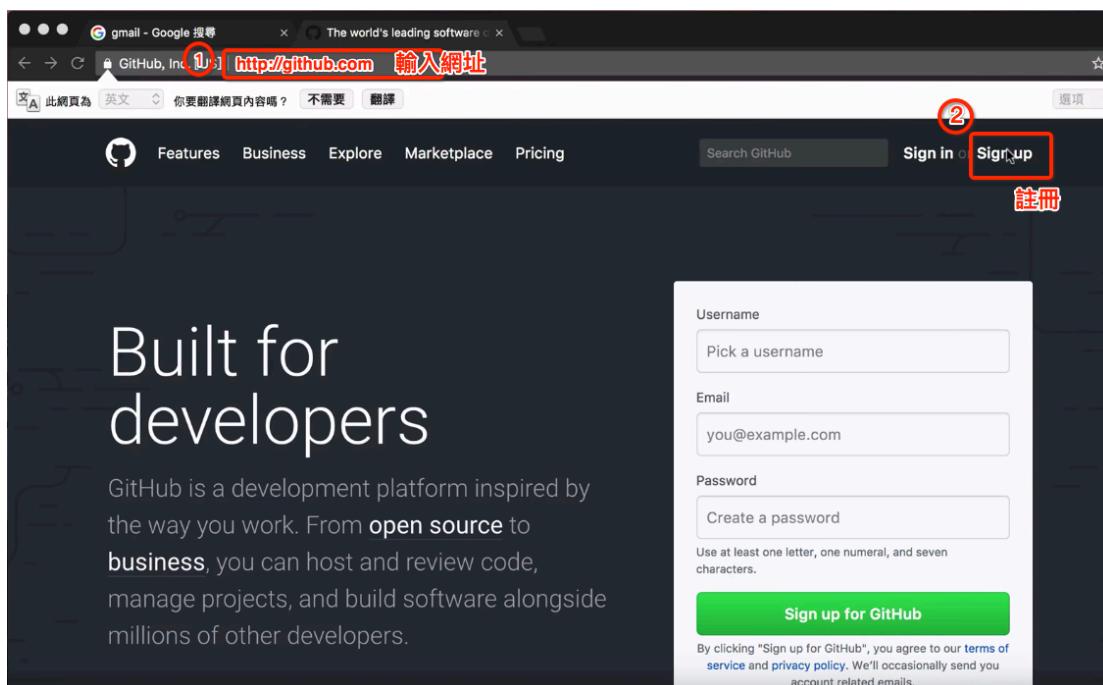
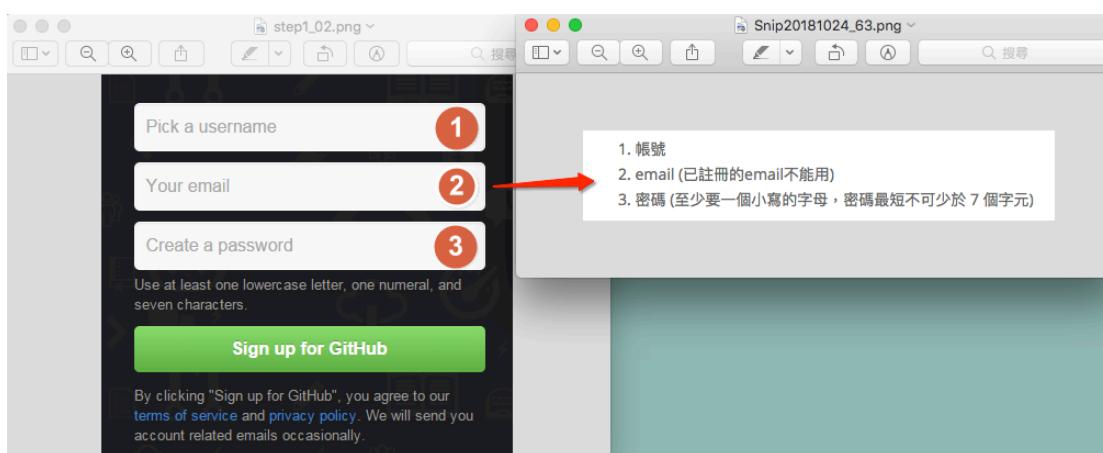


Github & Kaggle 帳號申請與設定

Step1. 註冊 Github 帳號 <http://github.com>



帳號密碼設定，密碼(至少一個小寫的字母，一個數字，不可少於七個字元)



建立帳號名稱與 email

Create your personal account

Username *

mnrfloyd

帳號

This will be your username. You can add the name of your organization later.

Email address *

bungee.ilinke@gmail.com

email

We'll occasionally send updates about your account to this inbox. We'll never share your email address with anyone.

Password *

Make sure it's **more than 15 characters** OR at least 8 characters including a number and a lowercase letter. [Learn more](#).

Verify account



By clicking "Create an account" below, you agree to our [terms of service](#) and [privacy statement](#). We'll occasionally send you account related emails.

[Create an account](#)

建立帳戶

You'll love GitHub

Unlimited public repositories

Unlimited private repositories

✓ Limitless collaboration

✓ Frictionless development

✓ Open source community

選擇免費方案

Completed
Set up your account

Step 2:
Choose your plan

Step 3:
Personalize your experience

Choose your plan

With tools developers love and the world's largest open source community, there's no wrong choice.

<p>Free The basics of GitHub for every developer</p> <p>\$0 per month</p> <p>Includes:</p> <ul style="list-style-type: none">∞ Unlimited public and private repositories✓ 3 collaborators for private repositories✓ Issues and bug tracking✓ Project management <p>Are you a student? Get access to the best developer tools for free with the GitHub Student Developer Pack.</p>	<p>Pro Pro tools for developers with advanced requirements</p> <p>\$7 per month (view in TWD)</p> <p>Includes:</p> <ul style="list-style-type: none">∞ Unlimited public and private repositories∞ Unlimited collaborators✓ Issues and bug tracking✓ Project management✓ Advanced tools and insights
--	--

Help me set up an organization next
Organizations are separate from personal accounts and are best suited for businesses who need to manage permissions for many employees.
[Learn more about organizations](#)

Send me updates on GitHub news, offers, and events
Unsubscribe anytime in your email preferences. [Learn more](#)

Continue

勾選問卷或直接跳過此步驟

Snip20180906_58.png

How would you describe your level of programming experience?

Very experienced Somewhat experienced Totally new to programming

What do you plan to use GitHub for? (check all that apply)

School projects Research Design
 Project Management Development Other (please specify)

Which is closest to how you would describe yourself?

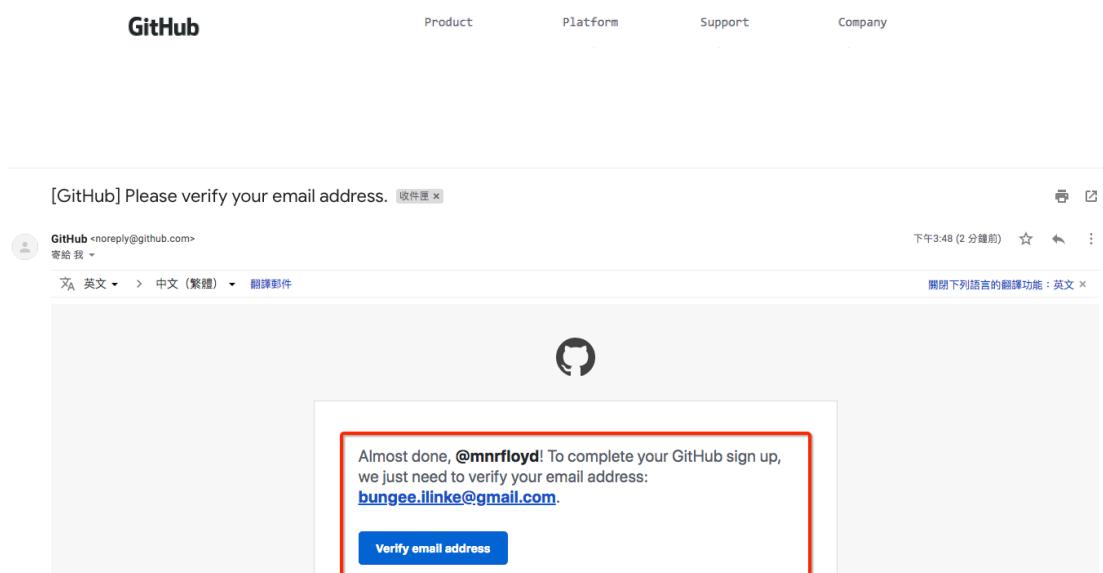
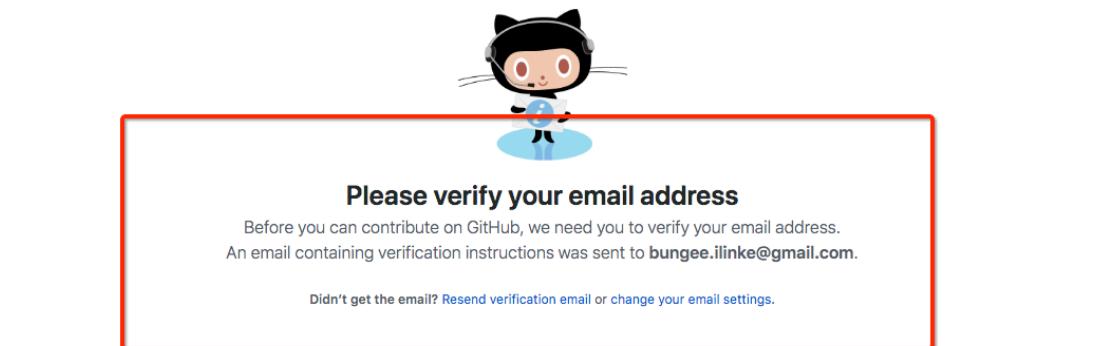
I'm a hobbyist I'm a student I'm a professional
 Other (please specify)

What are you interested in?

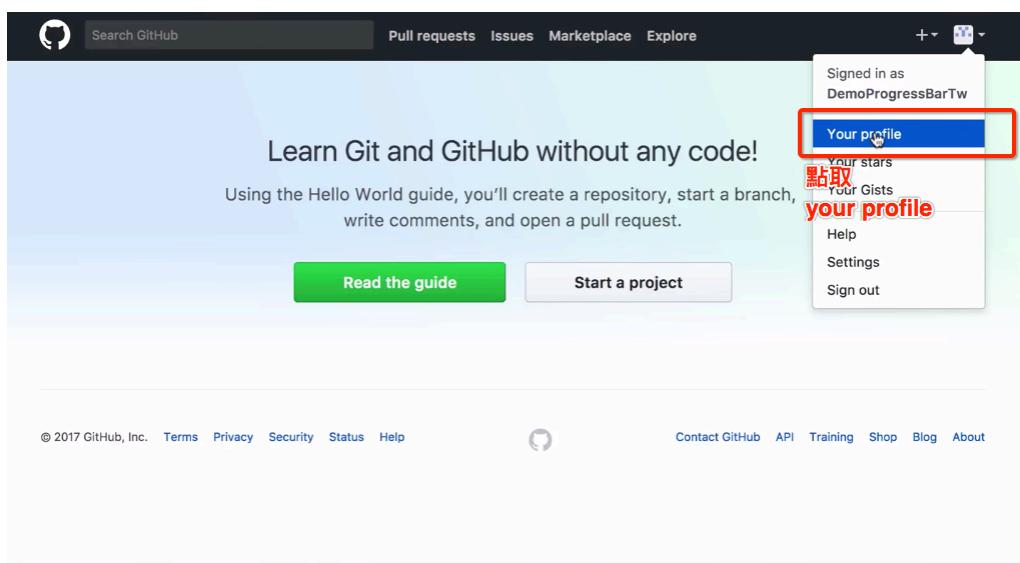
勾選基本問卷
按送出

Submit skip this step

認證 Email



進到登入畫面點取 your profile



Step2. 建立新專案

點擊 your profile，點擊 repositories 專案

The screenshot shows a GitHub profile page for a user named 'mnrflloyd'. The top navigation bar includes 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. On the left, there's a profile picture placeholder, a 'Set your status' button, and the user's name 'mnrflloyd'. Below this, it says 'Joined 8 minutes ago' and has an 'Edit' button. The main area is titled 'Overview' (step 2) and shows 'Repositories 0', 'Projects 0', 'Stars 0', 'Followers 0', and 'Following 0'. A message states 'You don't have any public repositories yet.' To the right, a sidebar shows 'Signed in as mnrflloyd' and a dropdown menu with options: 'Your profile' (highlighted with a red box and step 1), 'Your repositories', 'Your projects', 'Your stars', 'Your gists', 'Help', 'Settings', and 'Sign out'. A red box also highlights the 'Repositories' link in the overview section.

