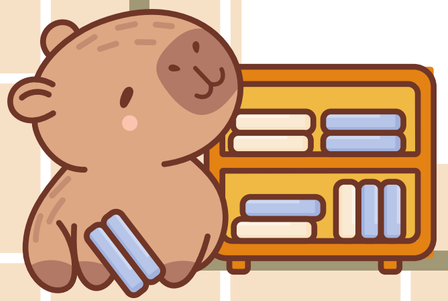
第一章

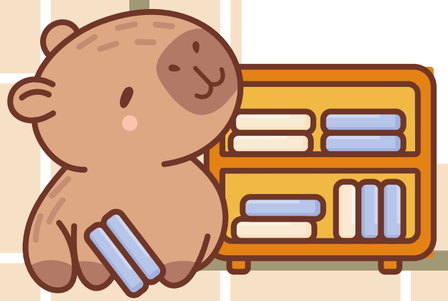
Python

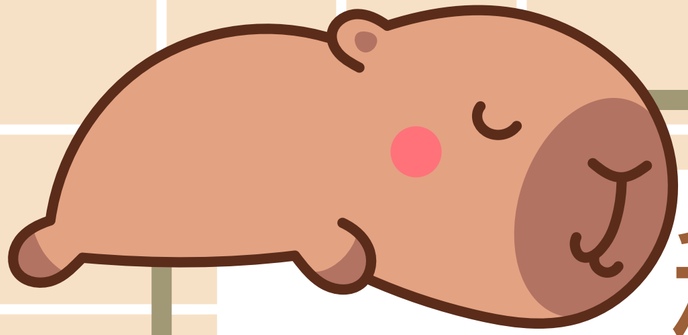
為什麼要學程式語言?



為什麼要學程式語言?

- 數位轉型是未來趨勢
- 數位轉型不是單一產業的事
- 人才培育的基礎



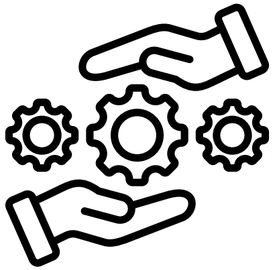


程式設計能學到...

程式設計最重要的是其背後的運算思維模式

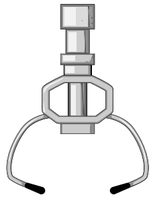
拆解問題(讓問題不再複雜)

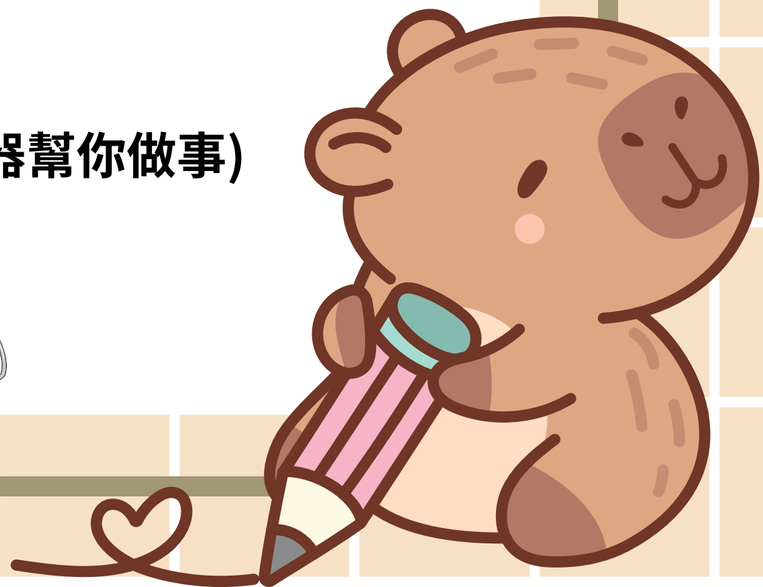
模式辨認(找出重複可取代的問題)



抽象化(讓解決方法能普及)

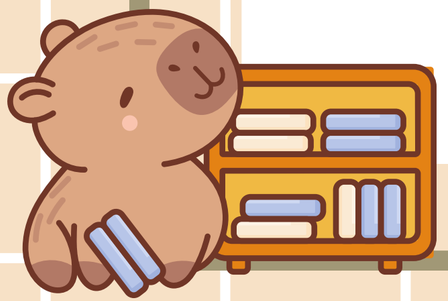
演算法設計(讓機器幫你做事)





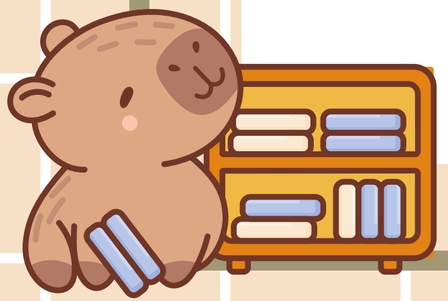
為什麼是PYTHON?

