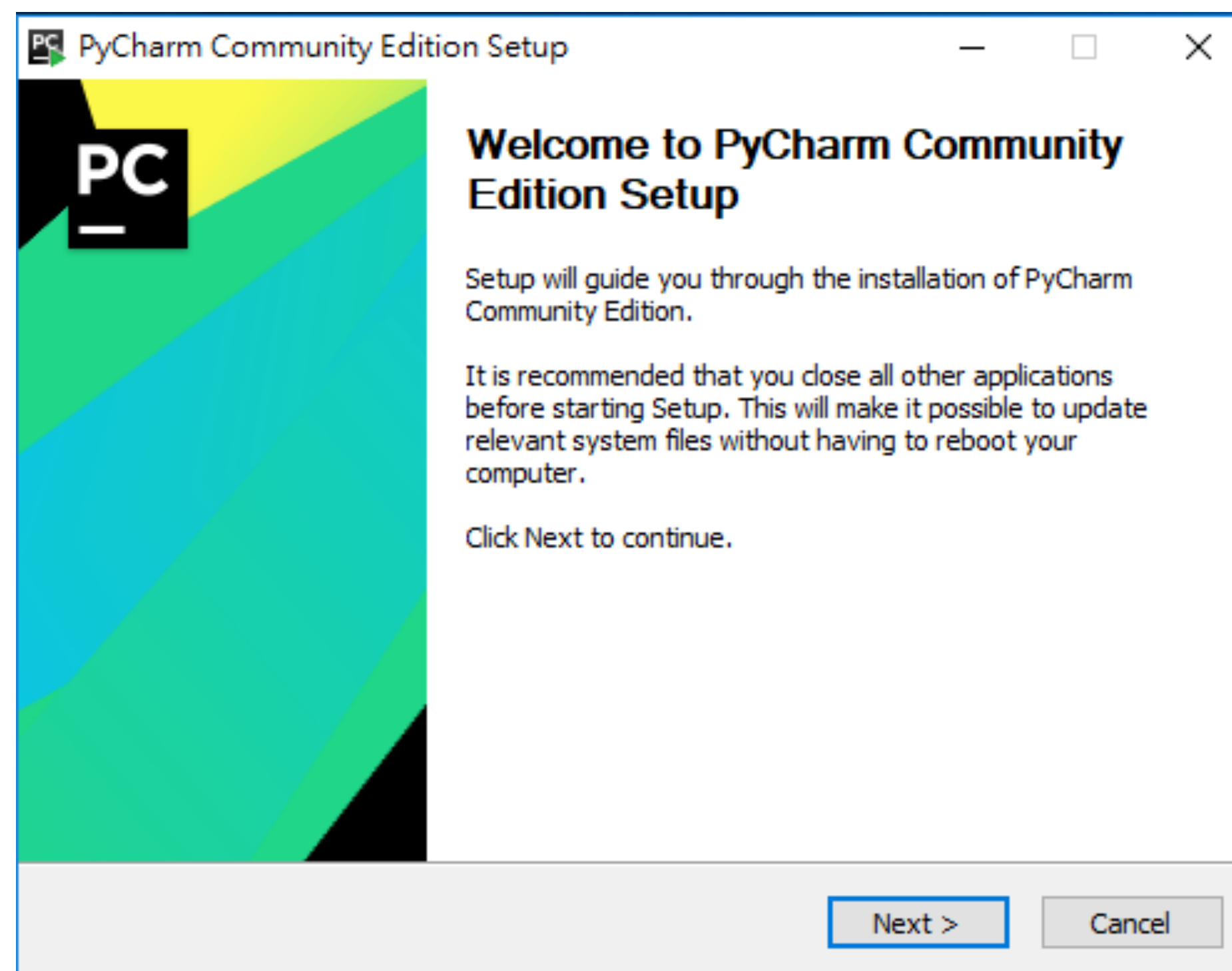
Lightweight IDE for Python & Scientific development