點進 Repositories，點擊右邊的「New」來建立一個新的程式庫。

This screenshot shows the same GitHub profile page as the previous one, but with a different view. The user 'mnrflloyd' has selected the 'Repositories' tab (step 1). The 'Repositories' section shows '0' repositories and a search bar. To the right, there's a 'Type: All' dropdown and a prominent green 'New' button with a plus icon, which is highlighted with a red box and labeled '建立新專案' (step 2). The rest of the interface is similar to the first screenshot, including the sidebar and navigation bar.

專案名稱需與發起活動名稱一致

活動名稱：ML100Days

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#).

Owner: bungeebonbon / Repository name *: **ML100Days** 專案名稱請打
ML100Days

Great repository names are short and memorable. Need inspiration? How about automatic-dollop?

Description (optional): 勾選公開

Public: Anyone can see this repository. You choose who can commit.

Private: You choose who can see and commit to this repository.

開啟readme: Skip this step if you're importing an existing repository.

Initialize this repository with a README: This will let you immediately clone the repository to your computer.

Add .gitignore: None | Add a license: None

建立專案

Create repository

Step3. 在本機建立提交作業資料夾 (Github Desktop 設定)

專案頁面介紹

bungeebonbon / ML100Days 專案名稱

Code Issues 0 Pull requests 0 Projects 0 Wiki Security Insights Settings

程式碼主頁 Website, or topics provided. Edit

Manage topics

1 commit 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find File

bungeebonbon Initial commit

README.md Initial commit

README.md

ML100Days

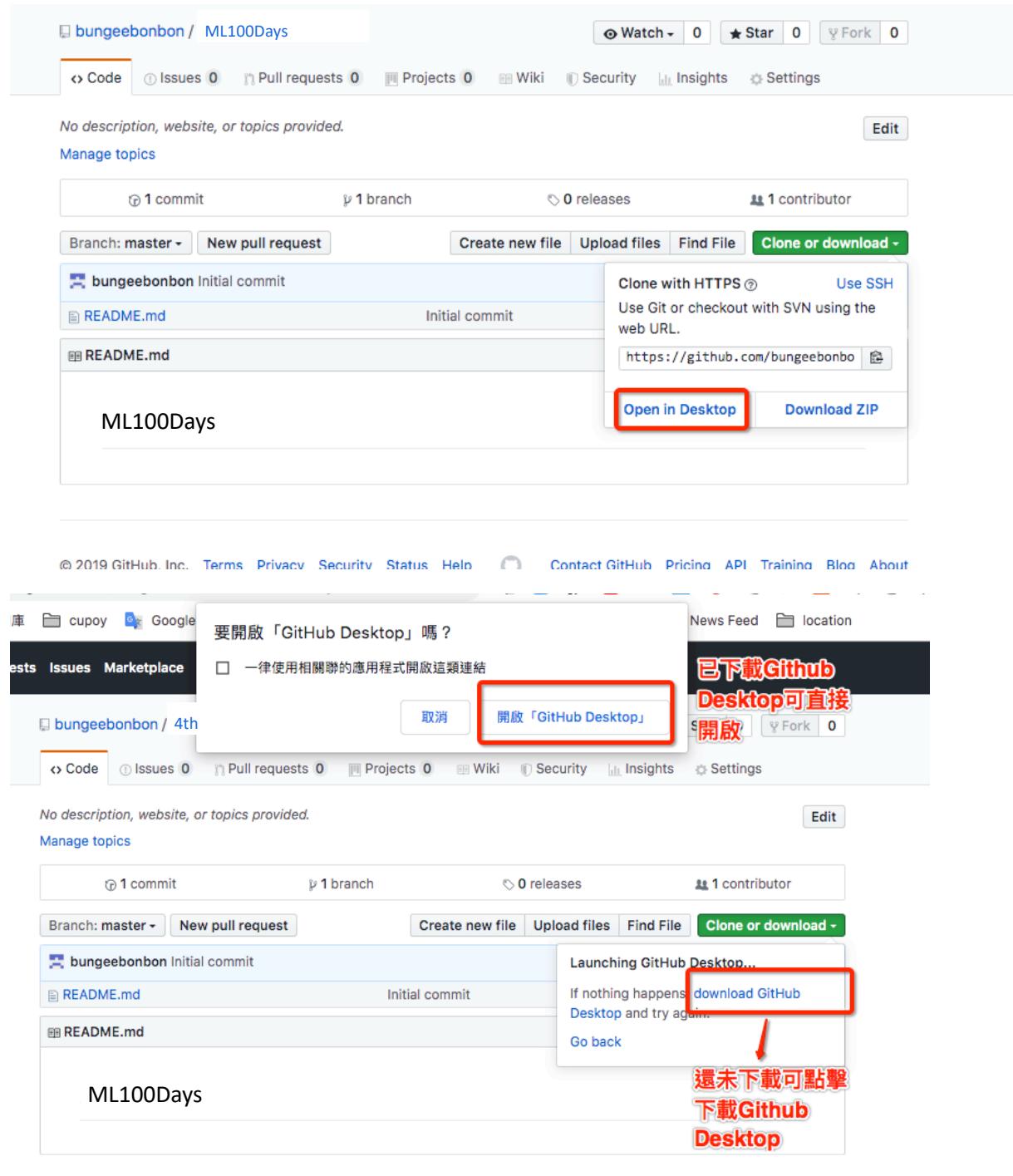
更新與提交紀錄

Clone or download 複製專案到本機

下載 GitHub Desktop 到本機同步資料夾

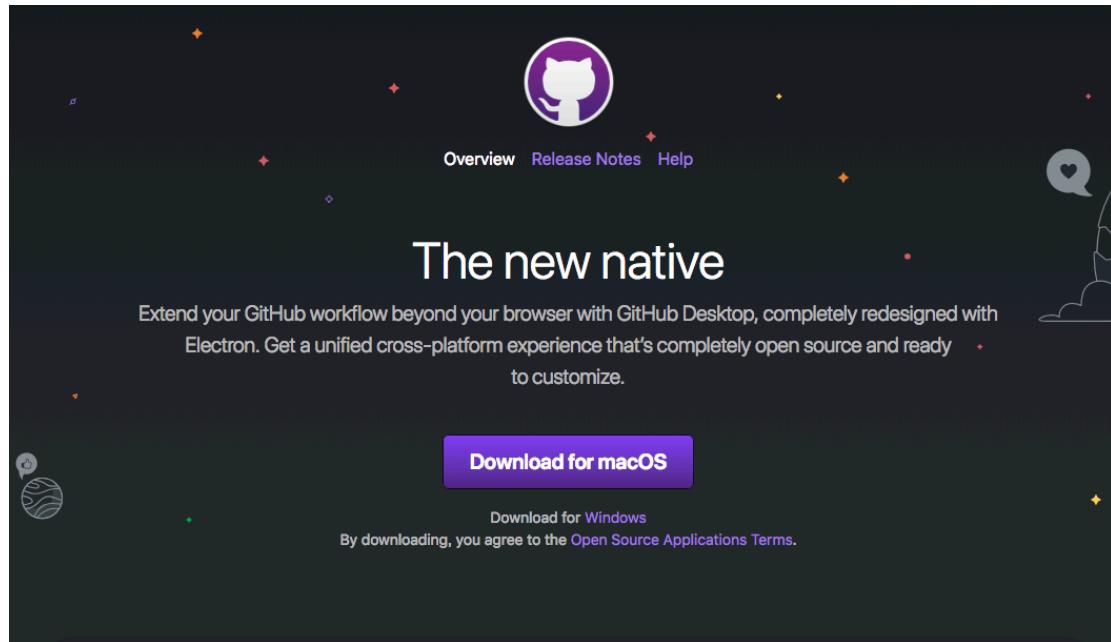
如果已經安裝 GitHub Desktop 按則會直接連結到桌面，還沒下載請點 download GitHub Desktop。

按下 clone or download 點 Open in Desktop

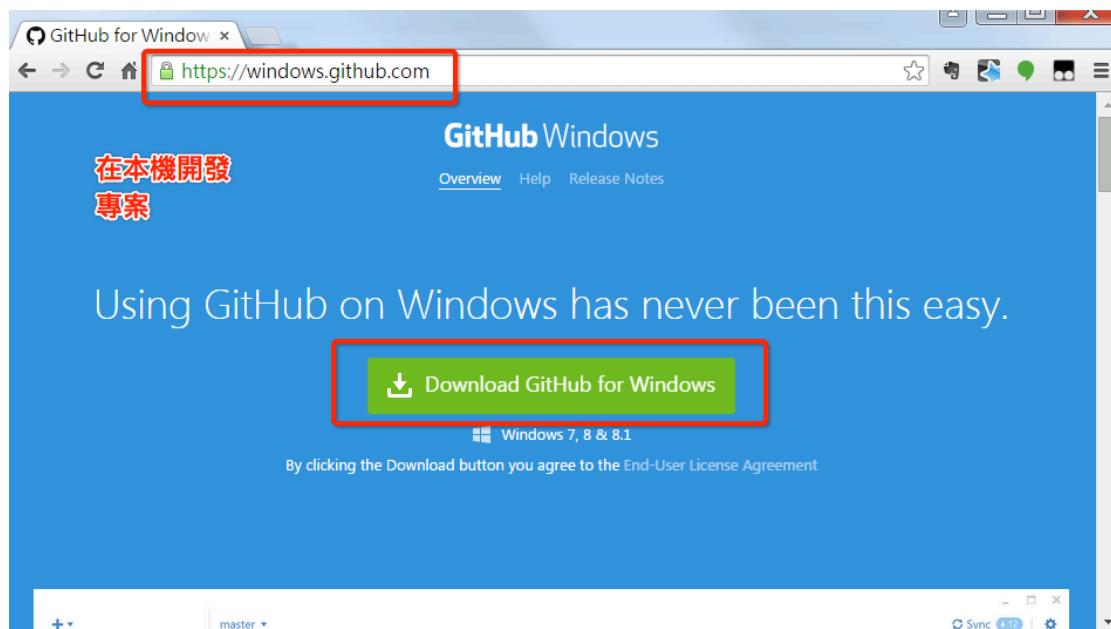


下載 GitHub Desktop

IOS 畫面



Windows 畫面



若未下載 github desktop 請下載完成後回到官網按下 Open in Desktop

The screenshot shows a GitHub repository page for 'bungeebonbon / ML100Days'. At the top, there are statistics: 1 commit, 1 branch, 0 releases, and 1 contributor. Below this, there's a 'Clone or download' section with two options: 'Clone with HTTPS' and 'Use SSH'. A red box highlights the 'Open in Desktop' button, which is located next to the URL 'https://github.com/bungeebonbo'. Other buttons in this section include 'Create new file', 'Upload files', 'Find File', and 'Download ZIP'.