- 高階語言(很像英文)，比較容易懂
- 函式庫多、運用層面廣、社群強大
- 跨平台的可移植性



編譯器

編譯器（compiler）是一種電腦程式，它會將某種程式語言寫成的原始碼（原始語言）轉換成另一種程式語言（目標語言）。



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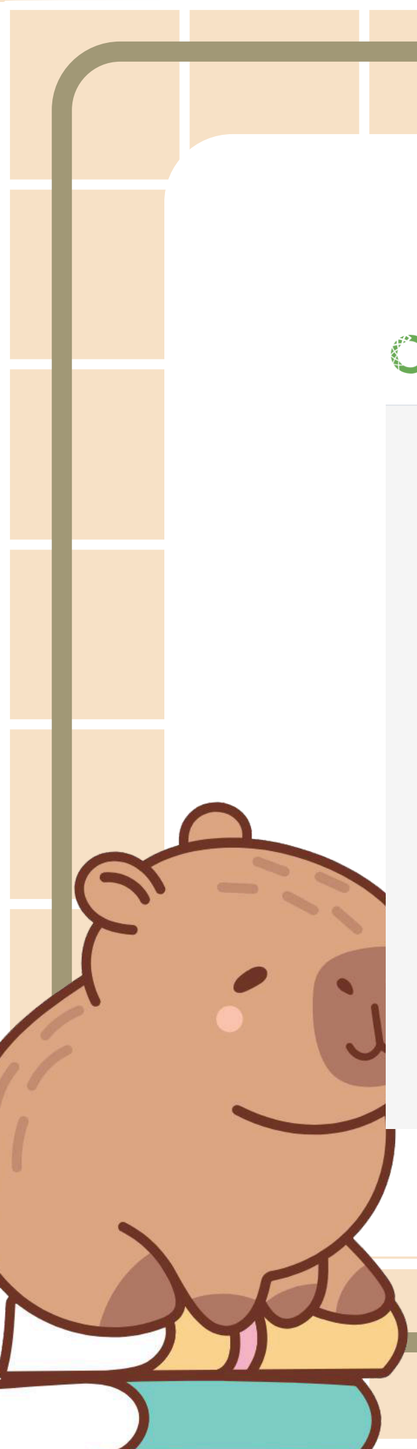

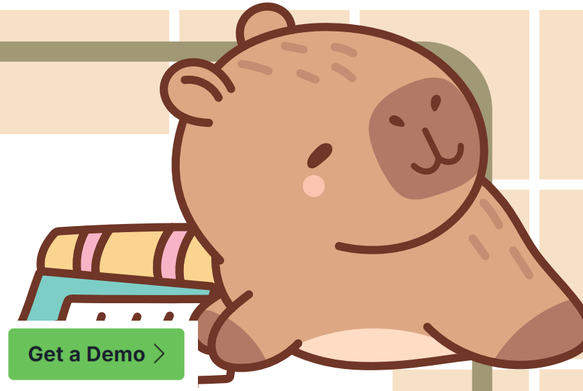

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Distribution Installers

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For installation assistance, refer to troubleshooting.

- Windows
- Mac
- Linux

Miniconda Installers

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For installation assistance, refer to troubleshooting.

