

Lab096 : Copy vs View

Copy與View不同

(別怕! 跟著做你就會!)

盧樹台

shuhtai@uch.edu.tw

請至 www.hcdtech.com.tw 下載教材



<http://www.hcdtech.com.tw/Python.htm>



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所有的考卷都可以考100分，是我們自己錯過了！

學習秘訣=發問+練習

考卷發下去，時間到了收回來，如果沒有考到100分，這很正常。重點來了，不會的可以問，問完了練習，準備好了考卷再發下去。第二次還是沒有考到100分，這也很正常。沒關係，再來一次，不會的可以問，問完了練習，準備好了考卷第三次再發下去，.....，考到第N次如果還是沒有考到100分。沒關係，再來，不會的可以問，問完了練習，N+1次、N+2次、.....，你們都很聰明，知道我在說什麼，到最後考卷一定可以考100分！看懂了妳/你就會知道，原來學習的秘訣就是發問和練習！今天開始不懂就問，問完了練習，明年的妳/你肯定不一樣！

學習如何學習！

1

1 2

1 2 3

.....

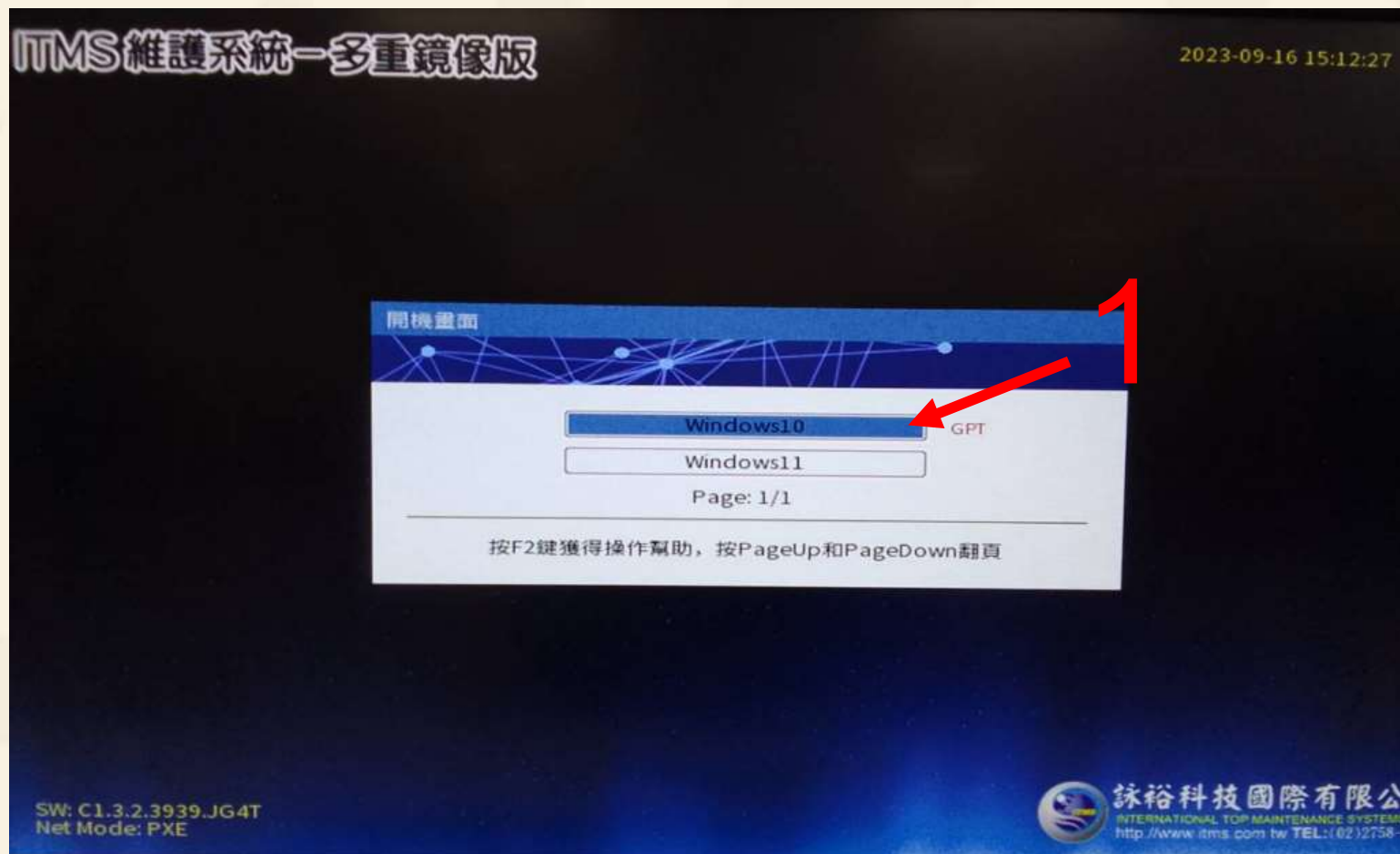
1 2 3 4 5 6 7 8 9 10

金字塔念書法



如果一本書有10個章節！先看第1章，在看第2章之前再把第1章看一遍，在看第3章之前再把第1, 2章看一遍，.....，等看到第10章的時候，第1, 2, 3, 4章恐怕已經背起來了！我稱這種念書法為金字塔念書法，今天開始照著做，明年的妳/你肯定不一樣！

請使用 Windows 10



1. 選用 Windows 10.