在 Github Desktop Clone a Repository 複製專案

設定本機資料夾位置 Local path

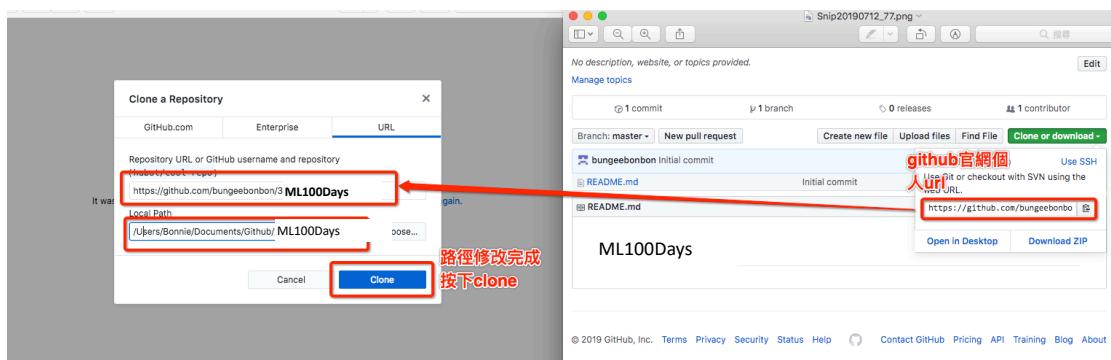
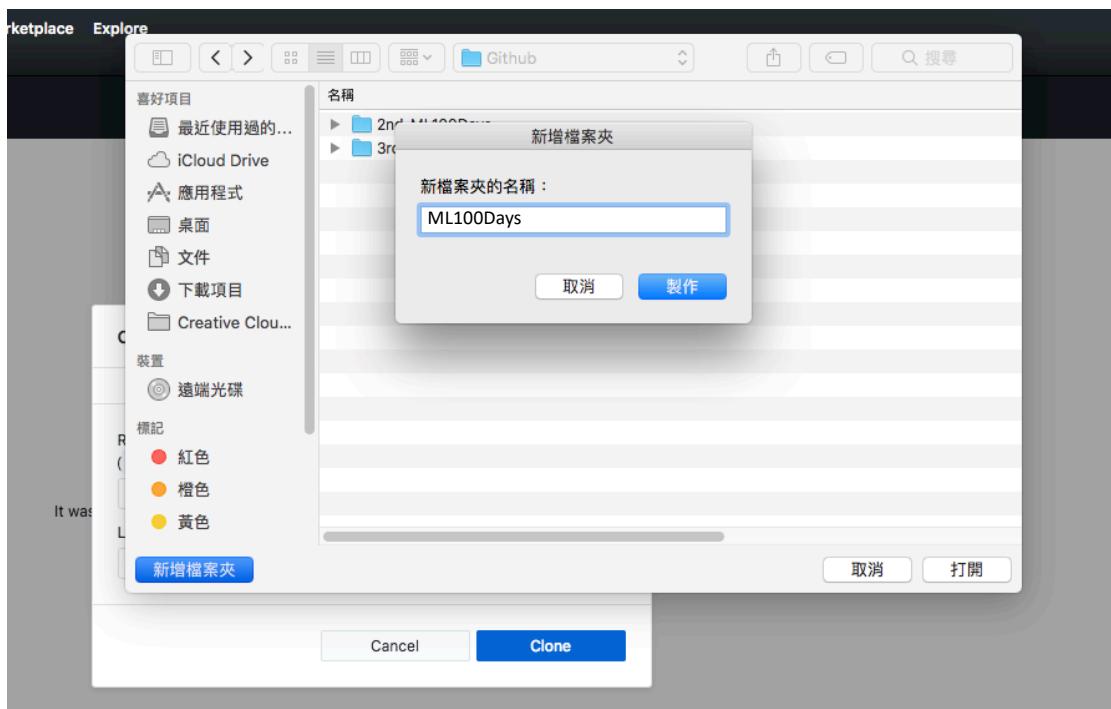
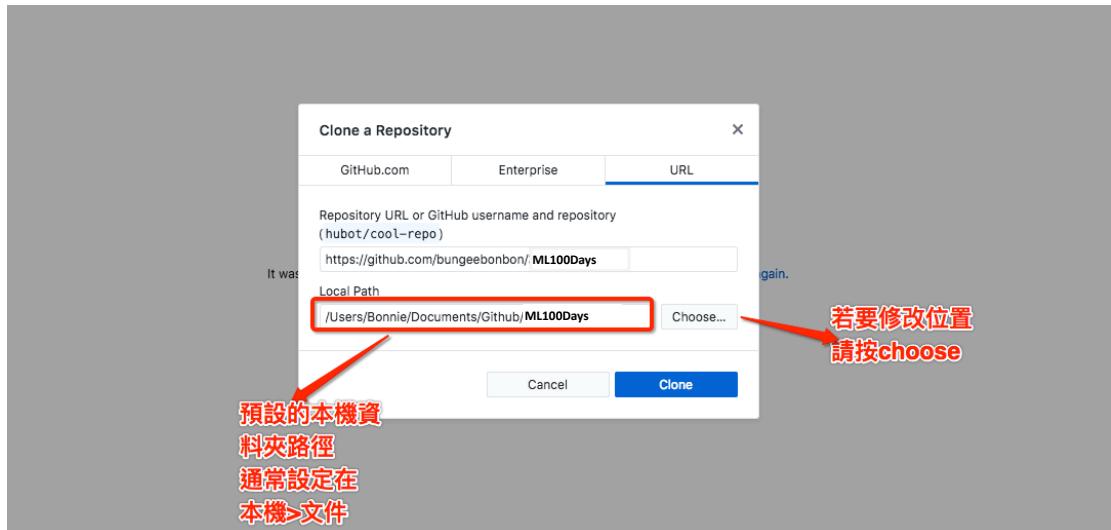
範例:/Users/Bonnie/Document/Github 完成設定後資料夾名稱顯示如下：

/Users/Bonnie/Document/Github/ML100Days

The screenshot shows the GitHub Desktop application's 'Clone a Repository' dialog. It has fields for 'Repository URL or GitHub username and repository' (containing 'https://github.com/bungeebonbon/ ML100Days') and 'Local Path' (containing '/Users/Bonnie/Documents/Github/ ML100Days'). There are buttons for 'Cancel' and 'Clone'. A red box highlights the 'Clone' button, with the text '按下Clone' written next to it. The background shows a summary of changes and a history tab.

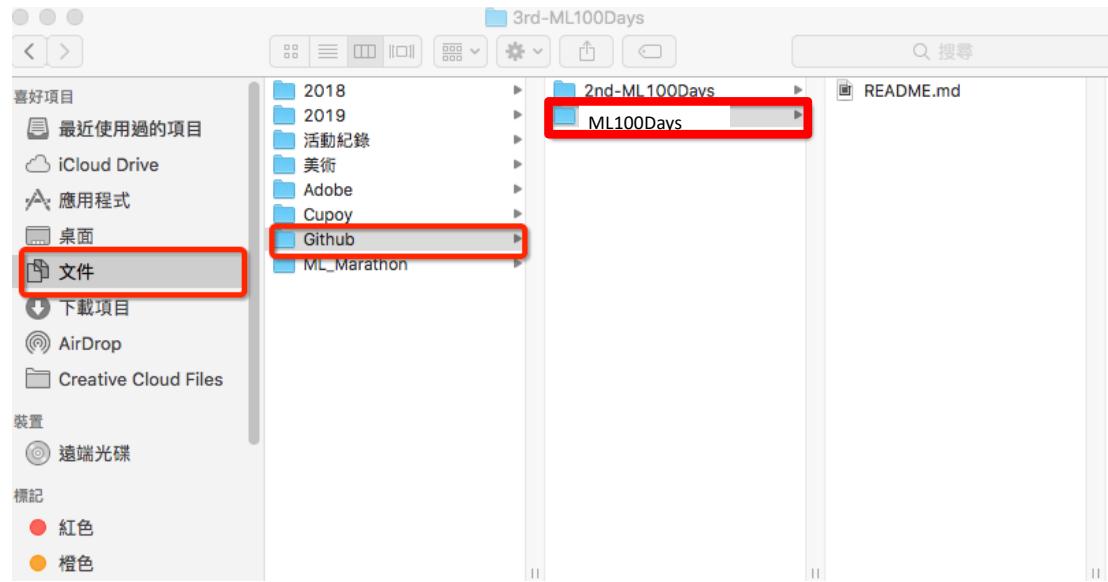
(路徑設定為個人喜好不強迫一定要或不要修改)

複製專案會直接預設本機資料夾路徑到文件>Github 資料夾裡面，若要修改資料夾路徑可以按 choose 更換

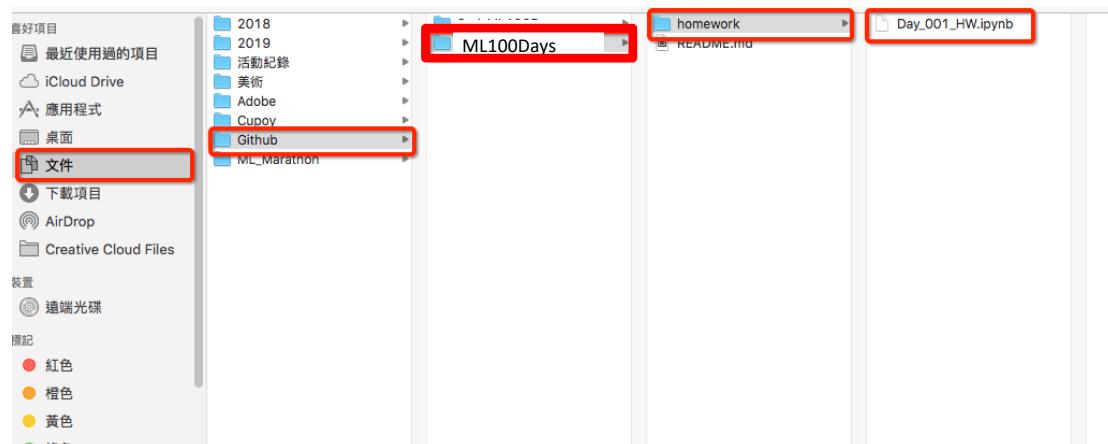


若不修改預設路徑，按下 clone 專案後到你的本機>文件看到 Github 以及

ML100Days 資料夾



請建立作業資料夾 homework 在 ML100Days 資料夾之下，為之後作業放置的地方



資料夾結構內容

1.GitHub

2.ML100Days (專案名稱)

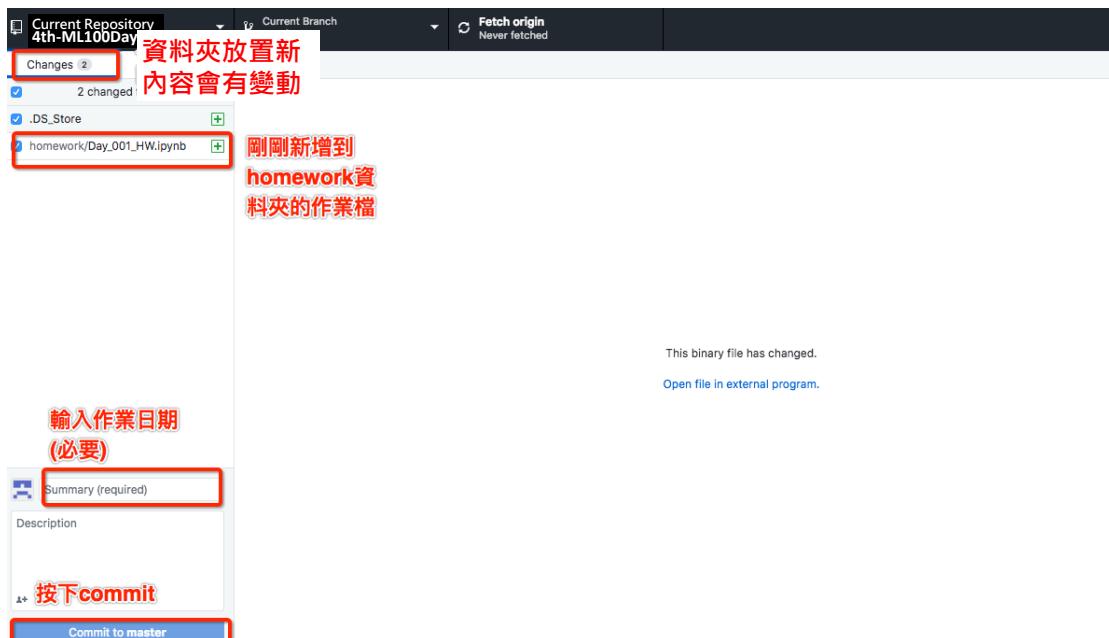
3.homework(作業資料夾)

4.作業格式為 ipynb 檔或截圖 (活動開始後可登入活動官網下載作業格式 ipynb 檔)

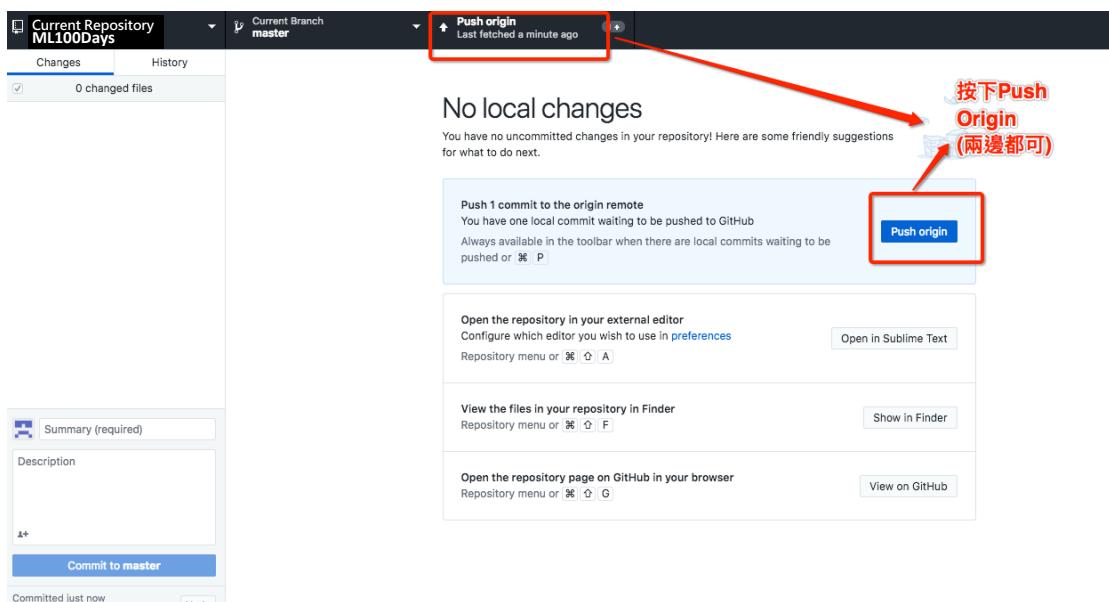
在 GitHub Desktop Commit 作業 (先在作業資料夾放好作業後再到 GitHub

Desktop 提交)

輸入作業描述，按下 Commit



Commit 完之後按 Push Origin 同步到 Github 官網上



回到 Github 官網頁面看到 homework 資料夾同步

The screenshot shows a GitHub repository page for 'bungeebonbon / ML100Days'. At the top, there are buttons for Watch (0), Star (0), Fork (0), and Settings. Below that, there are links for Code, Issues (0), Pull requests (0), Projects (0), Wiki, Security, Insights, and Settings. A note says 'No description, website, or topics provided.' with an 'Edit' button. Under the repository name, it shows 2 commits, 1 branch, 0 releases, and 1 contributor. A green 'Clone or download' button is visible. The main area shows a file tree for 'Day001': 'homework' (8 minutes ago), '.DS_Store' (8 minutes ago), 'README.md' (Initial commit, 22 minutes ago), and another 'README.md'. A red box highlights the 'homework' folder. To the right of the 'homework' entry, red text reads '本機與 Github 資料夾同步'.