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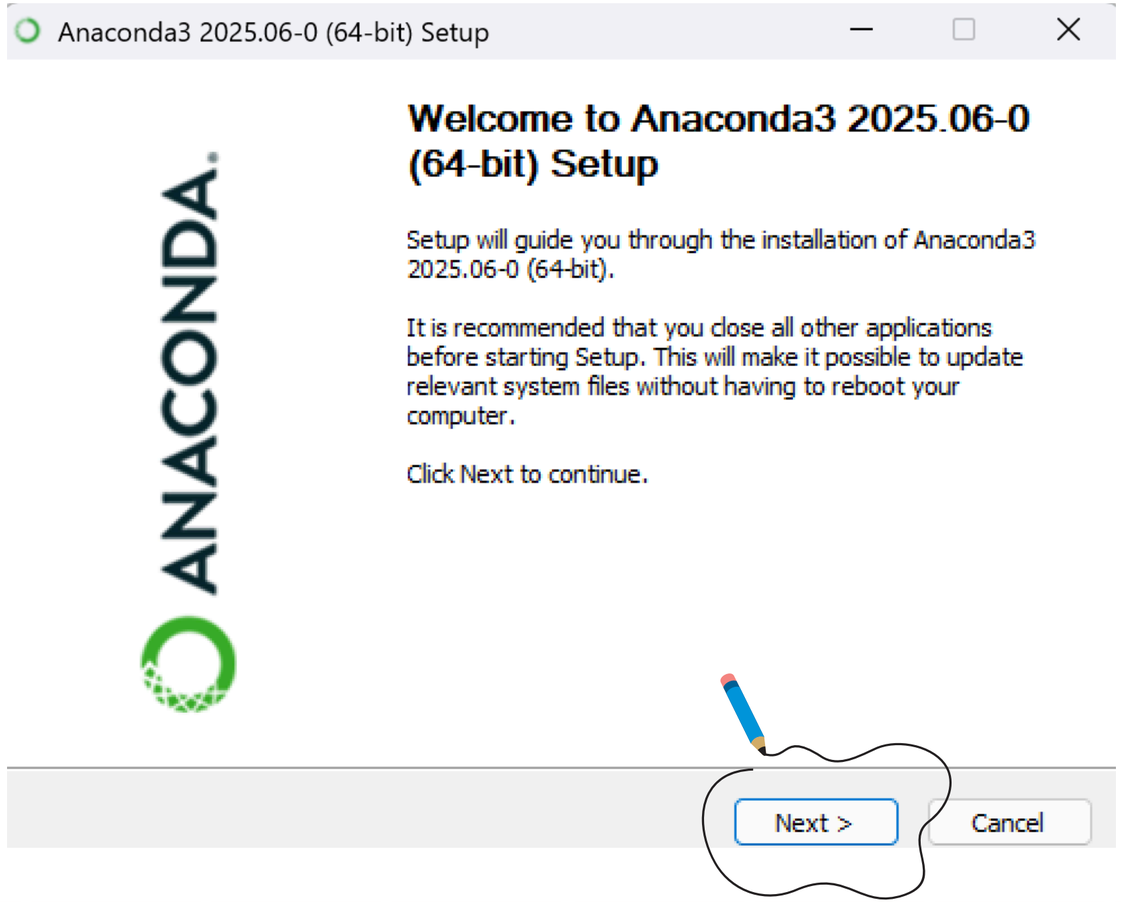
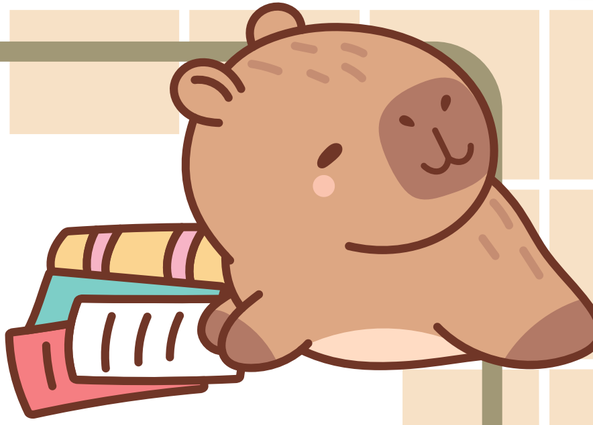
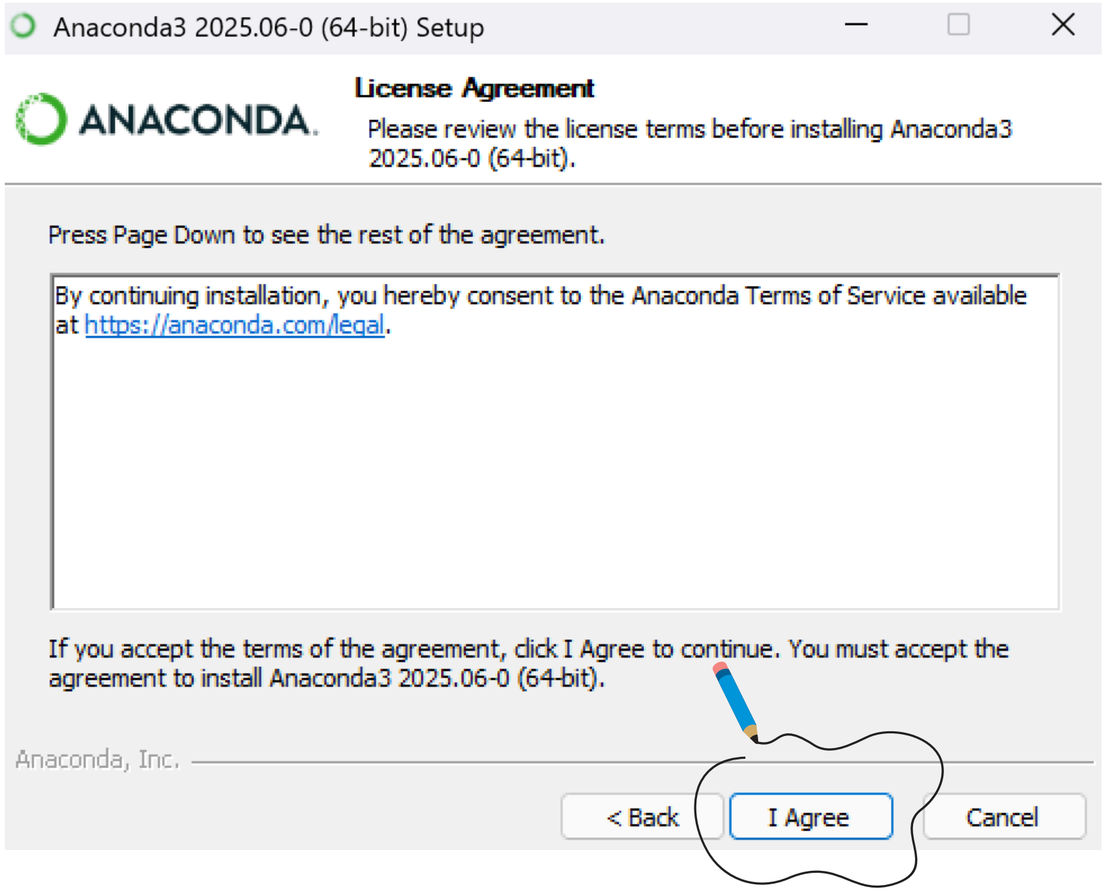
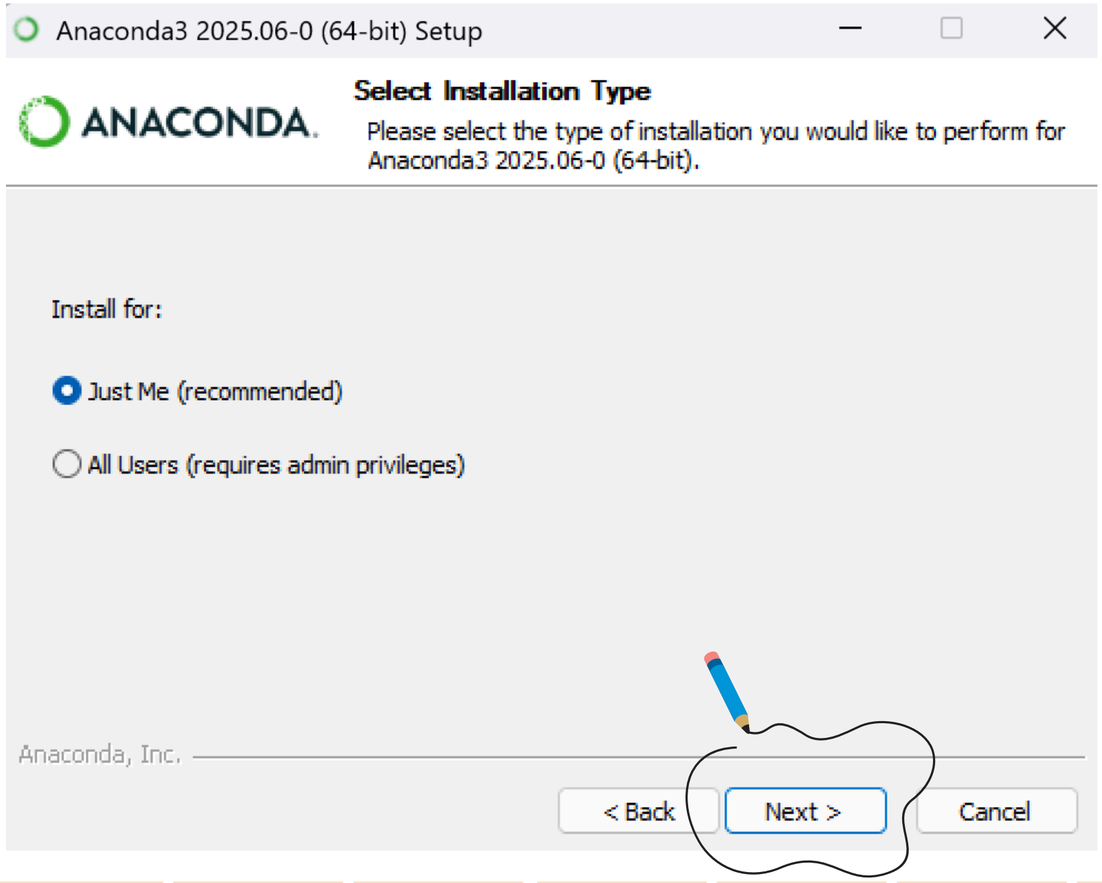