DOWNLOAD

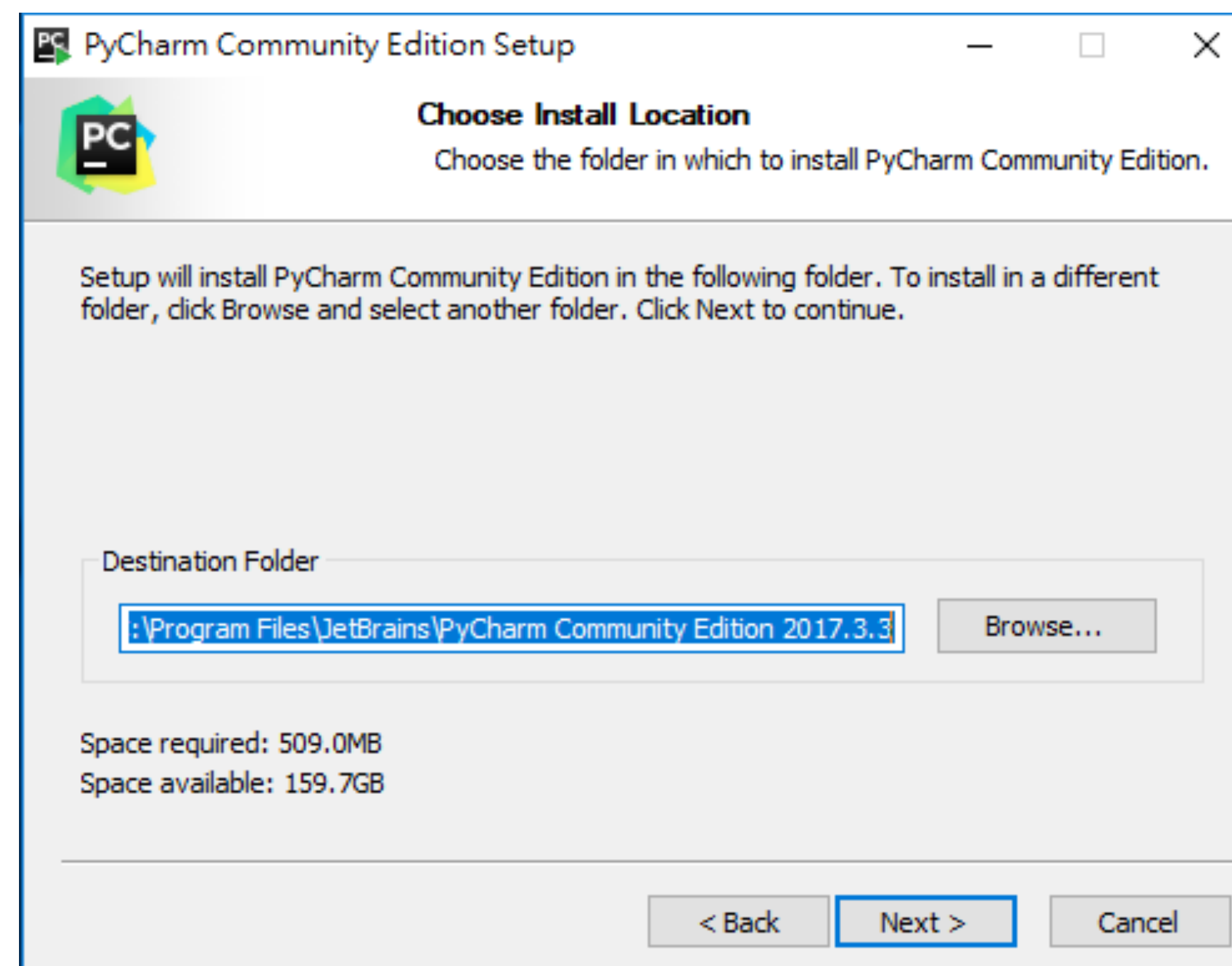
Free, open-source

`http://www.jetbrains.com/pycharm/`

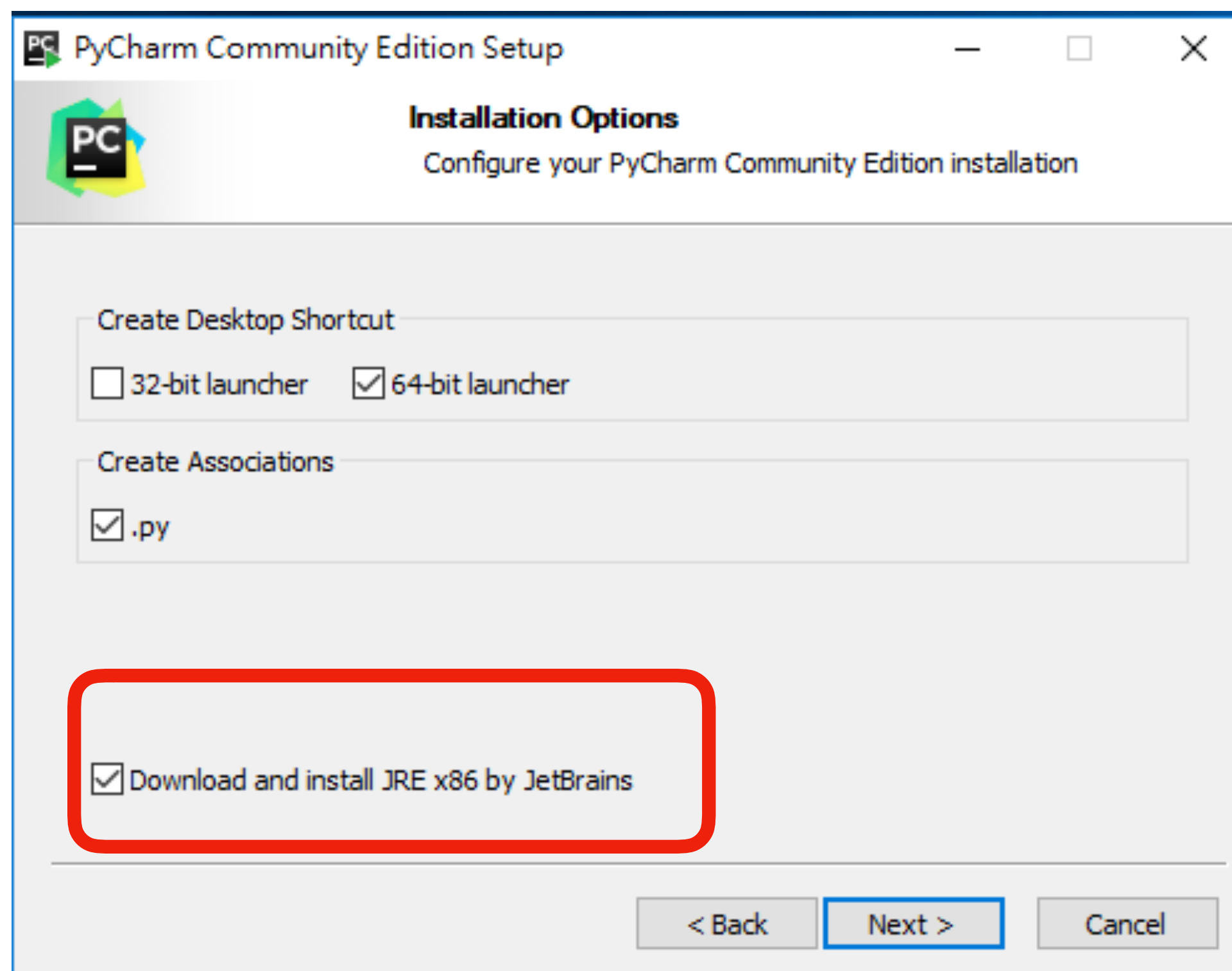
開始安裝PyCharm



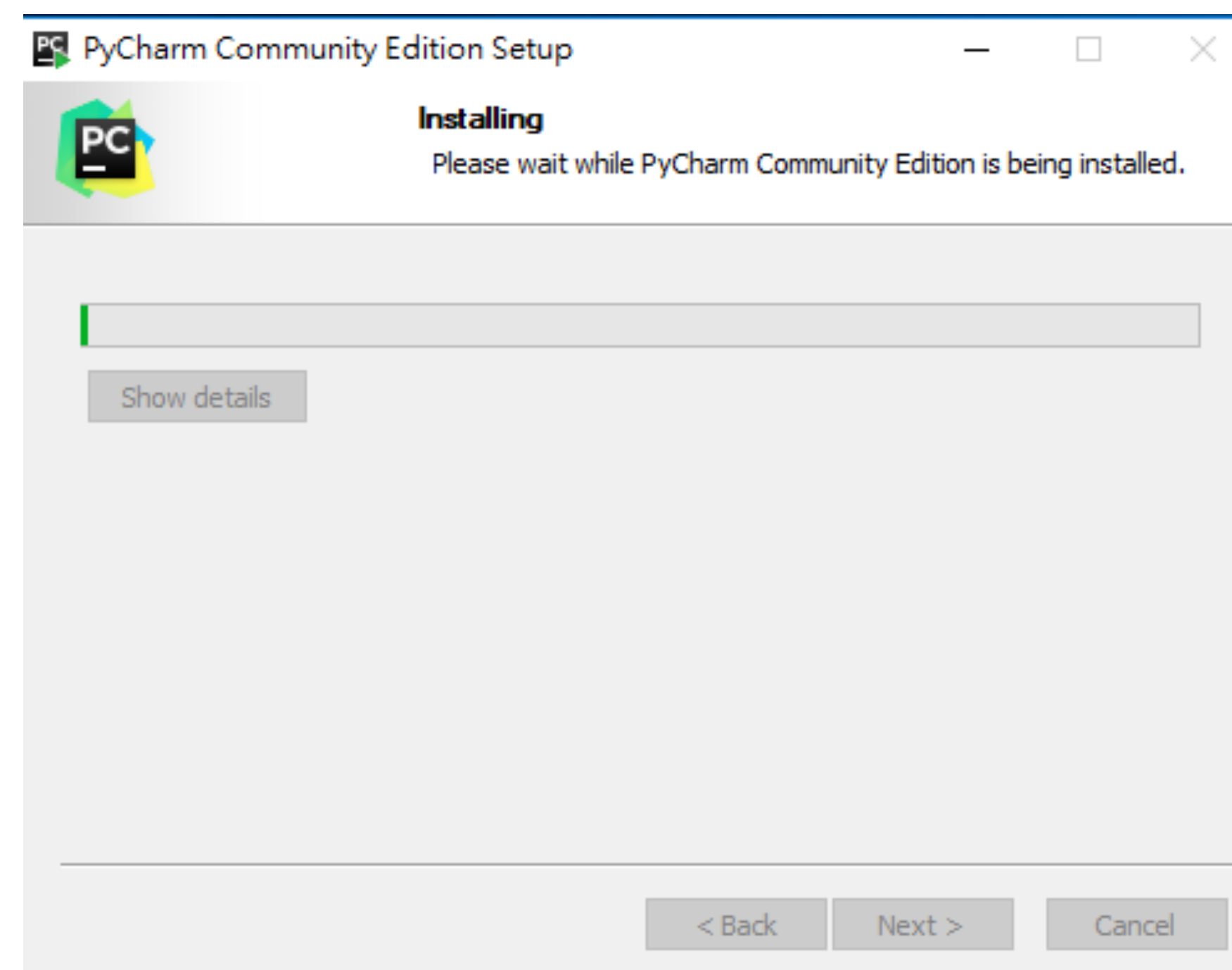
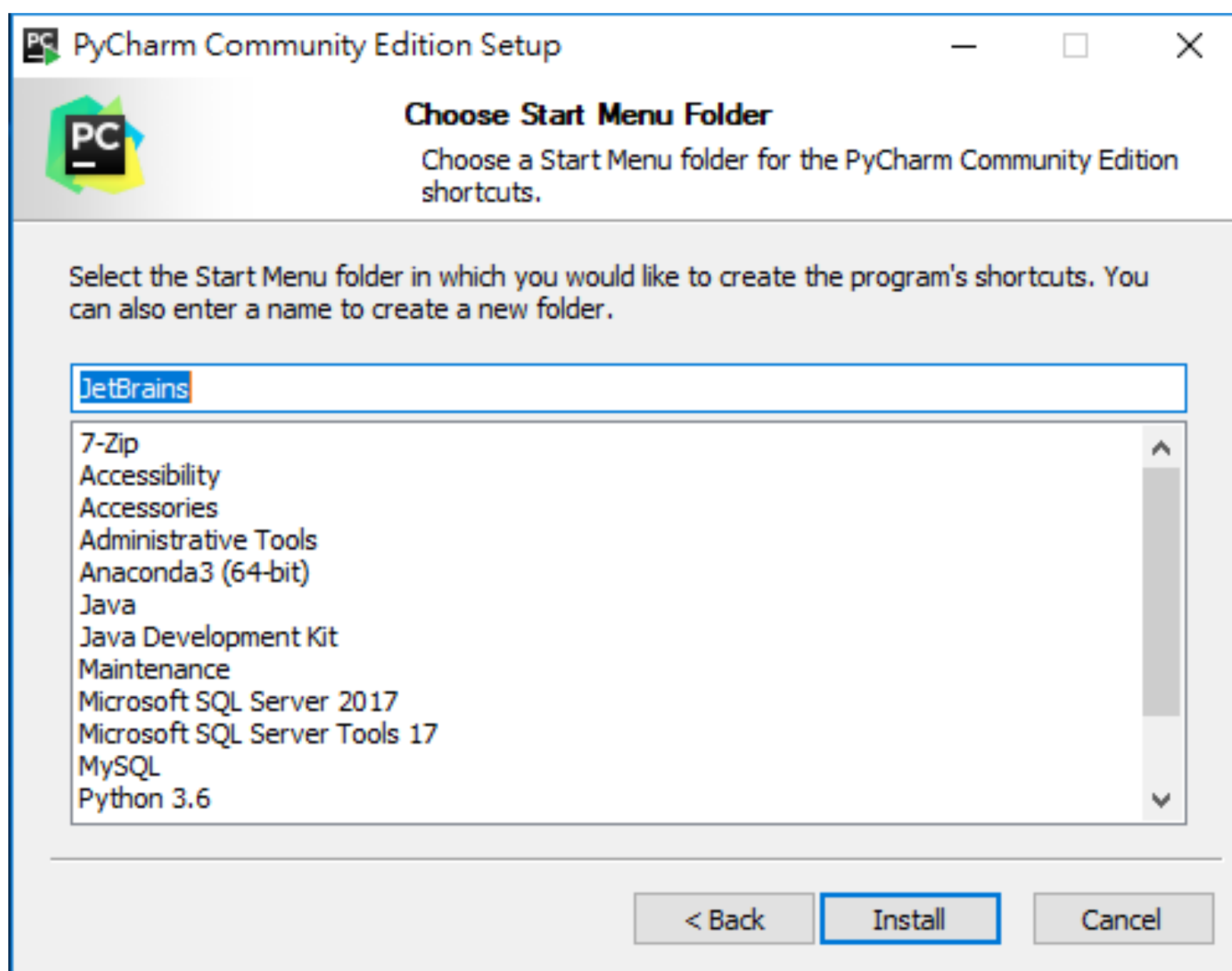
選取安裝目錄