回到 Github 官網頁面看到作業已成功上傳

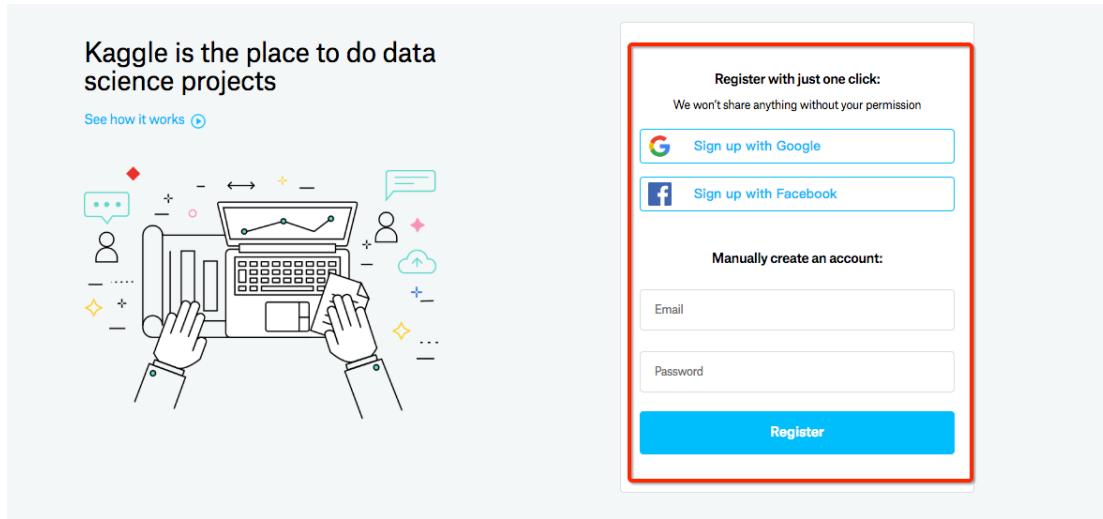
The screenshot shows a GitHub repository page for 'bungeebonbon / ML100Days'. At the top, there are buttons for Watch (0), Star (0), Fork (0), and Settings. Below that, there are links for Pull requests, Issues, Marketplace, and Explore. A black bar at the top has 'Pull requests', 'Issues', 'Marketplace', and 'Explore' tabs. The main area shows a file tree for 'Day001': '..', and 'Day_001_HW.ipynb' (Day001, 9 minutes ago). A red box highlights the 'Day_001_HW.ipynb' file. To the right of the file, red text reads '看到剛剛上傳的檔案在資料夾內'.

活動官網上，每日作業都需要您提交 github 的作業連結

The screenshot shows a browser window with the URL 'github.com/bungeebonbon/4th-ML100Days/blob/master/homework/Day_001_HW.ipynb'. The page title is 'bungeebonbon / ML100Days'. At the top, there are buttons for Watch (1), Star (0), Fork (0), and Settings. Below that, there are links for Code, Issues (0), Pull requests (0), Actions (0), Projects (0), Wiki, Security, Insights, and Settings. A note says '此連結將是您在活動官網提交作業時，將會使用到的作業提交連結' with a link icon. The main area shows a file tree for 'ML100Days': 'homework / Day_001_HW.ipynb'. Below that, it shows 'bungeebonbon / Day_001.HW' (fd4eeb1, 6 minutes ago) and '1 contributor'. At the bottom, it shows 'Executable File 175 lines (175 sloc) | 4.39 KB' with options for Find file, Copy path, Raw, Blame, History, and delete.

Kaggle 帳號註冊

一、登入 Kaggle 官網 <https://www.kaggle.com/>



2.帳號註冊

Create an Account With Your Email Address

Username	bungeebonbon
Your profile URL will be kaggle.com/bungeebonbon	
Display Name	bungeebonbon
Shown on your public profile, leaderboards, etc. Full name recommended.	
Email Address	bungeebonbon@gmail.com
Confirm Email	bungeebonbon@gmail.com
Password	*****
Confirm Password	*****

Email me news and updates

Get Started

3. 點擊 I agree 創建帳號

Kaggle Terms of Use

To create a Kaggle account, you'll need to agree to the [Terms of Use](#).

I agree.
 I do not agree.

Kaggle Privacy Policy

In addition, when you create an account, we process your information as described in our Privacy Policy, including the key points below.

Data we process when you use Kaggle

- When you set up a Kaggle account, we store information you give us like your name and email address.
- When you use Kaggle to do things like write a forum post or share a kernel, we store the information you create.
- We collect information about the apps, browsers, and devices you use to access our Services by using different types of technology, including cookies, clear gifs, or web beacons.

Why we process it

We process this data for the purposes described in our Privacy Policy, including to:

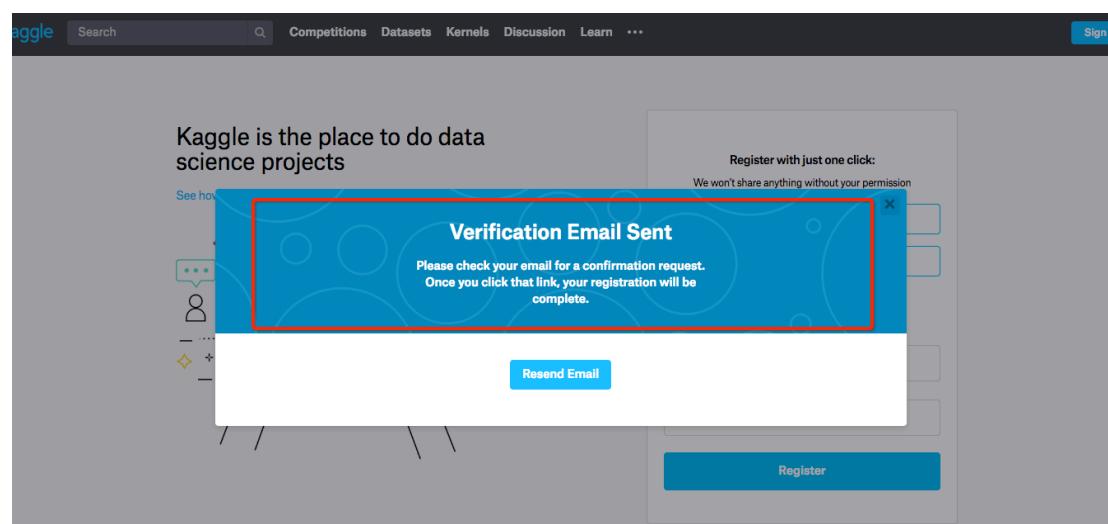
- Deliver our services, like administering competitions you enter or hosting datasets you upload
- Improve security by protecting against fraud and abuse
- Send you messages related to Kaggle or the activities of third parties we work with
- Conduct analytics and measurement to understand how our services are used

By clicking this checkbox, you confirm that you accept our [Privacy Policy](#).

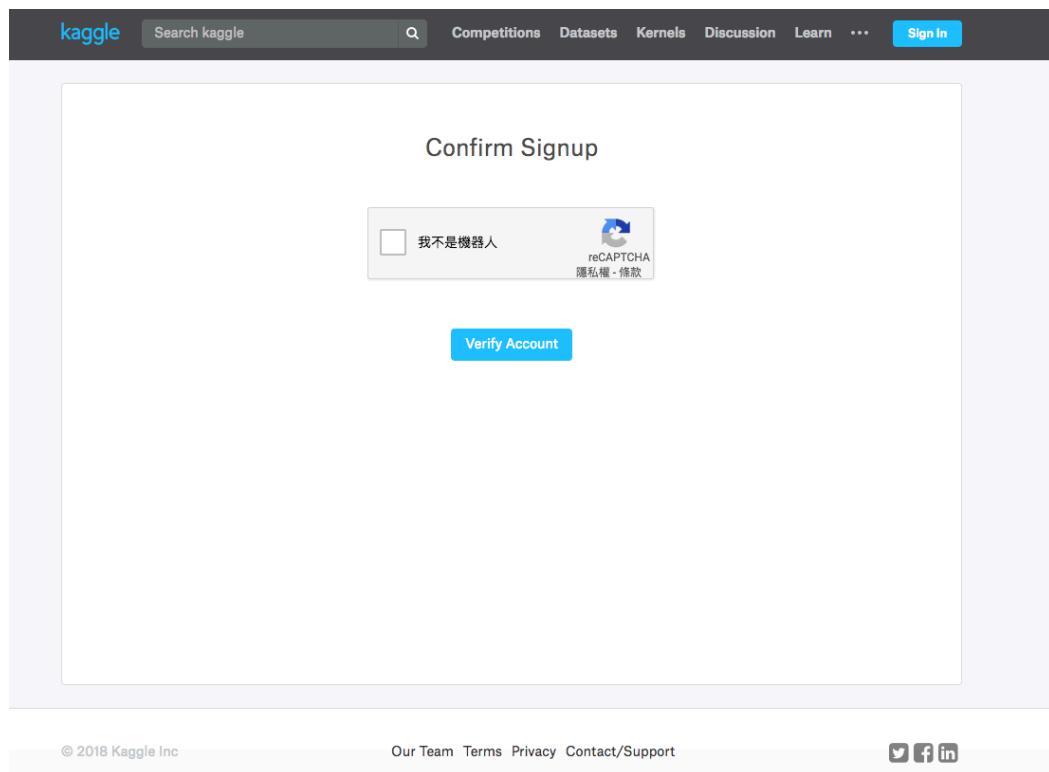
I agree.
 I do not agree.

[Create Account](#)

4. Email 認證



5.認證完 email 後認證登入



6.Kaggle 個人頁面介紹

The screenshot shows a user profile page on Kaggle. The top navigation bar is highlighted with red boxes and numbered 1 through 6. 1 points to the 'kaggle' logo, 2 points to the search bar, 3 points to the 'Competitions' tab, 4 points to a chart in a competition kernel, 5 points to a sidebar for a new user, and 6 points to a job listing. The main content area displays a competition kernel titled 'Titanic with basic and ensembles methods' by 'tstomoki'. It includes a chart titled 'Cross validation scores' showing Mean Accuracy for various algorithms. Below the chart, there is a comment from 'codlife' and a section for new users with tasks like 'Add your bio'. To the right, there is a job listing for 'Competition and Markets Authority'.

1. kaggle logo
2. Search bar
3. Competitions tab
4. Chart in a competition kernel
5. New user sidebar
6. Job listing

Titanic with basic and ensembles methods
Python Notebook

Cross validation scores

Algorithm	Mean Accuracy
RandomForestClassifier	~0.82
SVC	~0.78
LogisticRegression	~0.75
KNeighborsClassifier	~0.72
GradientBoostingClassifier	~0.70
DecisionTreeClassifier	~0.68
AdaBoostClassifier	~0.65
GaussianNB	~0.60
LinearDiscriminantAnalysis	~0.58
QuadraticDiscriminantAnalysis	~0.55
XGBClassifier	~0.52

on competition [Titanic: Machine Learning from Disaster](#)

Novice

- Add your bio
- Add your location
- Add your occupation
- Add your organization
- SMS verify your account
- Run 1 kernel
- Make 1 competition submission
- Make 1 comment
- Cast 1 upvote

Competition and Markets Authority is hiring
Director of Data Science
London, UK

Jobs

- Novozymes North America Inc., Fra...
- Arvato SCM Solutions, Münster, Ger...
- Pfizer Inc., Peapack, NJ, USA
- Simon-Kucher & Partners Strategy &...