Anaconda3 2025.06-0 (64-bit) Setup
ANACONDA.
Welcome to Anaconda3 2025.06-0 (64-bit) Setup
Setup will guide you through the installation of Anaconda3 2025.06-0 (64-bit).
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

下載方式

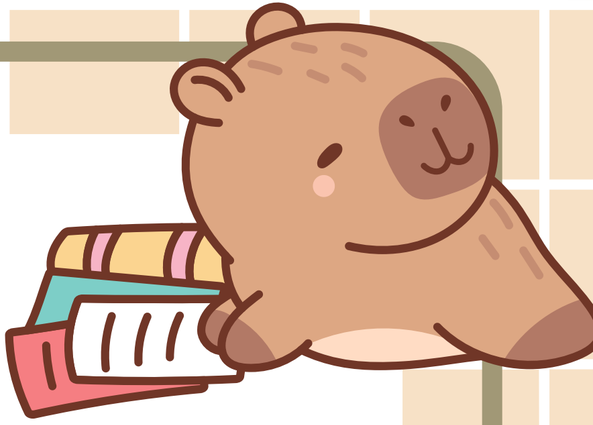


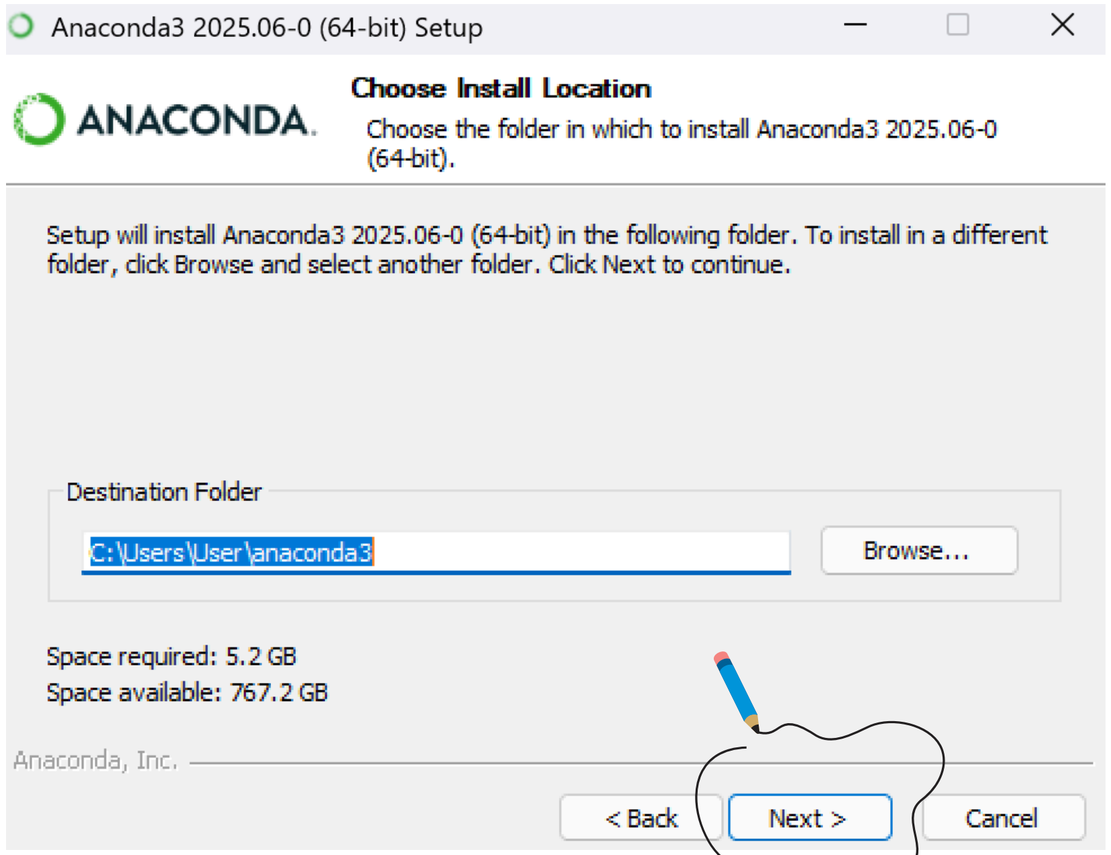

Anaconda3 2025.06-0 (64-bit) Setup
ANACONDA.
License Agreement
Please review the license terms before installing Anaconda3 2025.06-0 (64-bit).
Press Page Down to see the rest of the agreement.
By continuing installation, you hereby consent to the Anaconda Terms of Service available at https://anaconda.com/legal.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 2025.06-0 (64-bit).
Anaconda, Inc.
< Back
I Agree
Cancel