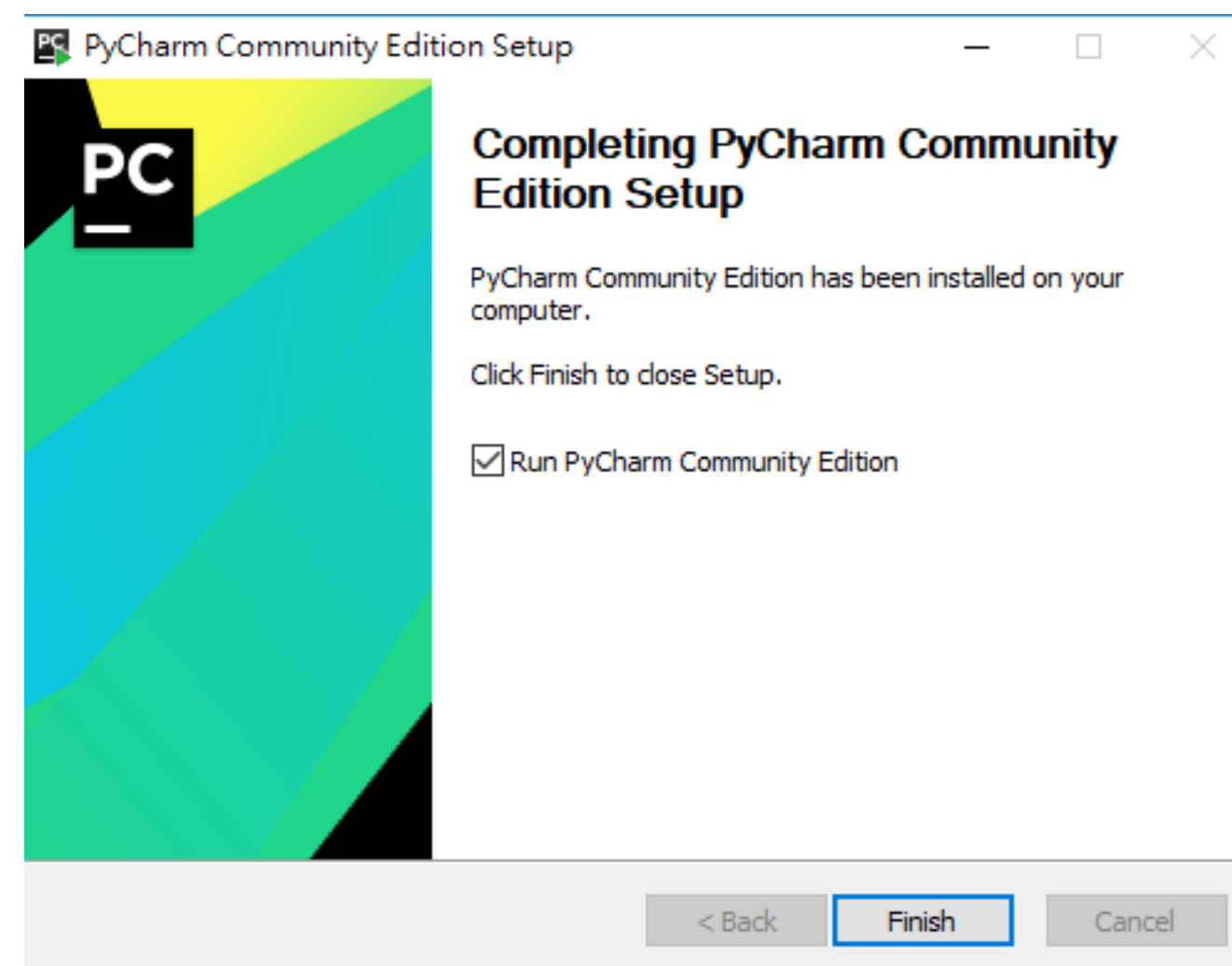
選取64位元,和下載JRE



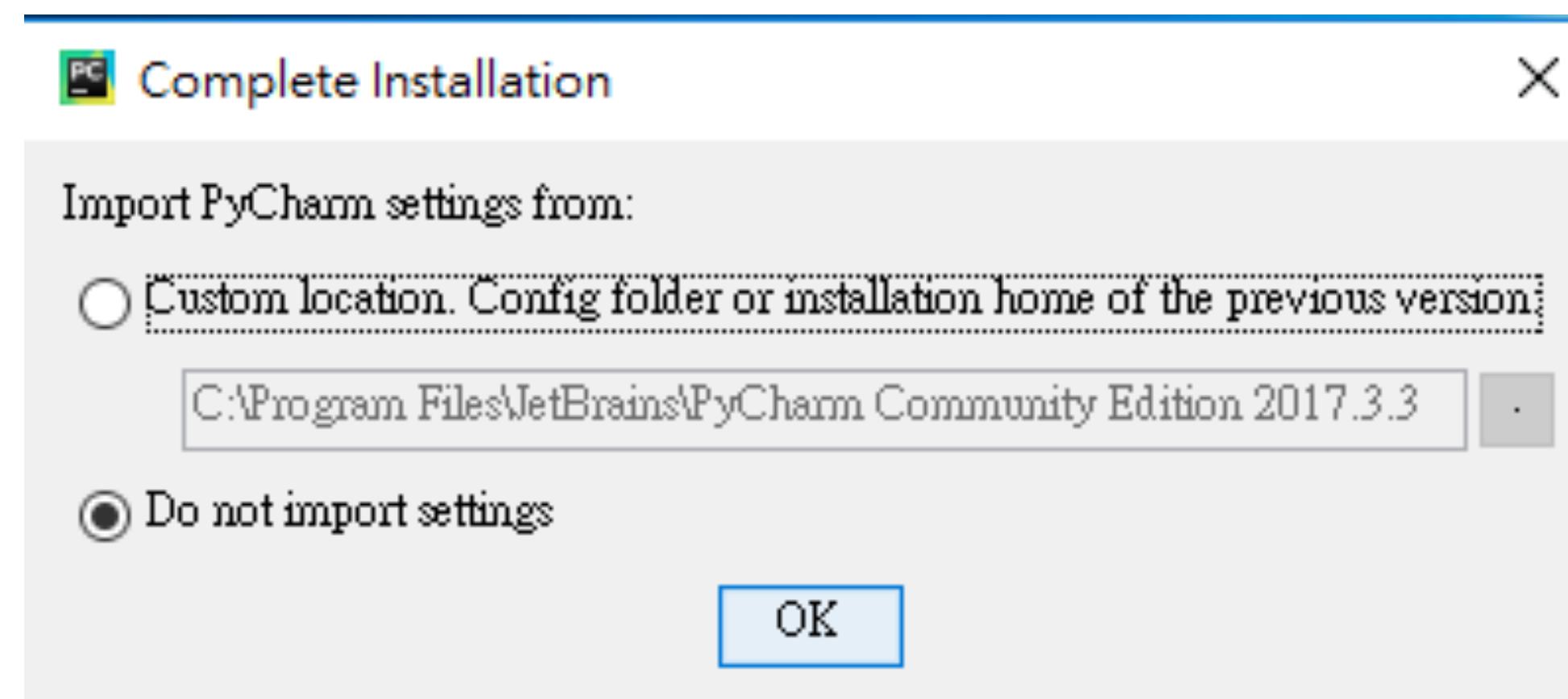
選取安裝



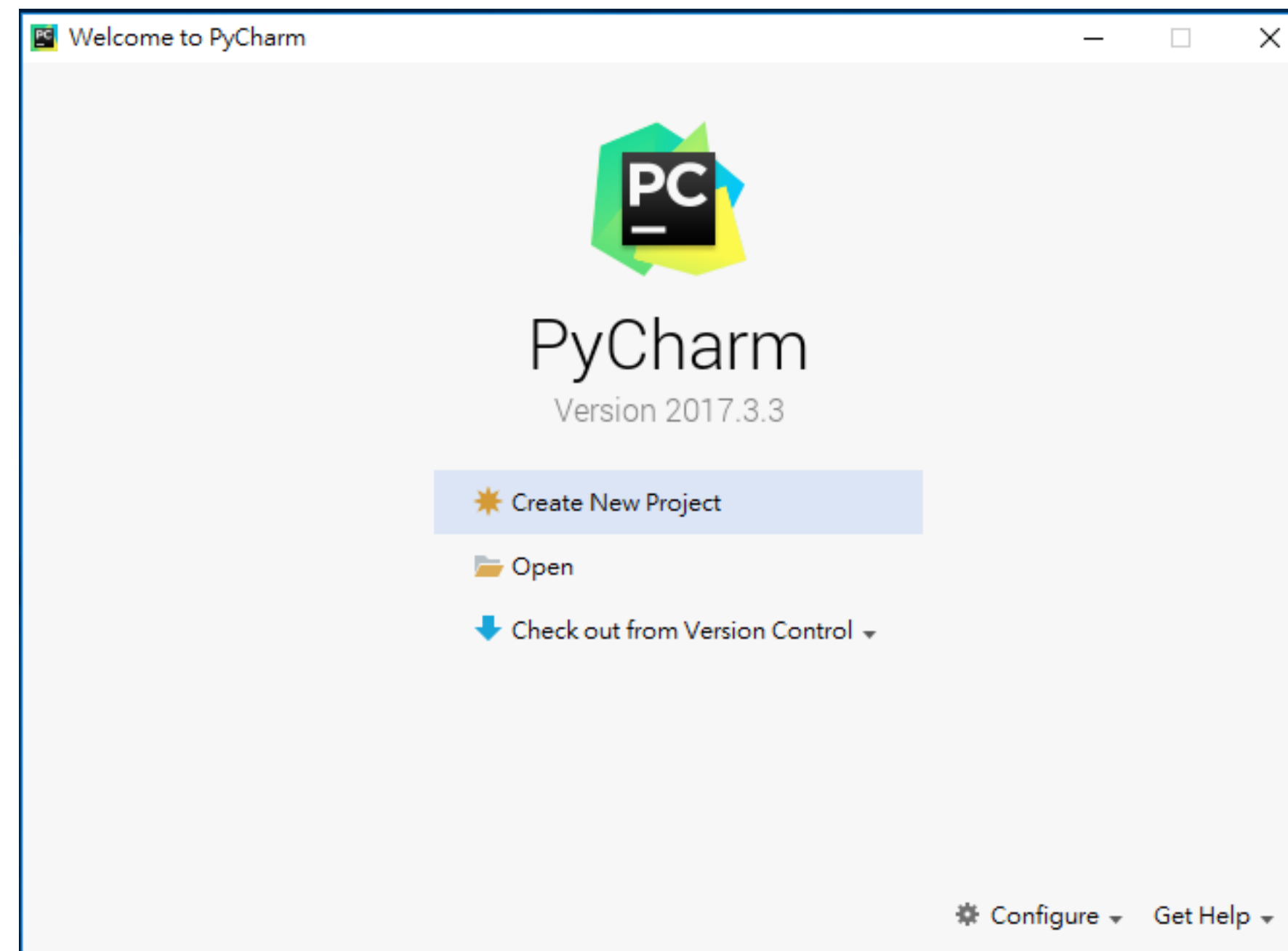