1. 是 Kaggle 首頁
2. 是 Search 有那些 Kaggle 的題目、資料集，或相關資料
3. 主要功能選單
 1. Competition: 可以參加的題目和比賽清單
 2. Datasets: 有那些可以使用的資料集清單
 3. Kernel: 進行資料運算的地方，也可以看別人的作答
 4. Discussion: 討論區，有各個主題，也有新手教學區
 5. 下來選單有 jobs 工作機會，Blog，User Ranking(排名)，Host a completion(舉辦比賽)，Contact 是介紹 Kaggle 團隊和聯絡方式。
4. 類似留言板的地方
5. 個人資料
6. 會列出個人參加的比賽，下面有列一些工作機會

7. 公開的 Dataset 頁面

The screenshot shows the Kaggle Datasets page. At the top, there's a navigation bar with links for Competitions, Datasets, Kernels, Discussion, Learn, and a user icon. Below the navigation is a search bar and a 'Datasets' button. To the right of the search bar are 'Documentation' and 'New Dataset' buttons. The main content area has tabs for 'Public', 'Your Datasets', and 'Favorites'. It includes filters for 'Sizes', 'File types', 'Licenses', 'Tags', and a 'Sort by' dropdown set to 'Select...'. A search bar with a magnifying glass icon is also present. The main list displays six datasets:

- Transactions from a bakery** (224 rows, Market Basket Analysis, Xavier updated 2 months ago) - Tags: food and drink, CSV, 48 rows, 2 comments, 39k views.
- Brazilian E-Commerce Public Dataset by Olist** (149 rows, 100,000 Orders with product, customer and reviews info, Olist updated 16 hours ago) - Tags: brazil, internet, nlp, CC4, 23 rows, 7 comments, 17k views.
- Data Science for Good: Center for Policing Equity** (250 rows, How do you measure justice?, Center for Policing Equity updated 2 days ago) - Tags: government, communities, demographic, CC0, geospatial, 42 rows, 22 comments, 41k views.
- Google Play Store Apps** (402 rows, Web scraped data of 10k Play Store apps for analysing the Android market, Lavanya Gupta updated a month ago) - Tags: video games, computer science, internet, mobile web, 98 rows, 11 comments, 75k views.
- SF Police Calls for Service and Incidents** (52 rows, From San Francisco Open Data, City of San Francisco Maintained by Kaggle updated a day ago) - Tags: crime, socrata, utility, Other, 20 rows, 0 comments, 11k views.
- Colorectal Histology MNIST** (rows not specified, oncology, image data, CSV, 9 rows, 0 comments, 0 views)

Anaconda 介紹及安裝教學



Anaconda 安裝

先到 Anaconda 官網(<https://www.anaconda.com/download/>)，
下載所需作業系統(有 Windows、macOS 和 Linux 可選擇)的 Anaconda 版本，
接下來選擇 64 位元版本，讀者可以根據自己所需或使用當時最新版本情況做
不同選擇。

1. 下載 Anaconda installer，下載 Python3.8 版本 (Python3.5 版本以上都可以)

Anaconda Installers

Windows	MacOS	Linux
Python 3.8 64-Bit Graphical Installer (457 MB) 32-Bit Graphical Installer (403 MB)	Python 3.8 64-Bit Graphical Installer (435 MB) 64-Bit Command Line Installer (428 MB)	Python 3.8 64-Bit (x86) Installer (529 MB) 64-Bit (Power8 and Power9) Installer (279 MB)

2. Double click 下載的 Anaconda installer 進行安裝並點選「Next」



Welcome to Anaconda3 5.0.1 (64-bit) Setup

Setup will guide you through the installation of Anaconda3 5.0.1 (64-bit).

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

Next >

Cancel

3. 閱讀許可條款後點選「I Agree」



License Agreement

Please review the license terms before installing Anaconda3 5.0.1 (64-bit).

Press Page Down to see the rest of the agreement.

```
=====
Anaconda End User License Agreement
=====
```

Copyright 2015, Anaconda, Inc.

All rights reserved under the 3-clause BSD License:

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 5.0.1 (64-bit).

Anaconda, Inc.

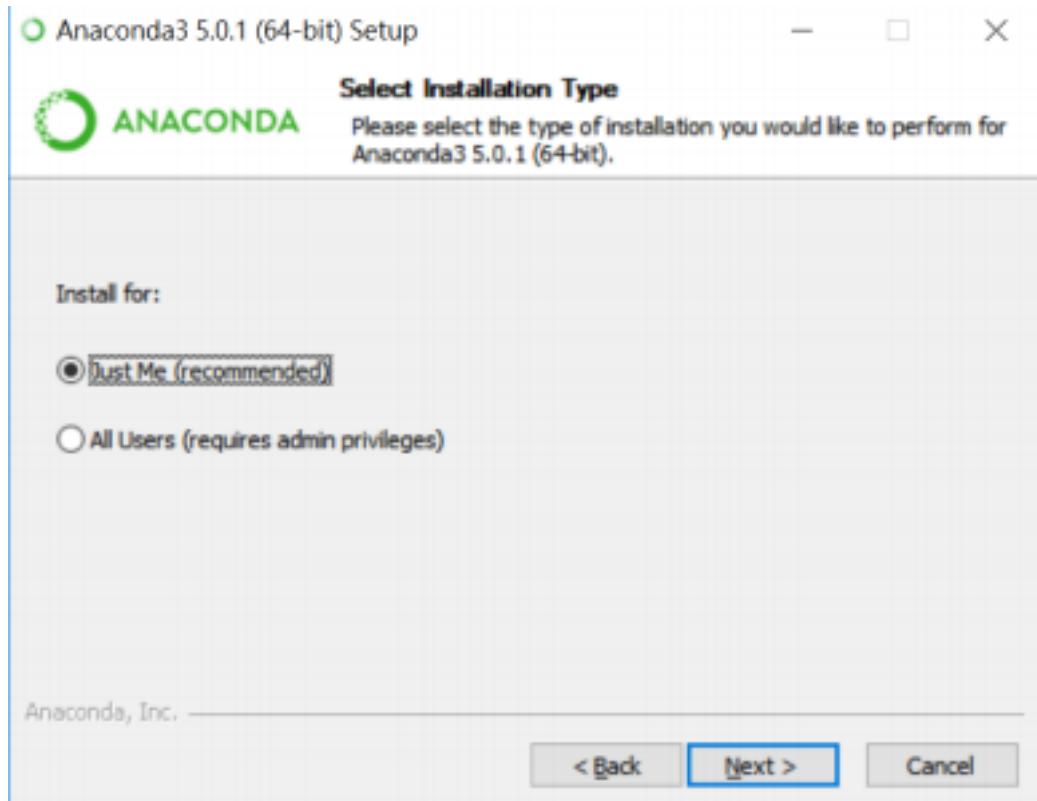
< Back

I Agree

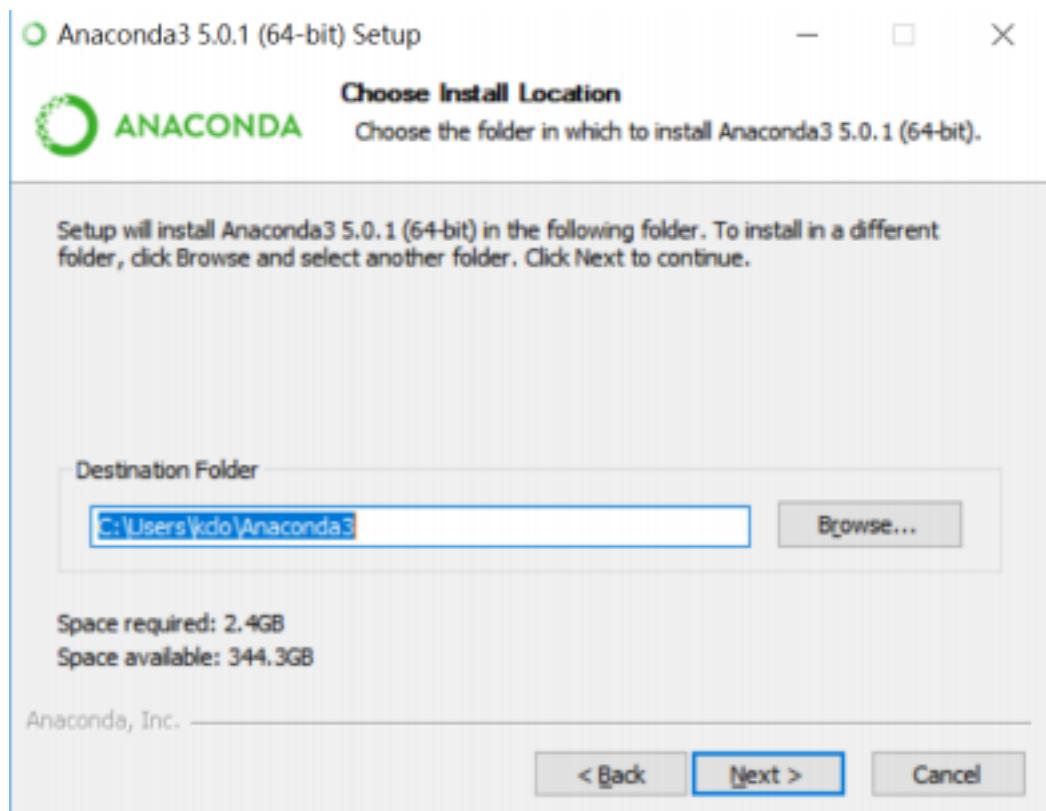
Cancel

4.除非要為系統的所有用戶 (需要 Windows 管理員權限) 進行安裝，

否則請選擇 “Just Me” 的安裝，並點選「Next」



5.
若要更改 Anaconda 安裝路徑可點選「Browse」，若沒有要變更可直接點選「Next」



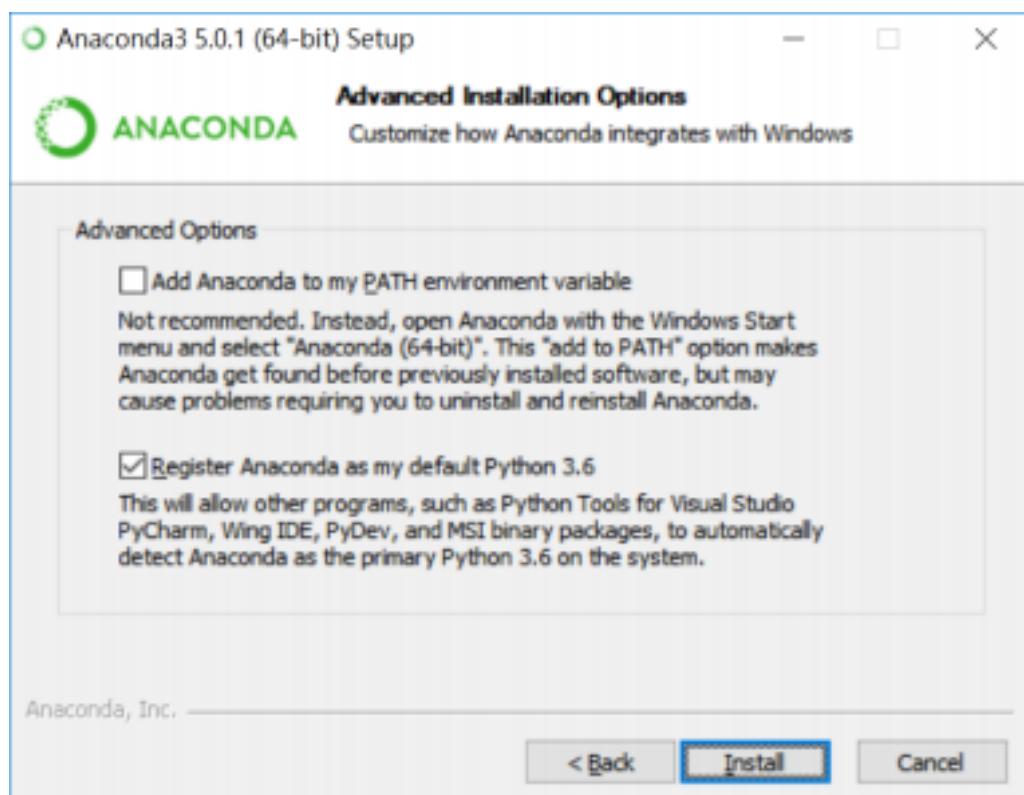
6.選擇是否將 Anaconda 添加到 PATH 環境變量中，

官方建議不要將 Anaconda 添加到 PATH 環境變量中，如不特別勾選可直接選

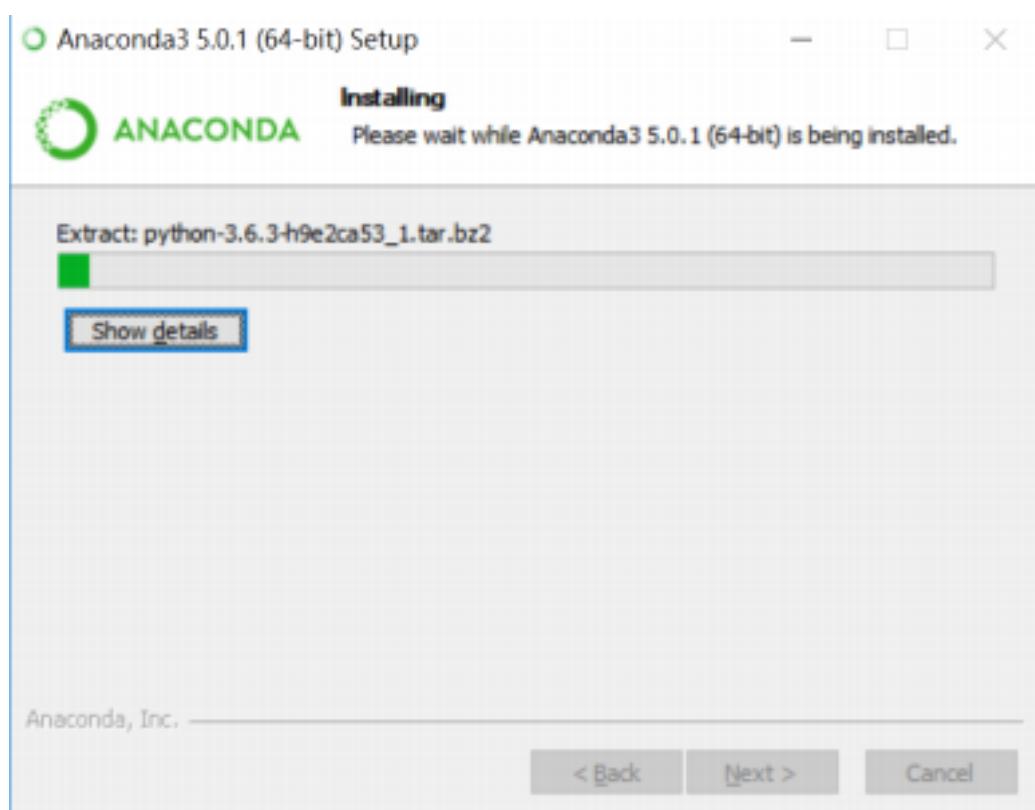
「Install」，以下為勾選建議：

上面：(使用 windows 勾選 / Linux 跟 ios 不需勾選)