下載方式

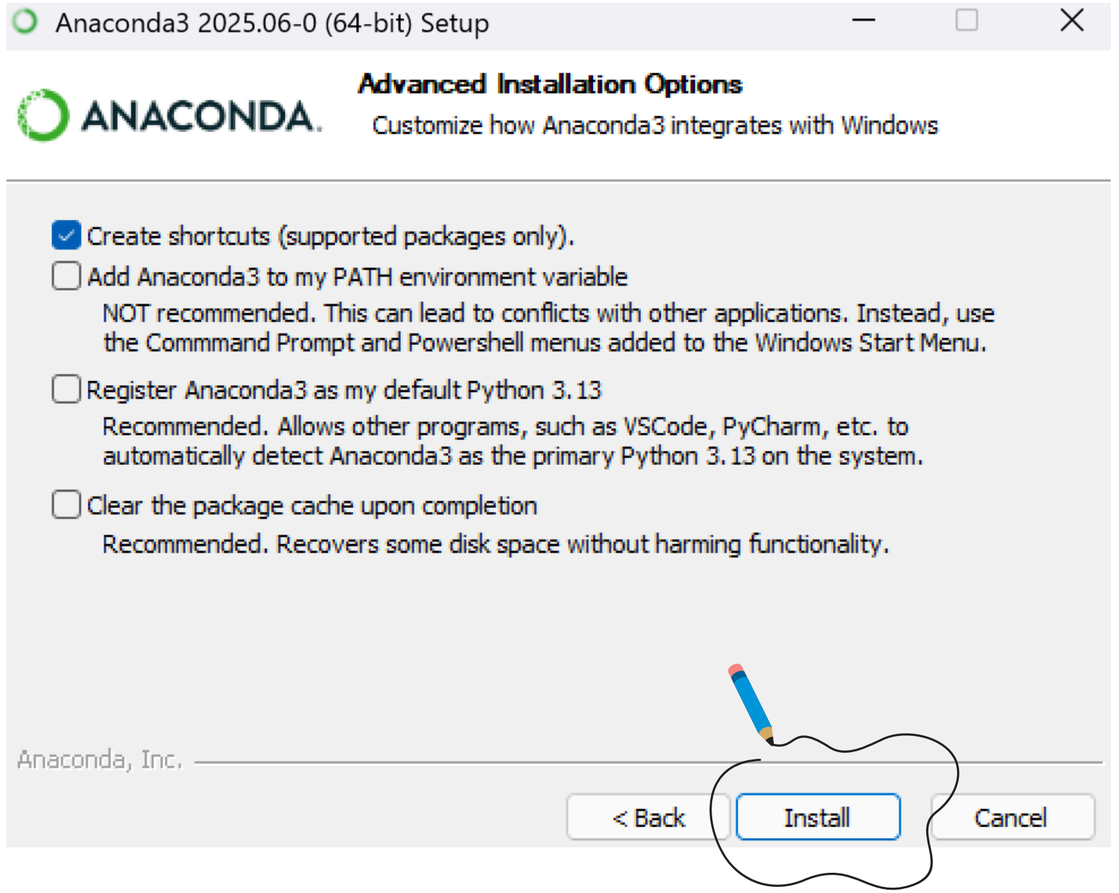

Anaconda3 2025.06-0 (64-bit) Setup
ANACONDA.
Select Installation Type
Please select the type of installation you would like to perform for Anaconda3 2025.06-0 (64-bit).
Install for:
Just Me (recommended)
All Users (requires admin privileges)
Anaconda, Inc.
< Back
Next >
Cancel

下載方式

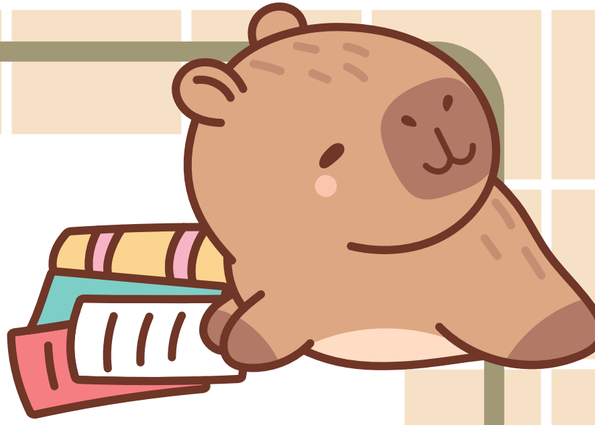



Anaconda3 2025.06-0 (64-bit) Setup
ANACONDA.
Choose Install Location
Choose the folder in which to install Anaconda3 2025.06-0 (64-bit).
Setup will install Anaconda3 2025.06-0 (64-bit) in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
Destination Folder
C:\Users\User\anaconda3
Browse...
Space required: 5.2 GB
Space available: 767.2 GB
Anaconda, Inc.
< Back
Next >
Cancel