安裝完成



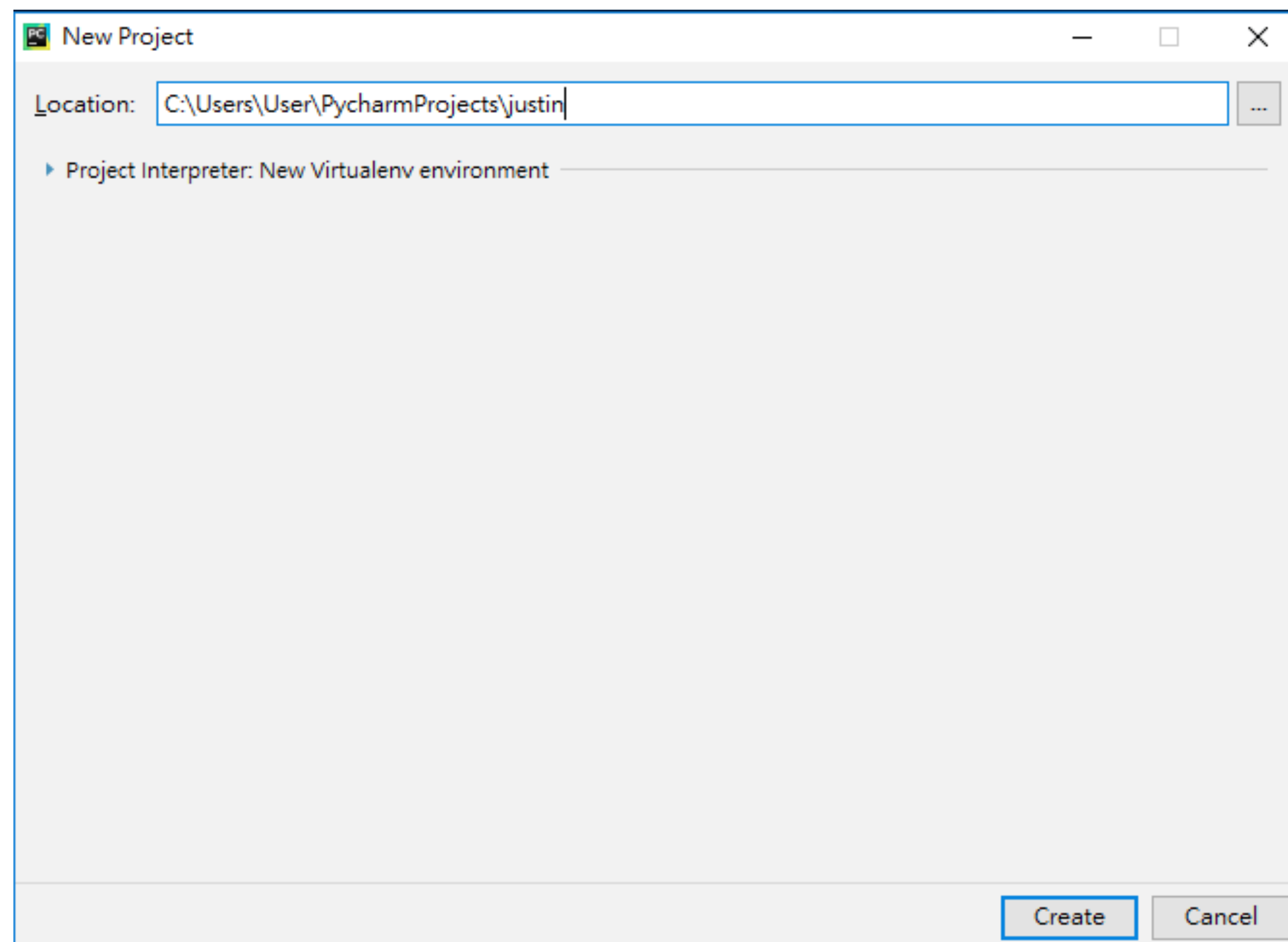
選取OK



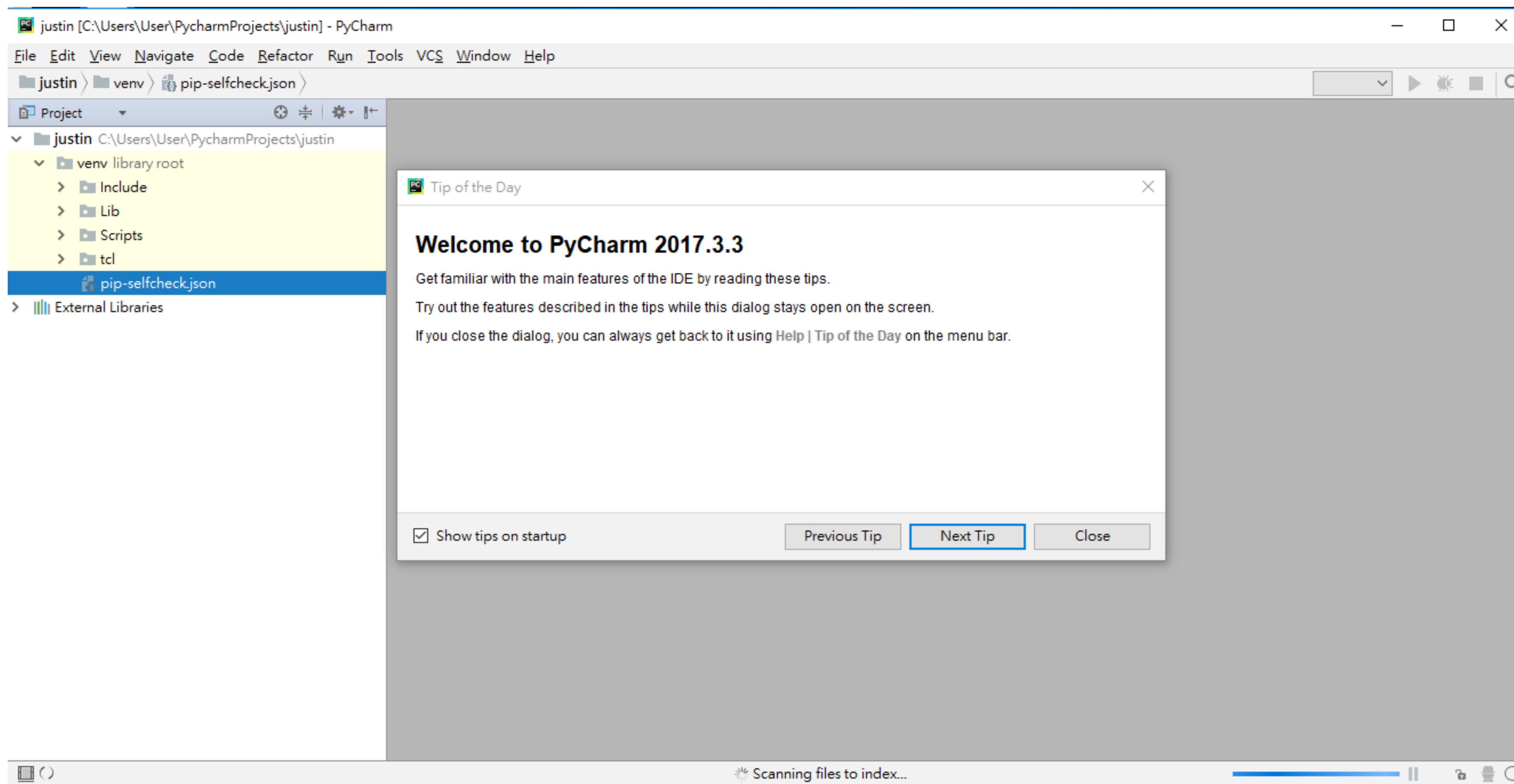
選取建立新Project