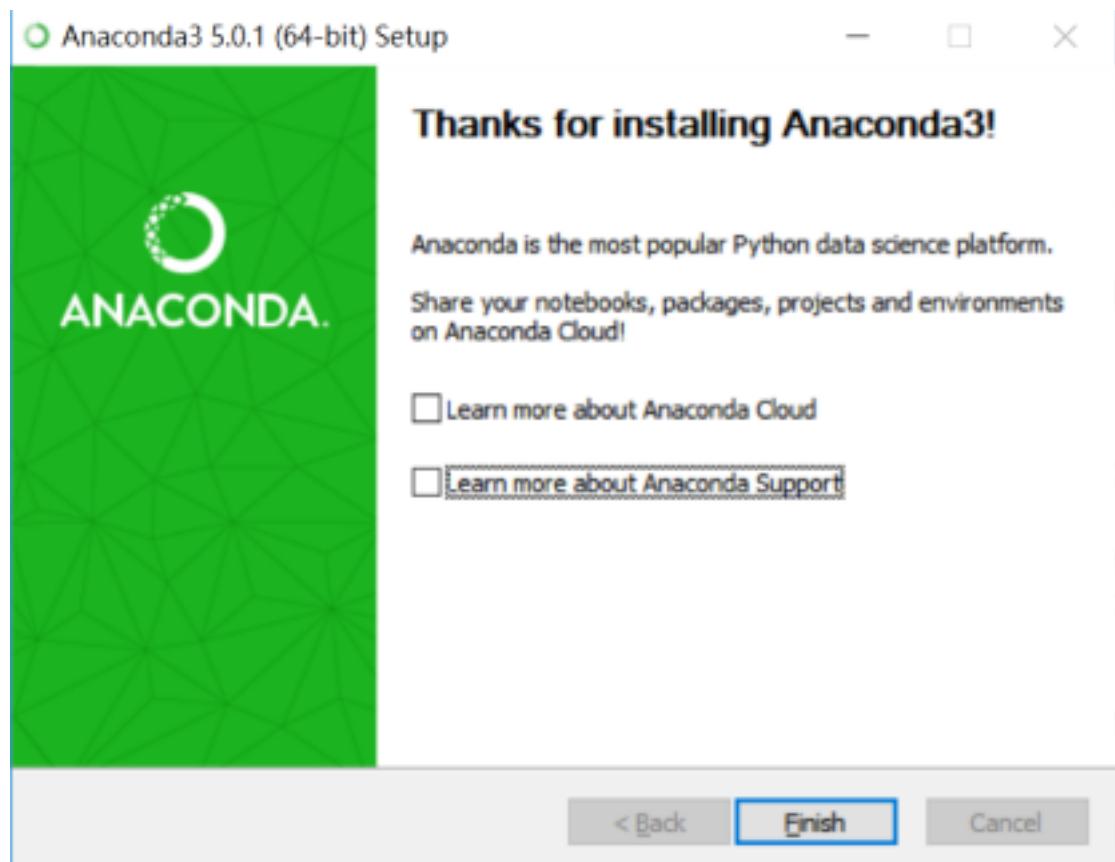
下面：(建議初學者勾選 / 已經有其他習慣編輯器的不需勾選)



7.開始進行安裝



8.點選「Finish」後，即完成 Anaconda 安裝



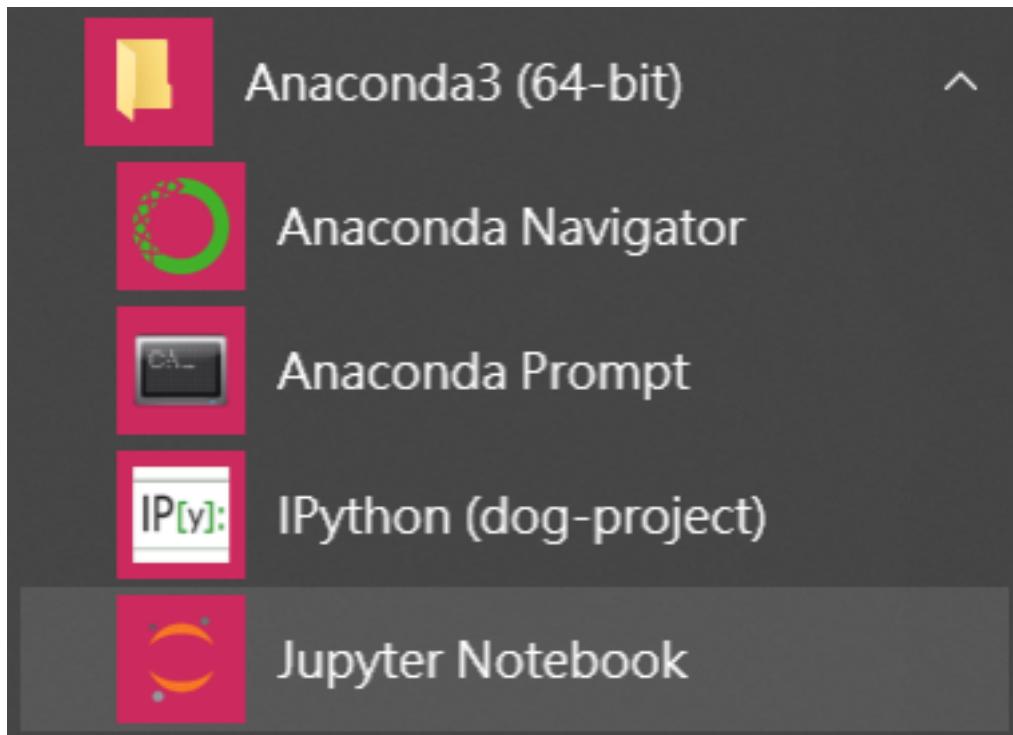
9. 安裝完成後我們可以另外做一個簡單的驗證，從 Windows 開始選單(Start menu)中選擇 **Anaconda Navigator**，如果 **Navigator** 可以打開，表示您已成功安裝 Anaconda。IOS 請到 launchpad 檢查有沒有成功安裝 **Anaconda Navigator** 如果 沒有，請檢查您是否完成了上述每個步驟，並查詢 Anaconda 官網上的 Help and support。

Jupyter Notebook 安裝教學

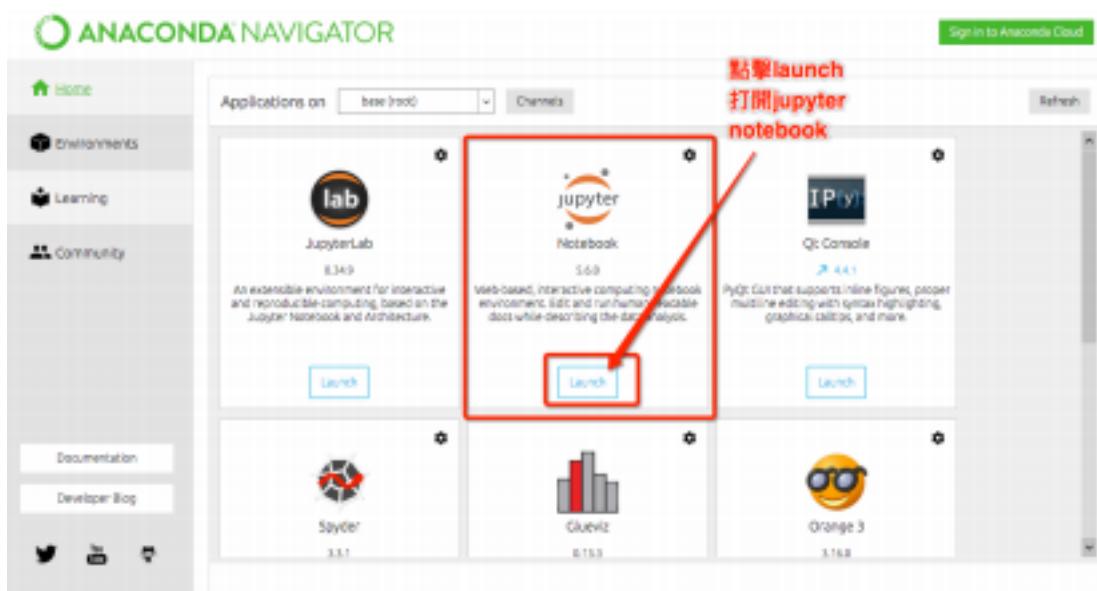
使用 Anaconda 安裝

官方強烈建議使用 Anaconda Distribution 來進行安裝，因為 Jupyter Notebook、常用的科學計算(Scientific Computing)及資料科學(Data Science)所需 packages 都已經包含在裡面，對於未來想進行 Data Science 的應用學習 有很大的方便性。

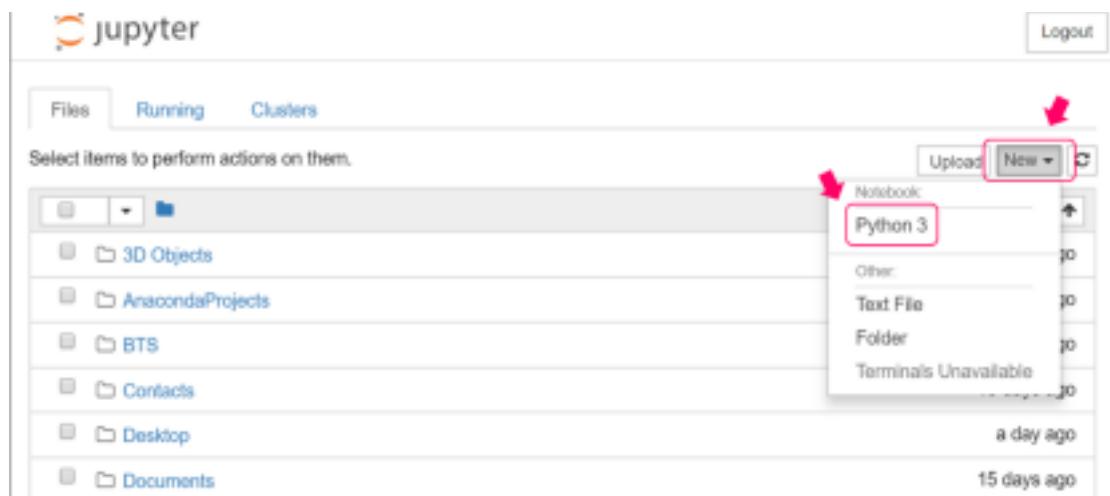
jupyter notebook 安裝好後若要開始執行 Jupyter Notebook , 您可以從 Windows 開始選單(Start menu)中選擇 **Jupyter Notebook**(如下圖)



mac 到 Lunchpad 找尋 Anaconda Navigator



您就可以開啟 Jupyter Notebook(如下圖) , 點選 **New** 並選擇您已安裝的 Python 3 就可以開始使用了。



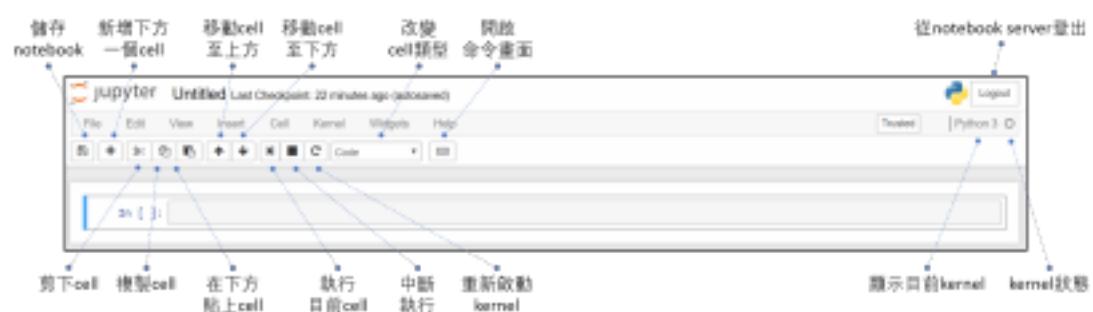
在開始使用之前，先對 Jupyter Notebook 整個使用介面，做一個完整的介紹如下。