下載方式


Anaconda3 2025.06-0 (64-bit) Setup
ANACONDA.
Advanced Installation Options
Customize how Anaconda3 integrates with Windows
Create shortcuts (supported packages only).
Add Anaconda3 to my PATH environment variable
NOT recommended. This can lead to conflicts with other applications. Instead, use the Commmand Prompt and Powershell menus added to the Windows Start Menu.
Register Anaconda3 as my default Python 3.13
Recommended. Allows other programs, such as VSCode, PyCharm, etc. to automatically detect Anaconda3 as the primary Python 3.13 on the system.
Clear the package cache upon completion
Recommended. Recovers some disk space without harming functionality.
Anaconda, Inc.
< Back
Install
Cancel

啟動方式



jupyter

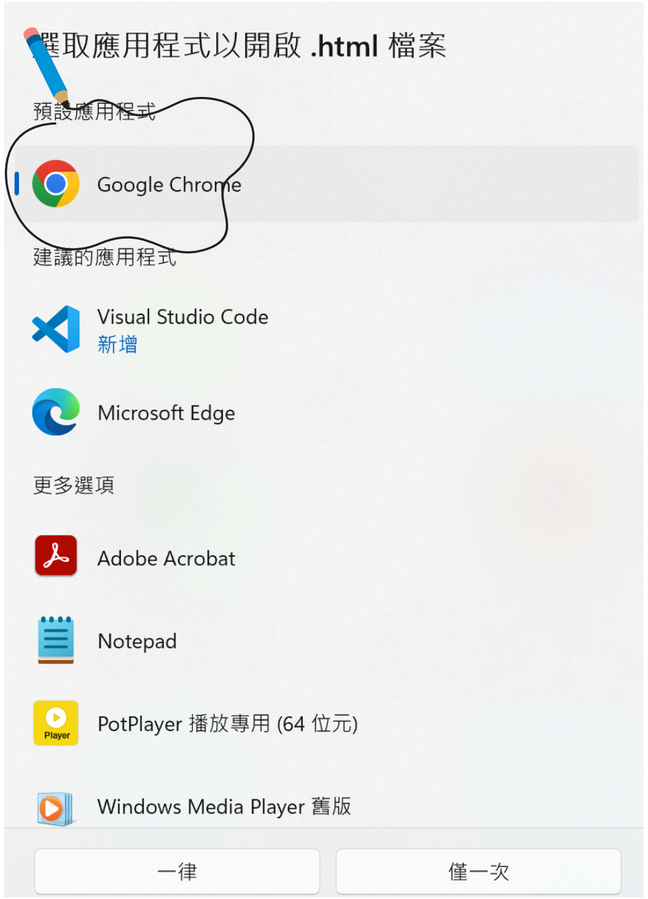
Notebook

7.3.2

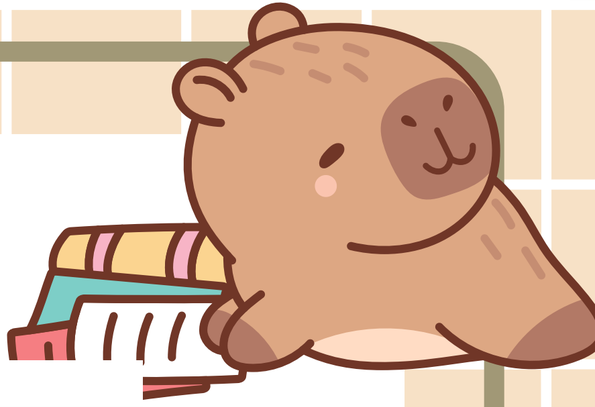
Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.