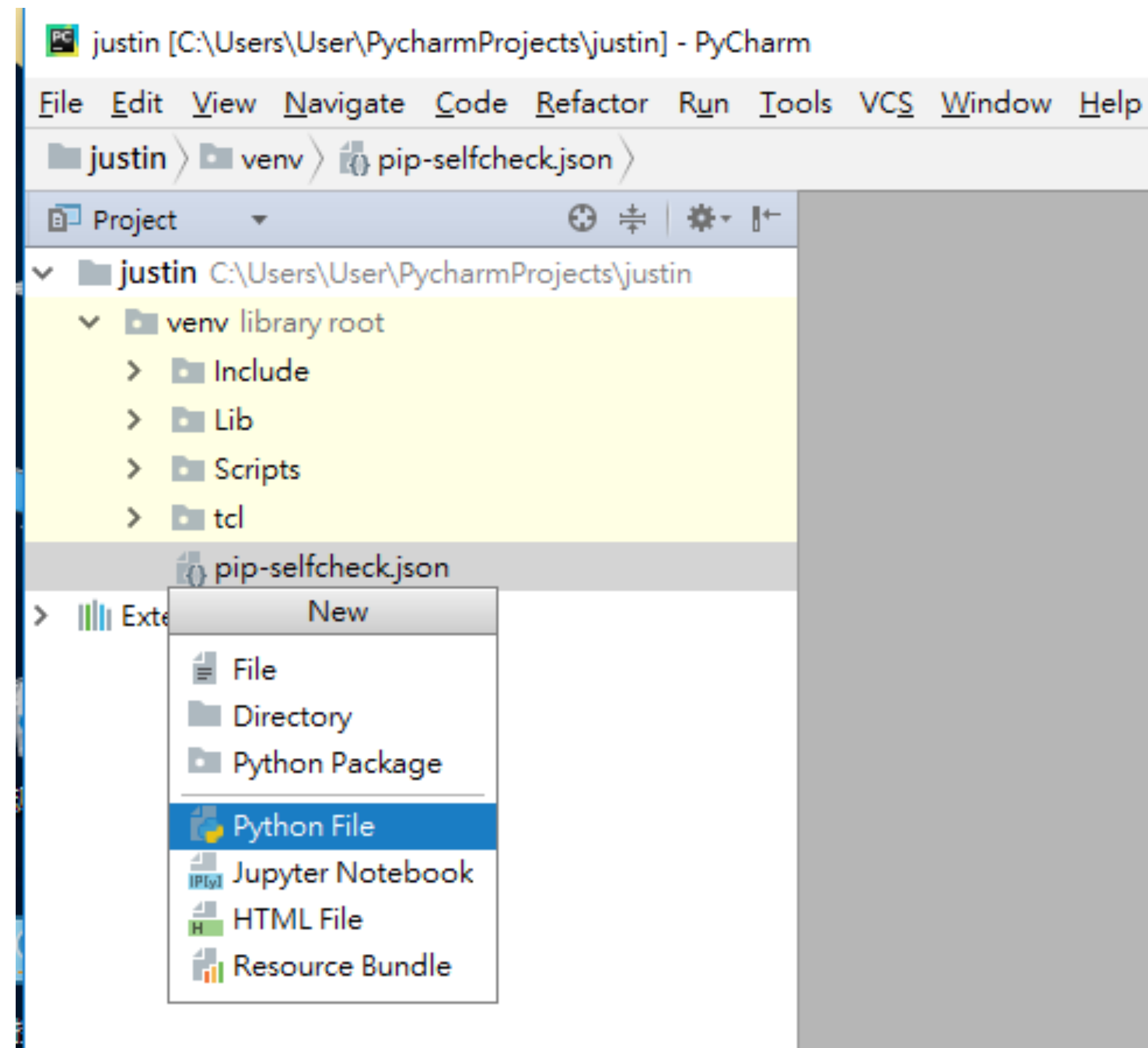
選取建立的目錄



PyCharm 歡迎畫面

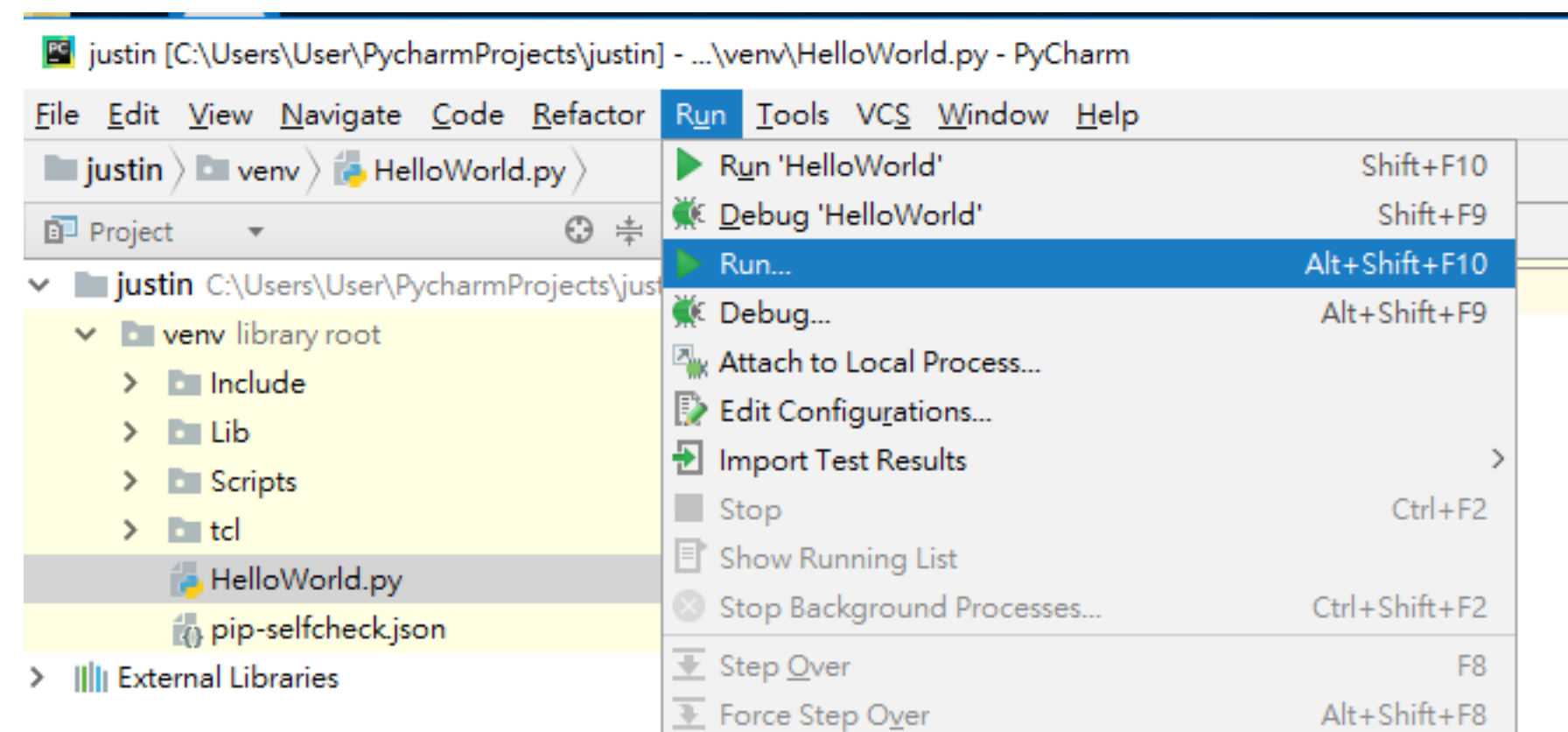
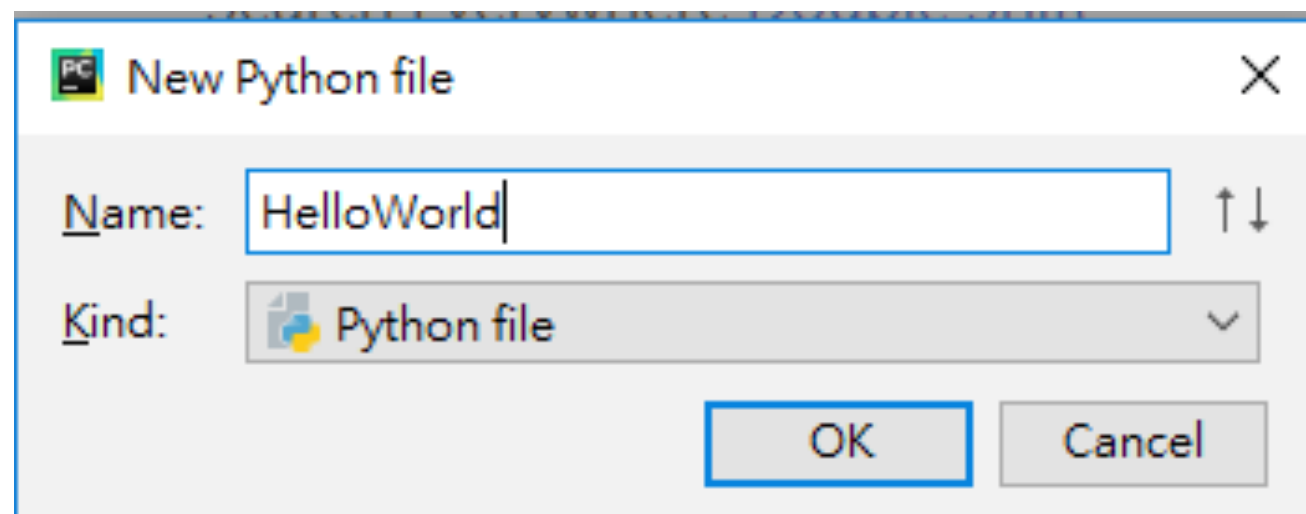