Jupyter Notebook 使用介面

Jupyter Notebook 的編輯介面主要分為下面四部分：檔名(File Name)、主選單(Menu)、工具列(Toolbar)及編輯單元(Cell)。



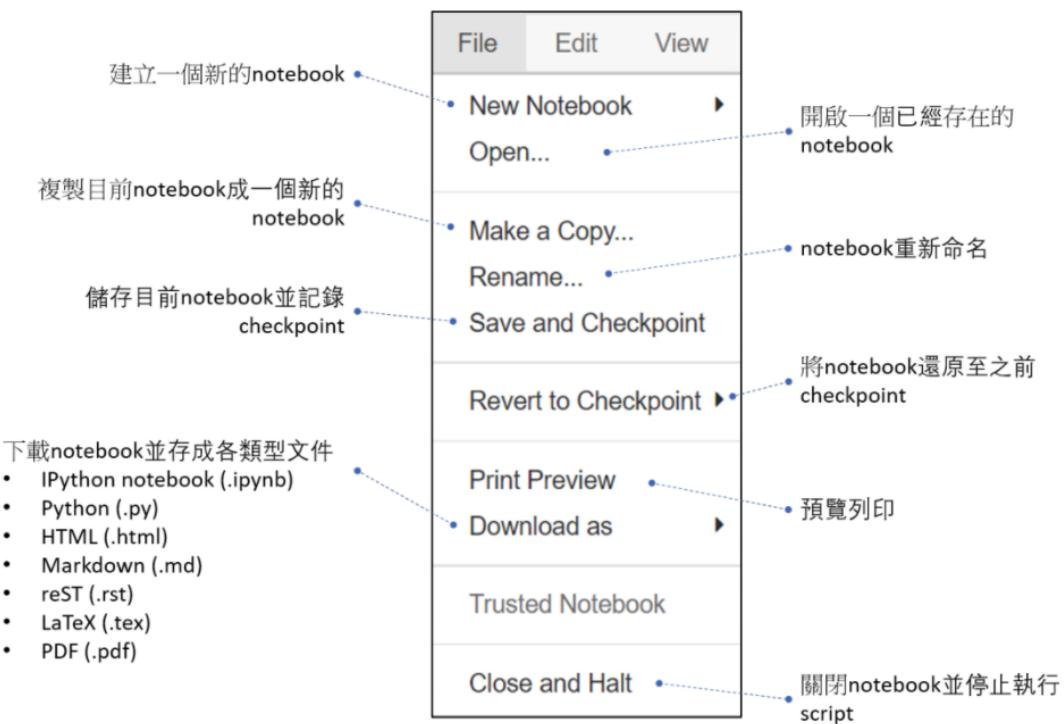
命令模式(Command Mode)



編輯模式(Edit Mode)



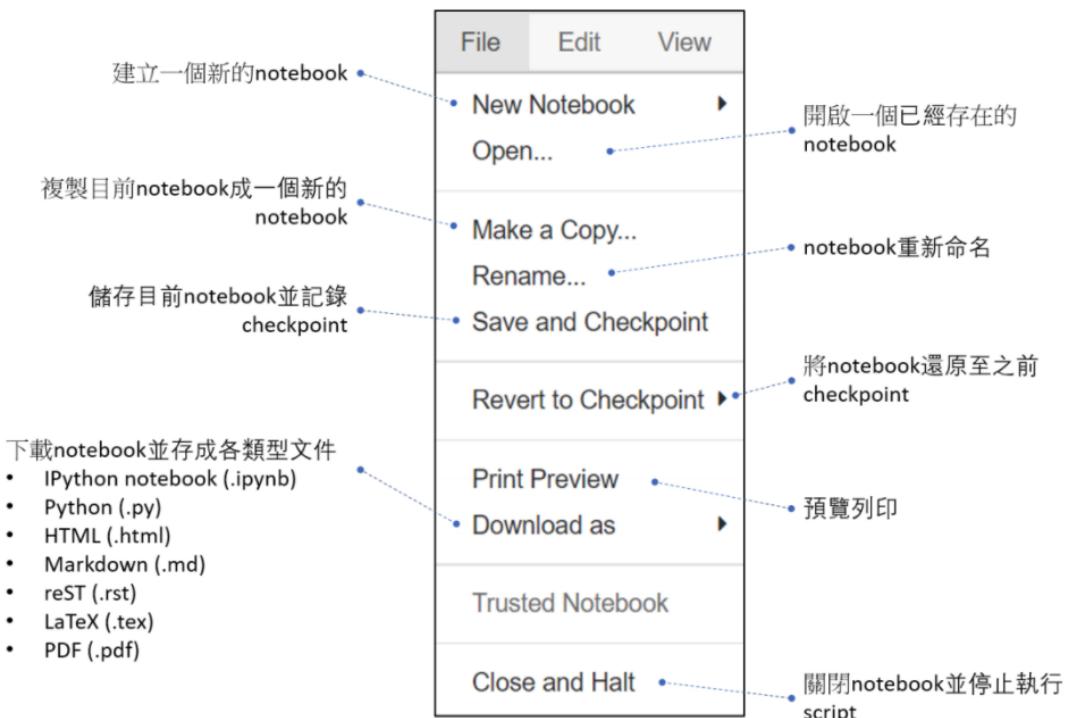
儲存及載入(Saving/Loading)



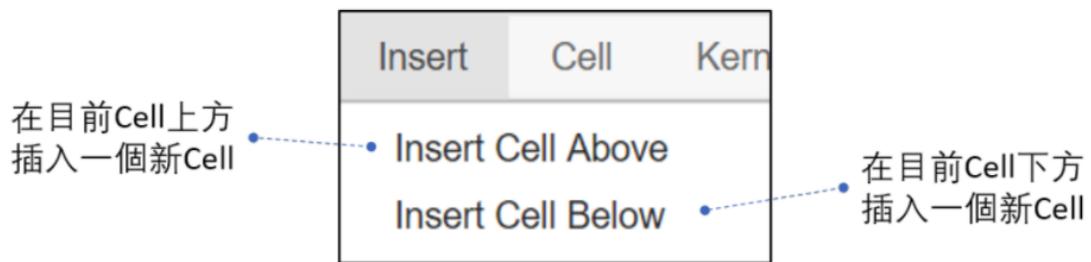
程式碼及文本撰寫功能

程式碼和文本是由 3 種基本 cells 類型所包裝起來：**Markdown cells**、**Code cells** 及 **Raw NBConvert cells**。

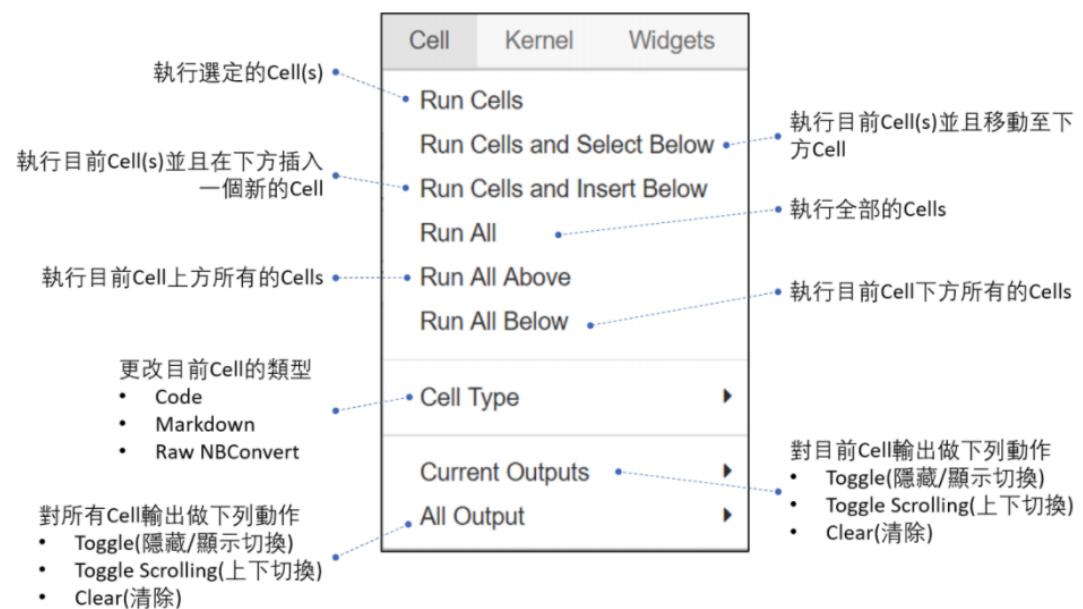
Edit



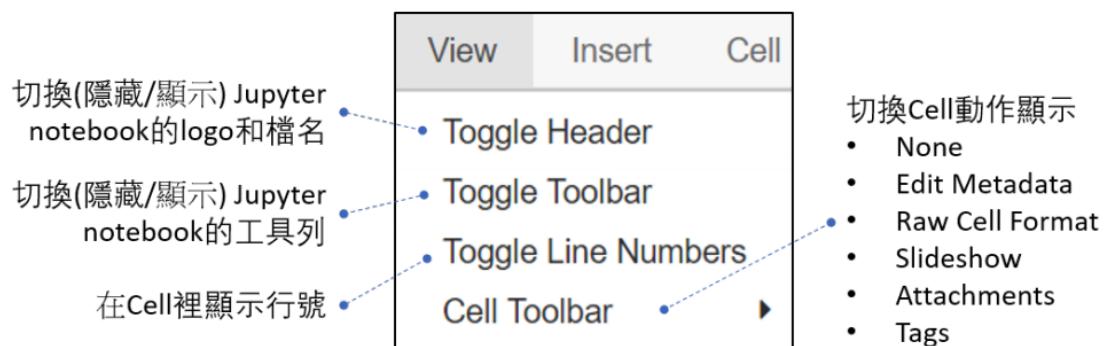
Insert



Executing



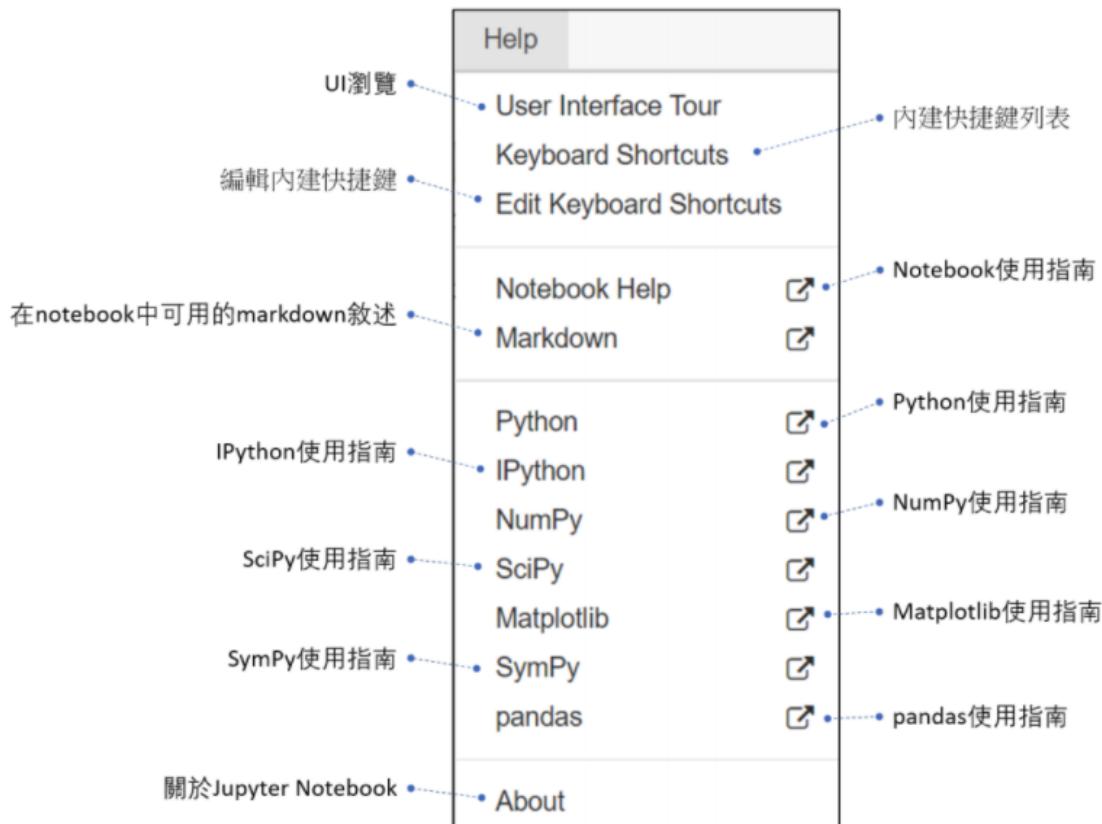
View



使用指南(Help)