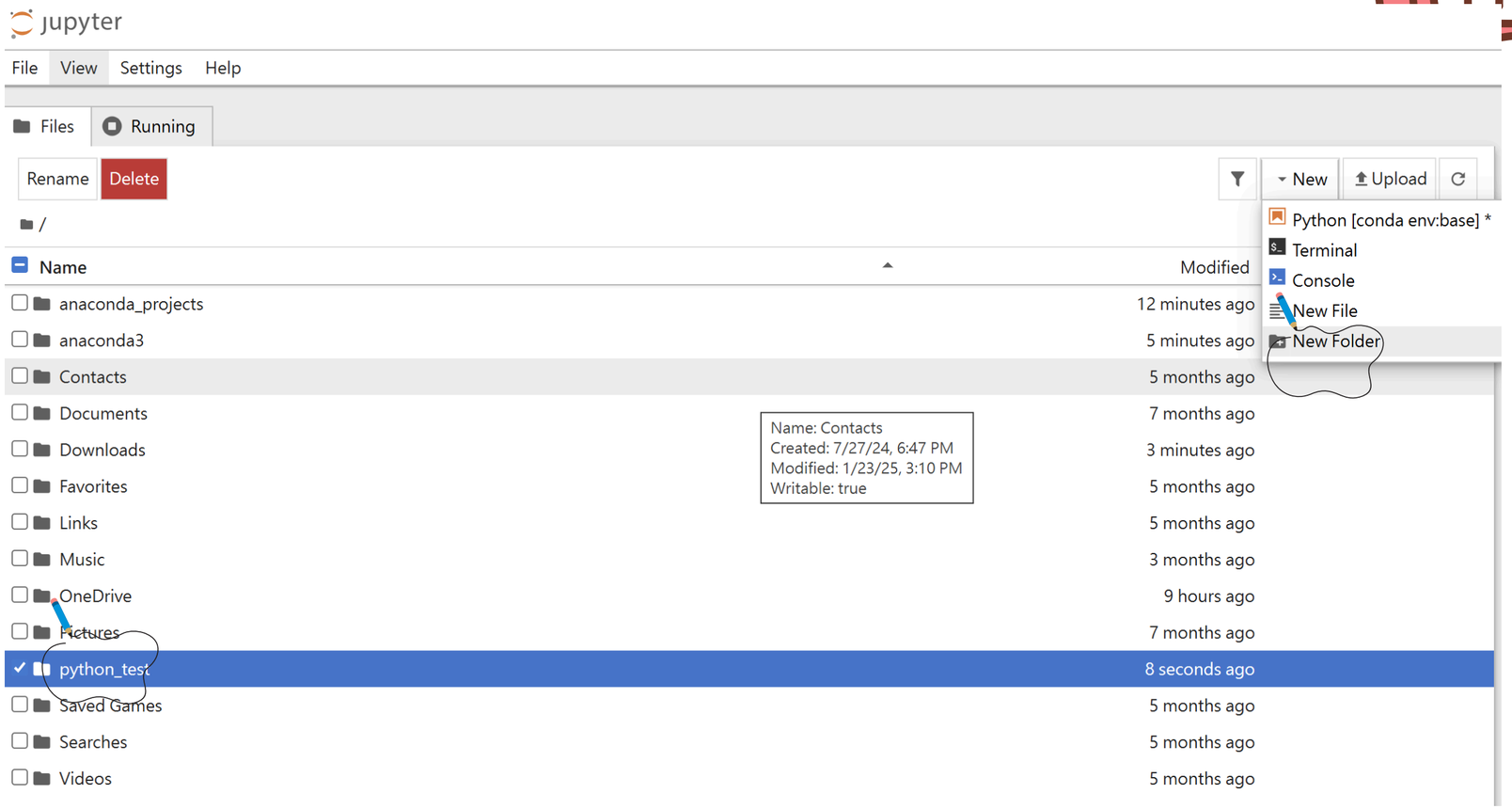
Launch

啟動方式

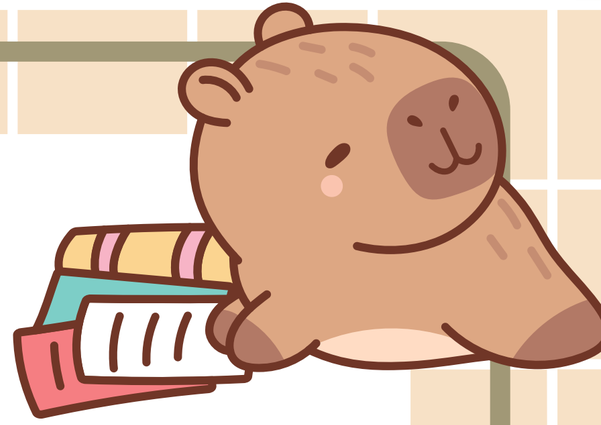

選取應用程式以開啟 .html 檔案
預設應用程式
Google Chrome
建議的應用程式
Visual Studio Code
新增
Microsoft Edge
更多選項
Adobe Acrobat
Notepad
PotPlayer 播放專用 (64 位元)
Windows Media Player 舊版
一律
僅一次