新增Python檔案,選取File->new



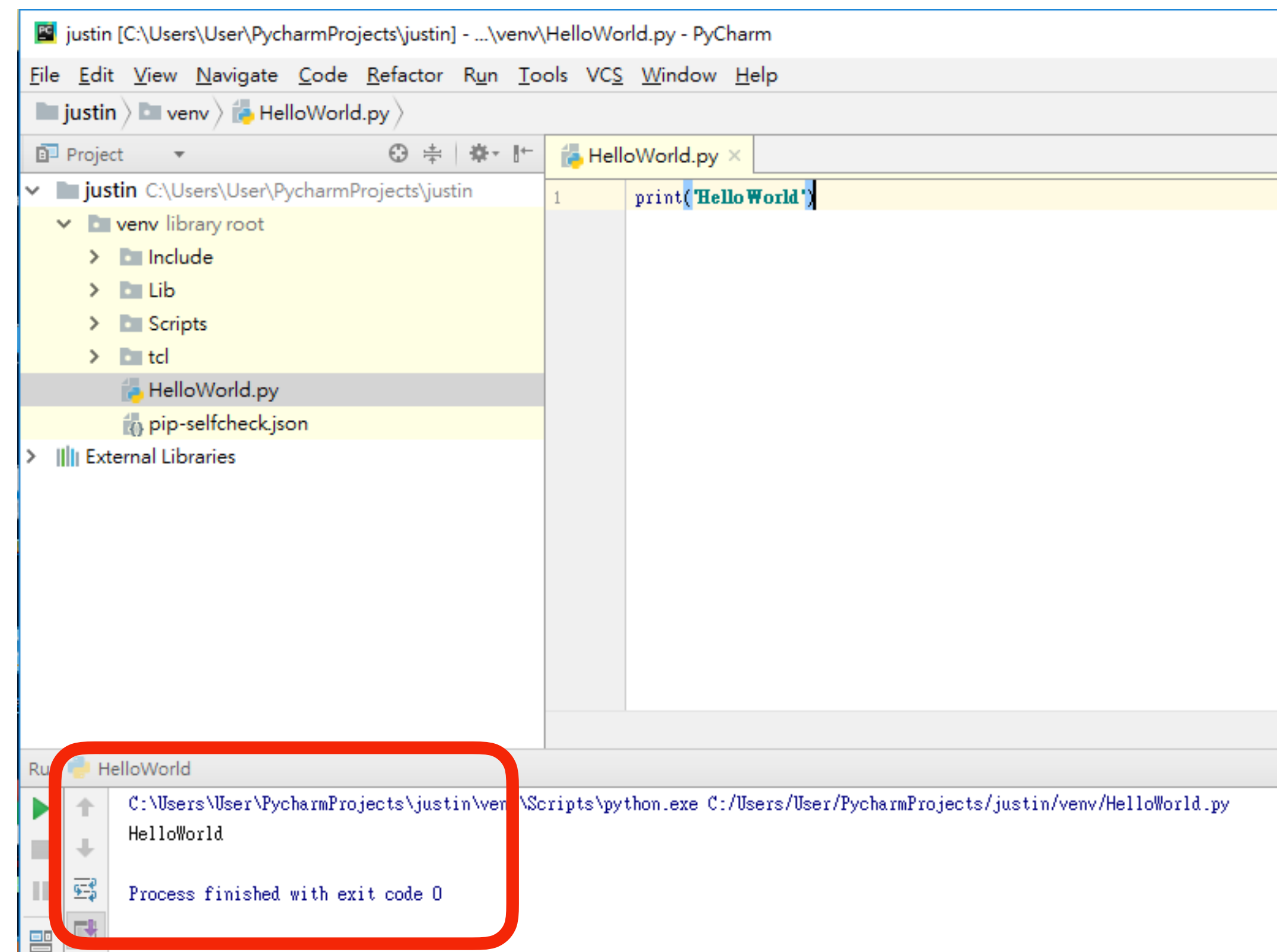
檔名儲存為HelloWorld

- 選取Run->Run來執行



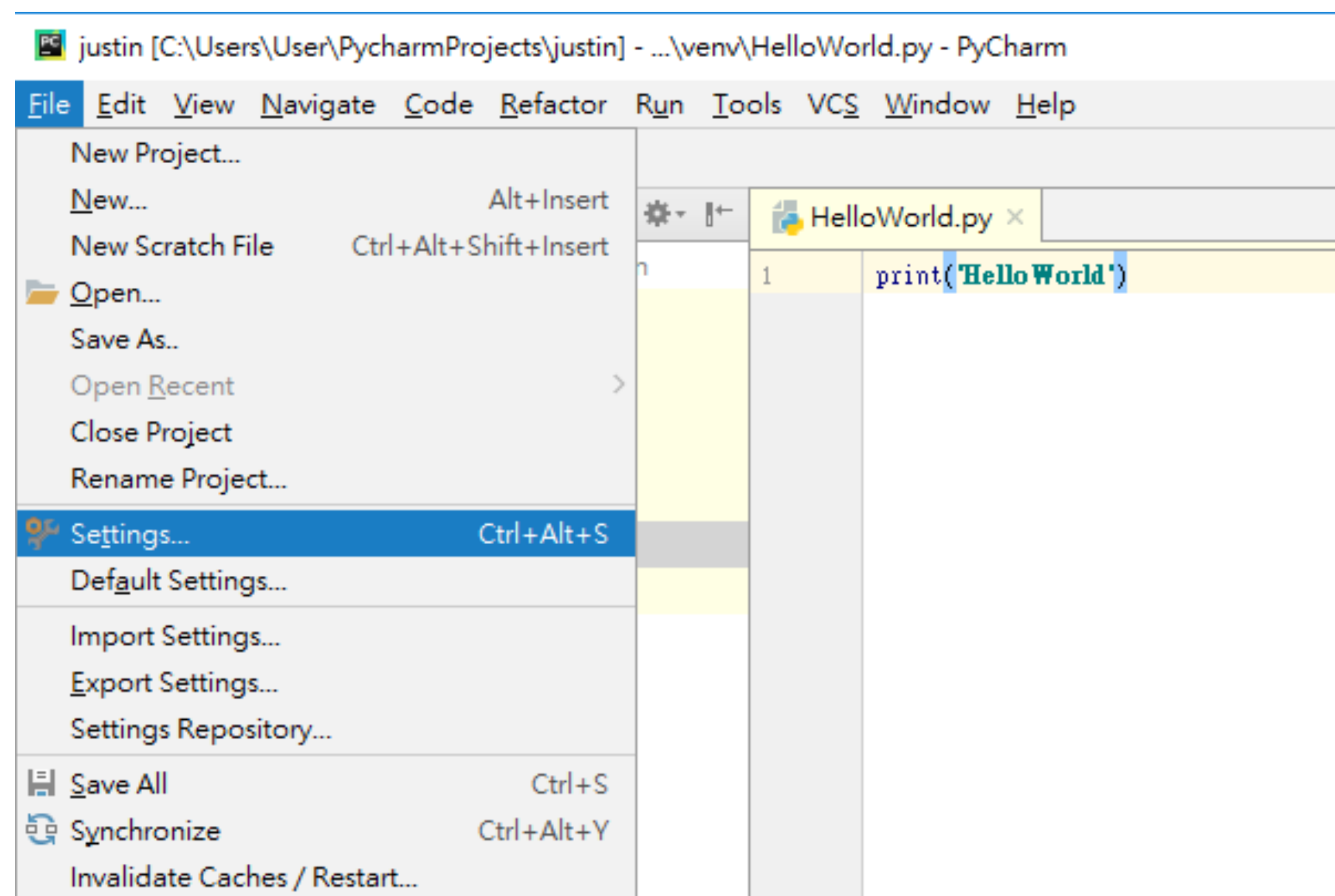
輸入print('HelloWorld')