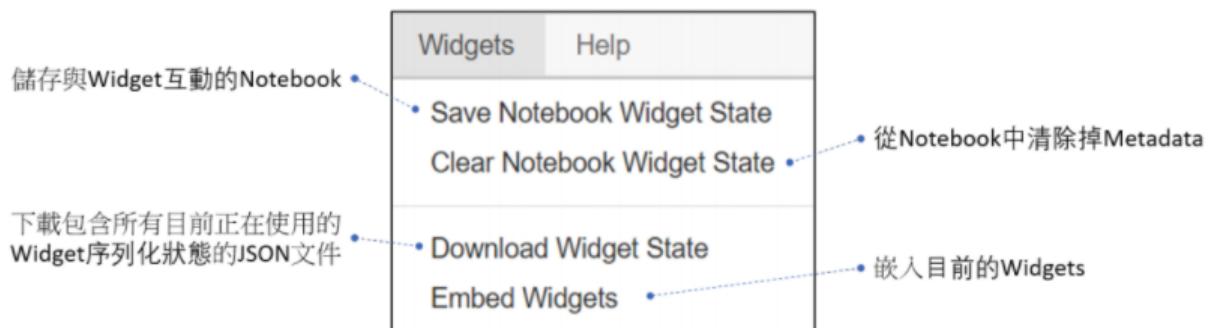
Jupyter Notebook 提供了許多線上的使用指南，包括在 Data Science 中常用

的 packages。



小工具(Widgets)

Jupyter Notebook 小工具(Widgets)提供了可視覺化及控制數據變化的能力。



與不同的程式語言溝通

Kernel 主要提供與前端(front-end)介面間的計算及通信，其中有三個主要的 Kernels 如下：



IPython

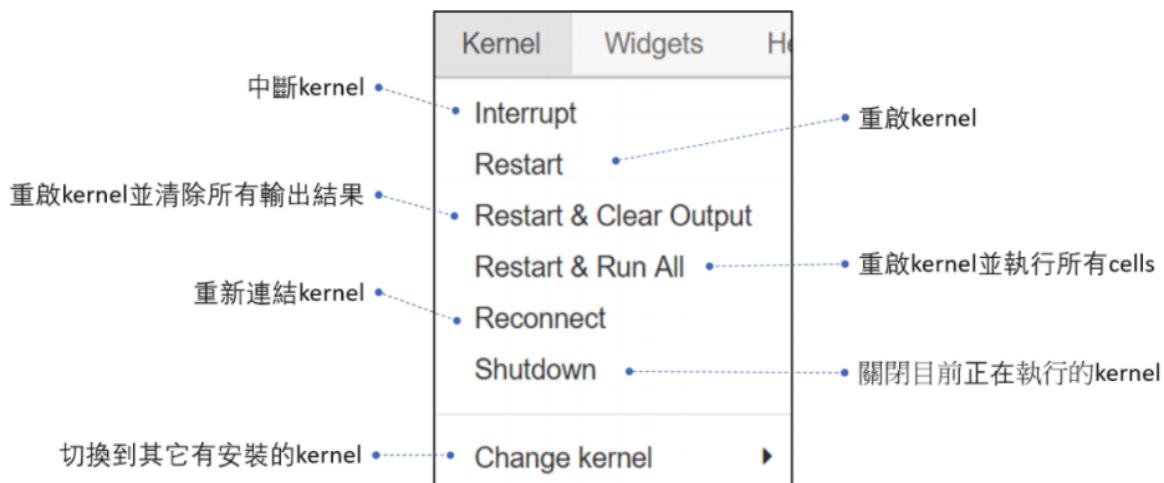


IRkernel



IJulia

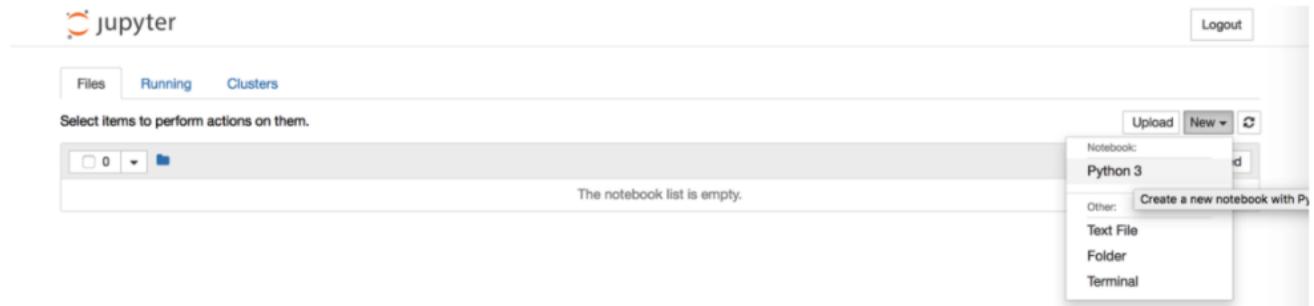
安裝 Jupyter Notebook 時將會自動安裝 IPython kernel。其它介面功能介紹如下圖：



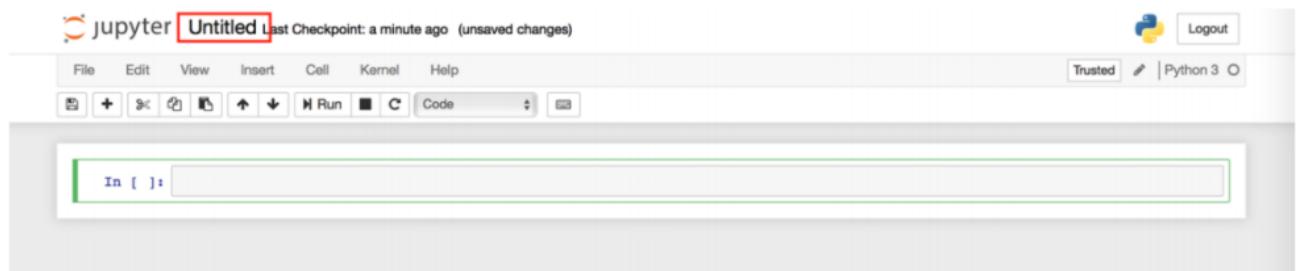
了解 Jupyter Notebook 之後，您將可以更快速及便利的開始學習撰寫有關的程式，邁向 Data Science 的學習之路又前進一步了。

執行第一個 ipynb 檔

新增檔案在右上角的 New 點選後有 python3，我們可以點選它並建立一個 python3 的 kernel 的 jupyter notebook，若你要其他的 kernel 可以自行安裝，這裡我們先點選 python3。



點選 python3 之後就會跳到一個頁面就是 jupyter 的畫面，點選 Untitled 可以更改檔案的名稱，你可以改成任何你想要的名稱，這裡我會改名叫 01_hello_python。



接著按左上角 Jupyter 標題回到剛剛的目錄，在 Files 標籤內會看到剛剛建立的 01_hello_python 檔案，綠色表示它正在執行。



那就來使用它吧，點進去檔案跳到剛剛的頁面會看到一個一個的 cell，我們開始輸入一些簡單的語法吧，

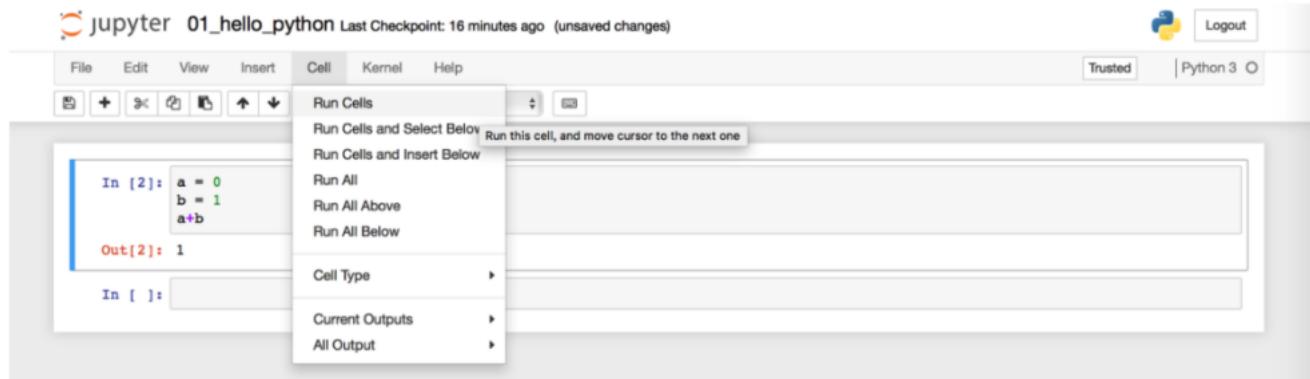
輸入

`a = 0`

```
b = 1
```

```
a + b
```

輸入完後在 cell 上按 Run Cells , 就會看到 Out 出現 1 :



這裡也有一個快捷鍵方式按 shift + enter 會自動執行目前正在選取的 cell , 不知道有沒有發現當你點選一個 cell 的旁邊的線條會變成綠色 ,

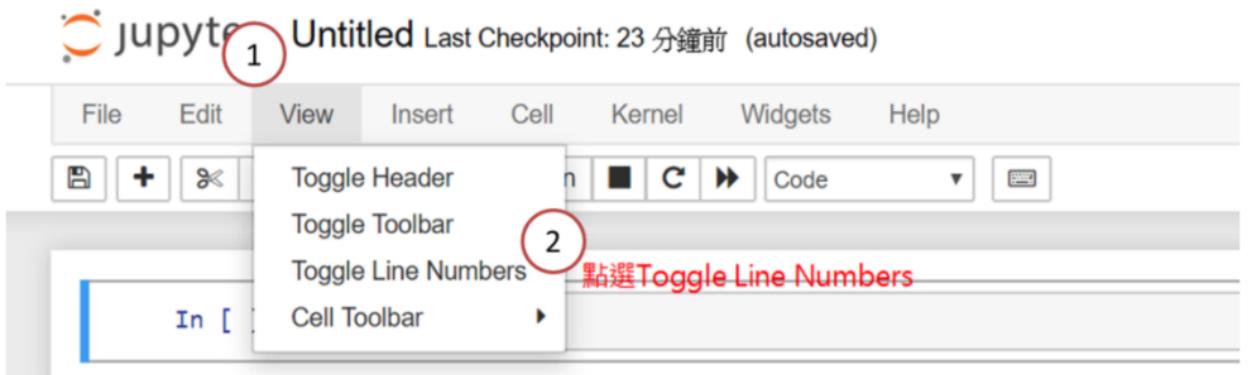
這時候就可以做編寫的動作 , 接著按下 ESC 會看到變成藍色就可以做其他
“動作”而不會是輸入指令。

在 cell 旁邊為藍色時

- 按下 x : 刪除當前選擇的 cell
- 按下 a : 在當前選擇的上方新增一個 cell
- 按下 b : 在當前選擇的下方新增一個 cell
- 按下 Shift-Enter : 執行當前的 cell 並且選到下一個 cell
- 按下 Ctrl-Enter : 執行當前 cell
- 按下 M : 轉成 markdown 模式 , 可以看到紅色框框內容從 code 變成
markdown

想看更多 [Jupyter 快捷鍵](#)

新增行數編號



下圖為 code 模式：

The screenshot shows the Jupyter Notebook in code mode. It displays four code cells:

- In []:** 1 ## 練習時間
2 ### 請寫一個函式用來計算 Mean Square Error
3 \$ MSE = \frac{1}{n} \sum_{i=1}^n \{(Y_i - \hat{Y}_i)^2\} \$
4
5 ### Hint: [如何取平方] (<https://googoodesign.gitbooks.io/-ezpython/unit-1.html>)
- In []:** 1 import numpy as np
2 import matplotlib.pyplot as plt
- In []:** 1 def mean_squared_error():
2 """
3 請完成這個 Function 後往下執行
4 """
5
- In []:** 1 w = 3
2 b = 0.5
3
4 x_lin = np.linspace(0, 100, 101)

轉成 markdown :

```
1 ## 練習時間
2 ##### 請寫一個函式用來計算 Mean Square Error
3 $ MSE = \frac{1}{n} \sum_{i=1}^n \{(Y_i - \hat{Y}_i)^2\} $
4
5 ### Hint: [如何取平方](https://googoodesign.gitbooks.io/-ezpython/unit-1.html)

In [ ]:
1 import numpy as np
2 import matplotlib.pyplot as plt

In [ ]:
1 def mean_squared_error():
2     """
3         請完成這個 Function 後往下執行
4     """
5

In [ ]:
1 w = 3
2 b = 0.5
3
4 x_lin = np.linspace(0, 100, 101)
5
6 y = (x_lin + np.random.randn(101) * 5) * w + b
7
8 plt.plot(x_lin, y, 'b.', label = 'data points')
9 plt.title("Assume we have data points")
10 plt.legend(loc = 2)
11 plt.show()
```