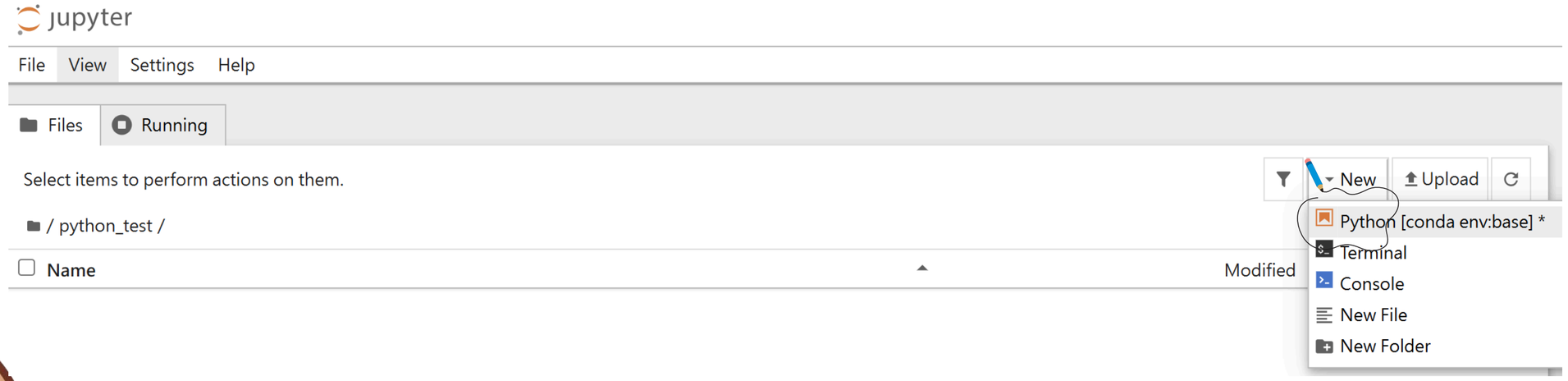
創一個資料夾

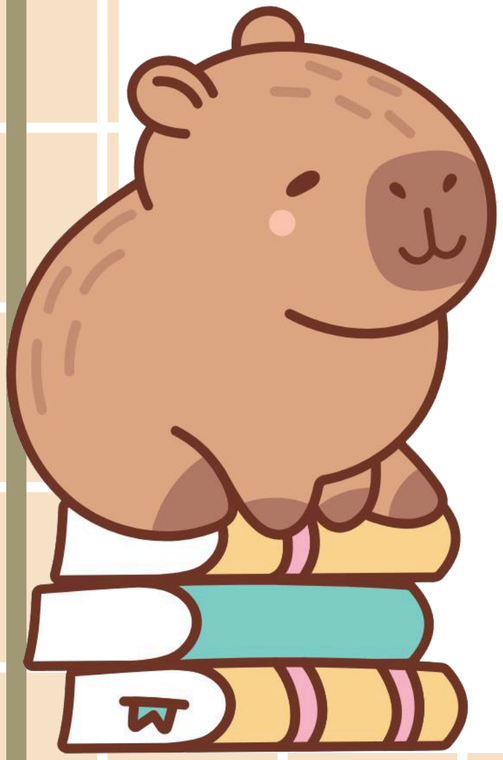



jupyter
File View Settings Help
Files Running
Rename Delete
New Upload
/
Name Modified
anaconda_projects 12 minutes ago
anaconda3 5 minutes ago
Contacts 5 months ago
Documents 7 months ago
Downloads 3 minutes ago
Favorites 5 months ago
Links 5 months ago
Music 3 months ago
OneDrive 9 hours ago
Pictures 7 months ago
python_test 8 seconds ago
Saved Games 5 months ago
Searches 5 months ago
Videos 5 months ago
Python [conda env:base] *
Terminal
Console
New File
New Folder
Name: Contacts
Created: 7/27/24, 6:47 PM
Modified: 1/23/25, 3:10 PM
Writable: true

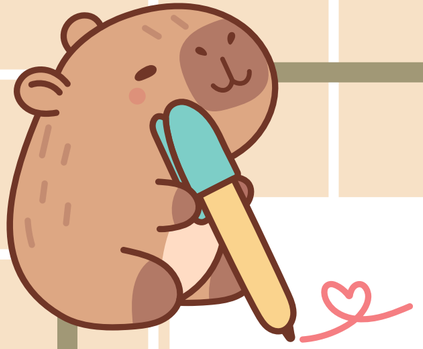
創一個python程式







開始撰寫程式



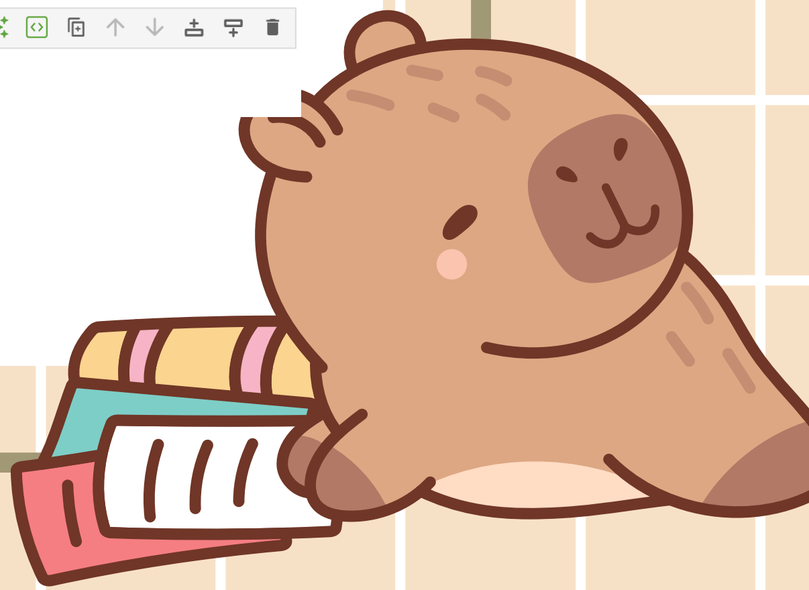
輸出

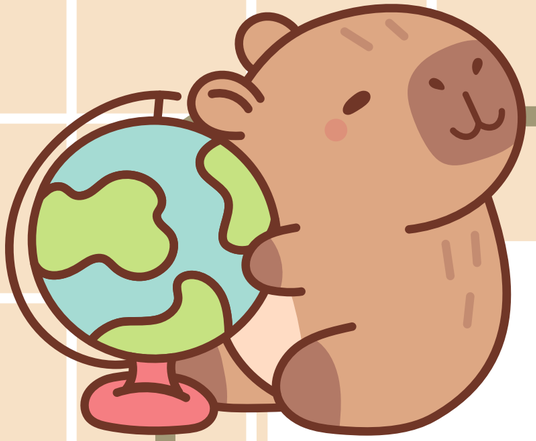
jupyter hello_world Last Checkpoint: 6 minutes ago

File Edit View Run Kernel Settings Help Trusted

Code JupyterLab Python [conda env:base] * Anaconda Toolbox

```
[1]: print("hello world")
     hello world
```





出錯怎麼辦

從第一個程式開始，養成好習慣

檢查

- 字有沒有打對
- 空格有沒有多打
- 縮排有沒有正確

單行註解

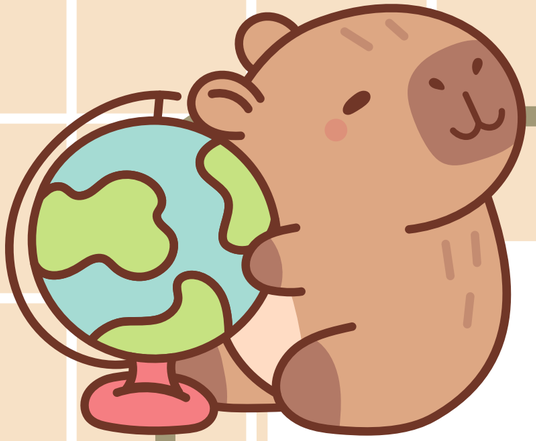
jupyter hello_world Last Checkpoint: 13 m

File Edit View Run Kernel Settings Help

Code

[5]:
```
#列印出hello world
print("hello world")
```

```
hello world
```



多行註解

```
'''
這是多行註解
123
456
'''


print("hello world")
```

```
hello world
```

換你試試看

- 嘗試用print函式印出以下圖形

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

*****
```

做完練習的可以創造屬於自己的圖形

Thank You