- 顯示HelloWorld



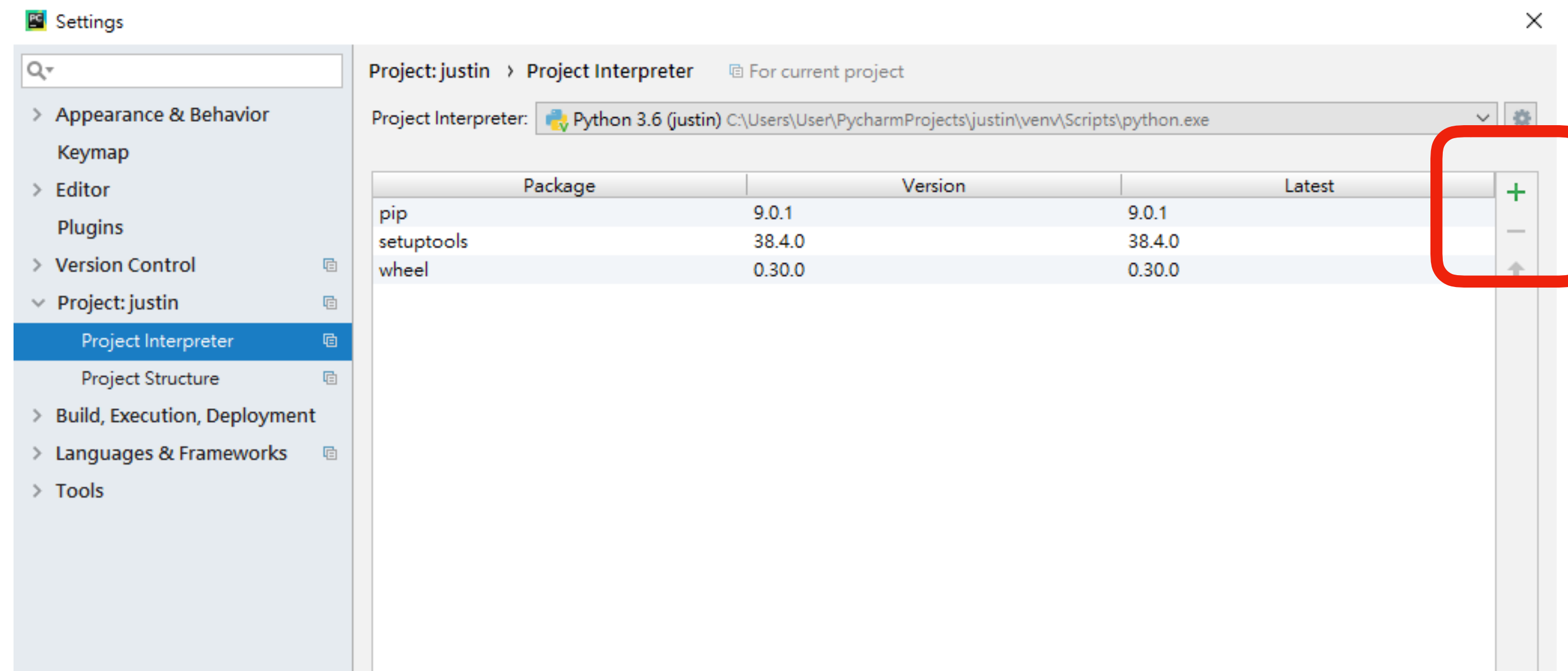
安裝模組

- 選取File-Settings

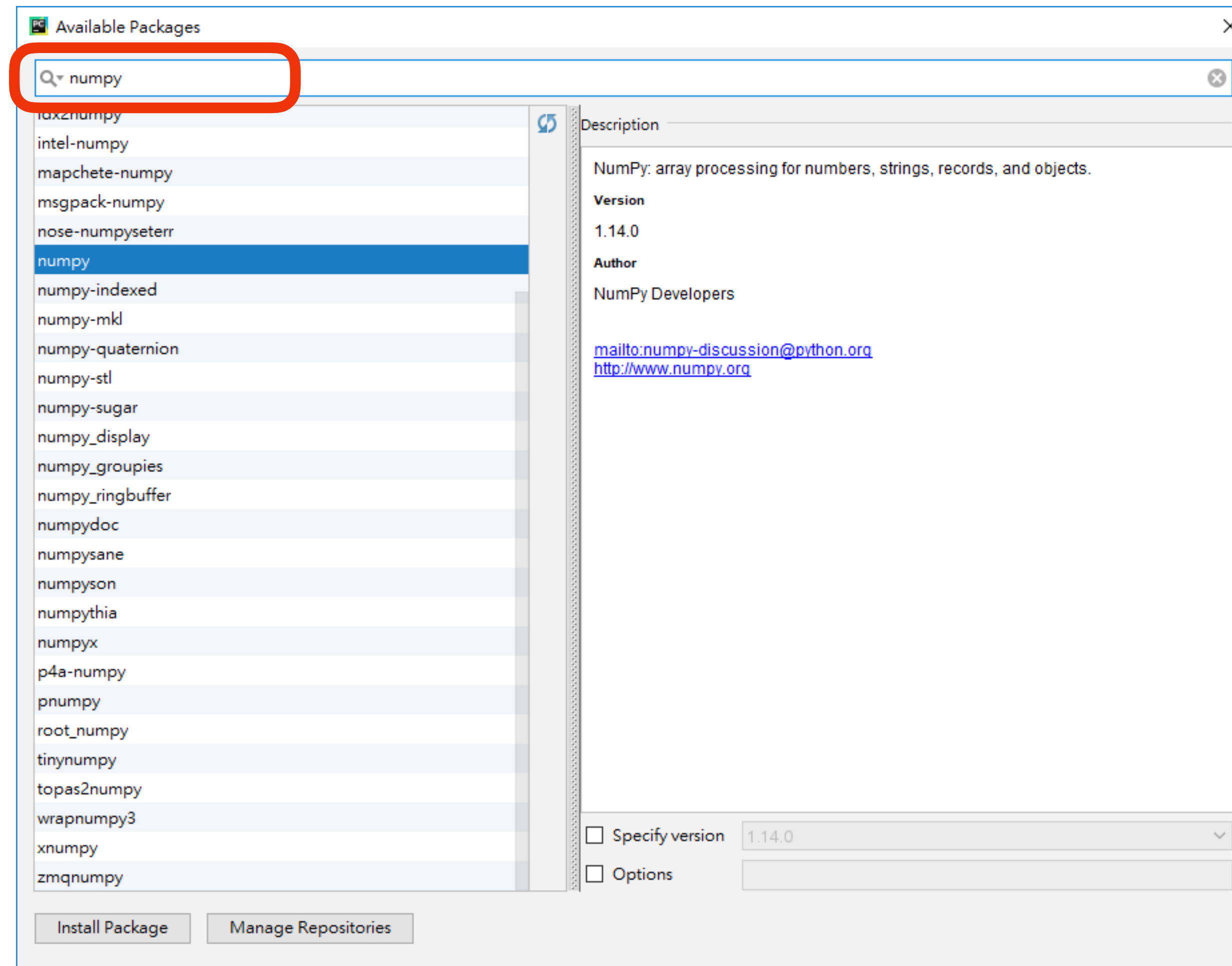


選取Project->直譯器

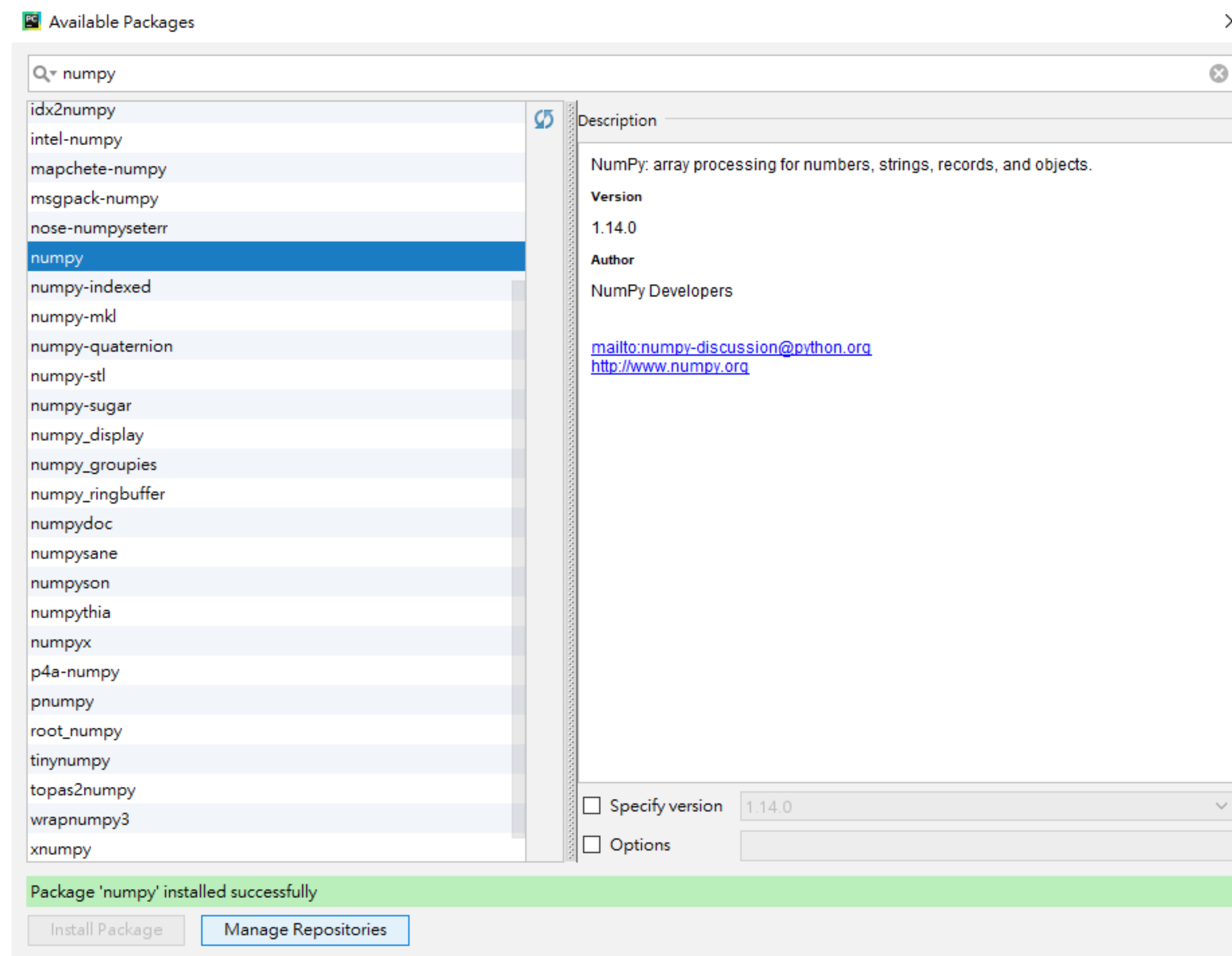
- 選取+來新增模組

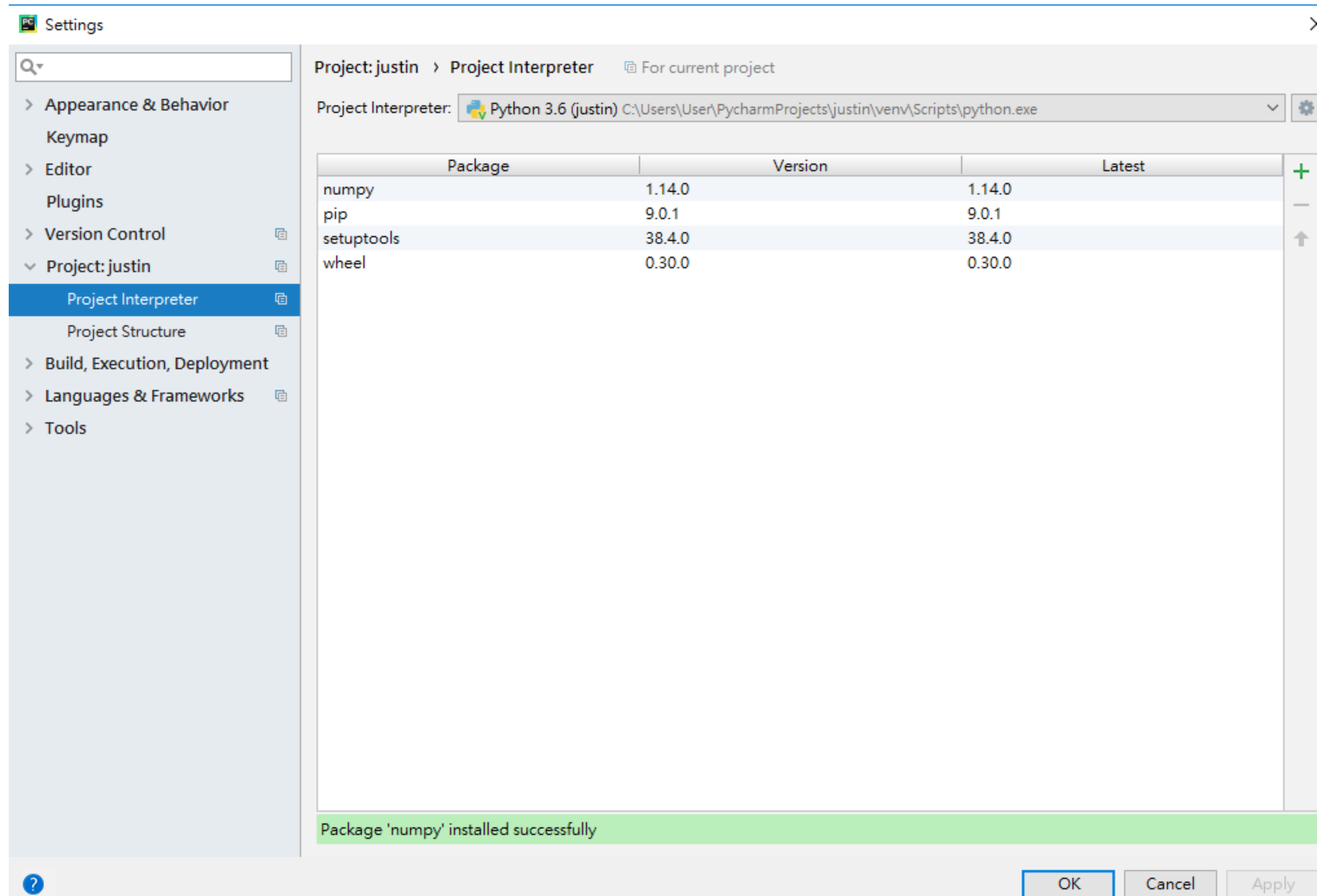


輸入要安裝模組名稱

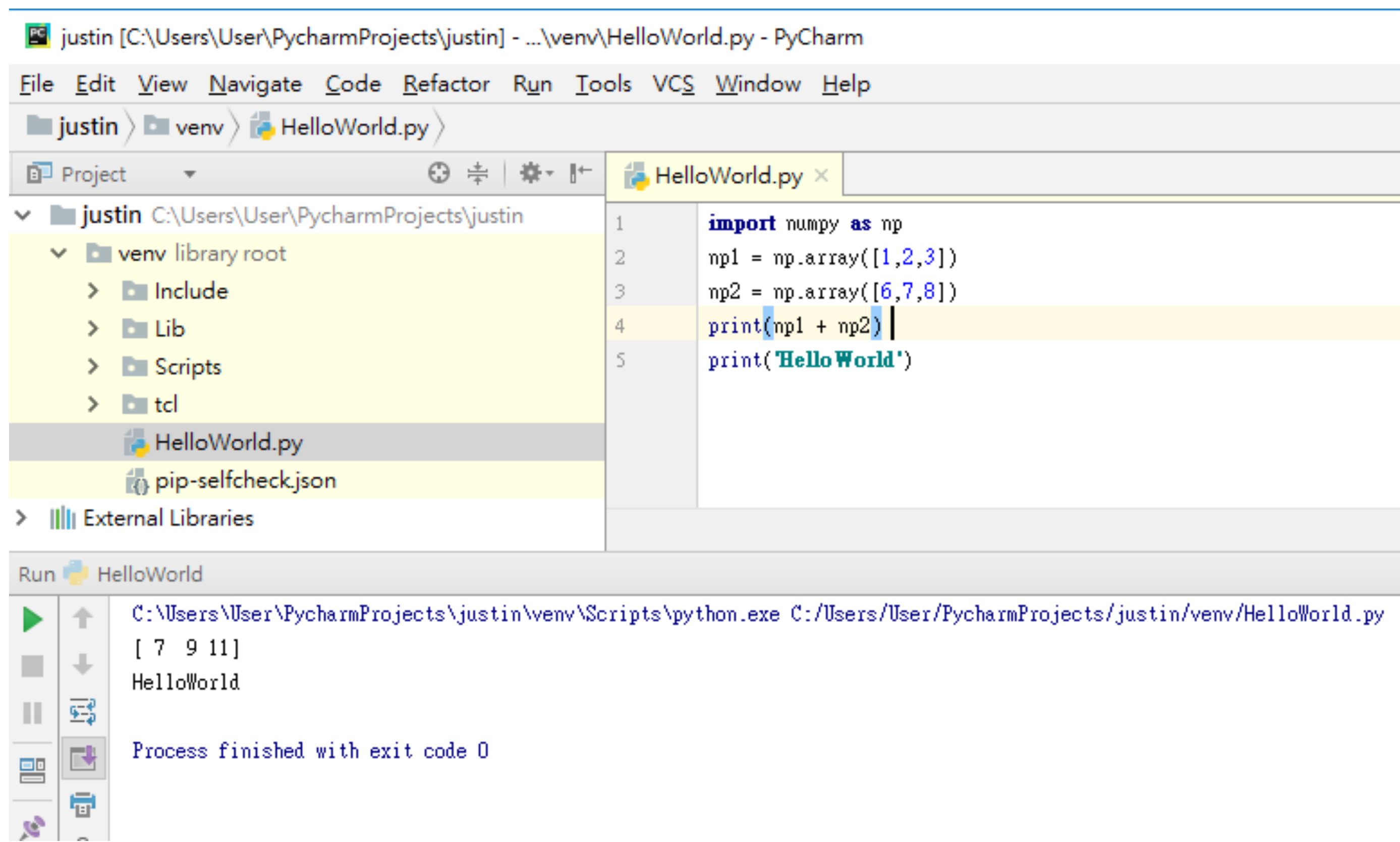


已安裝numpy模組





成功執行





- Thanks.