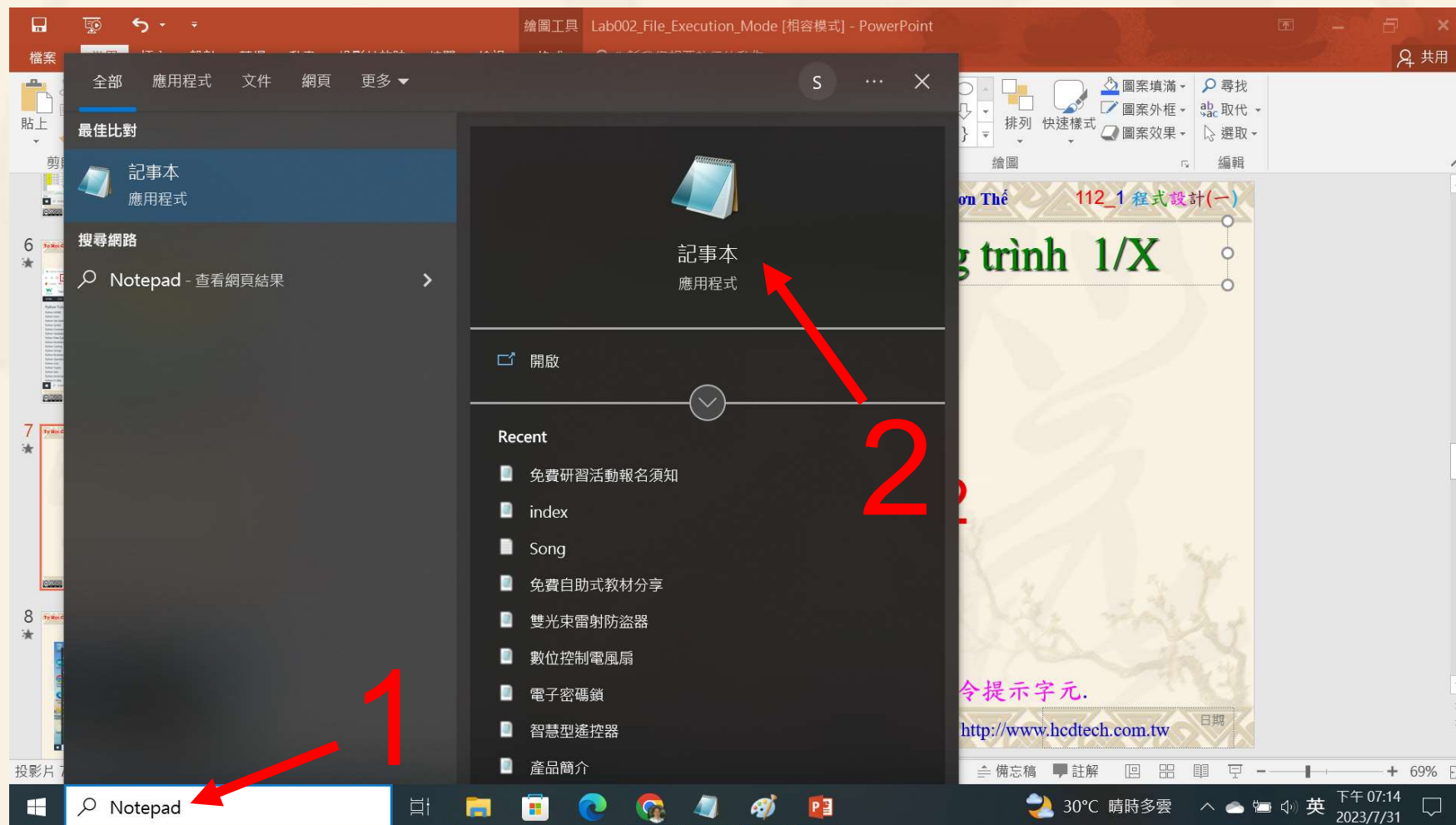
善用 Google 翻譯



請先開啟網頁閱讀

The screenshot shows a web browser window with the URL `w3schools.com/python/numpy/numpy_copy_vs_view.asp` highlighted in red. A yellow callout box with the text "請用善用 Google 翻譯 讀懂 網頁 內容" (Please use Google Translate to understand the content of the webpage) points to the URL. The browser shows the W3Schools website with a navigation menu for Python, including "NumPy Tutorial" and "NumPy Copy vs View". The main content area displays the title "The Difference Between Copy and View" and explains that a copy is a new array while a view shares the data of the original array. The Windows taskbar at the bottom shows the date and time as 2023/11/11, 03:29 PM.

建立程式文件 1/4



1. 用鍵盤輸入Notepad. 2. 鍵盤輸入記事本.

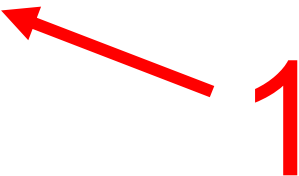
建立程式文件 2/4

```

*未命名 - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明
print("P11211XXX practices Lab096.")

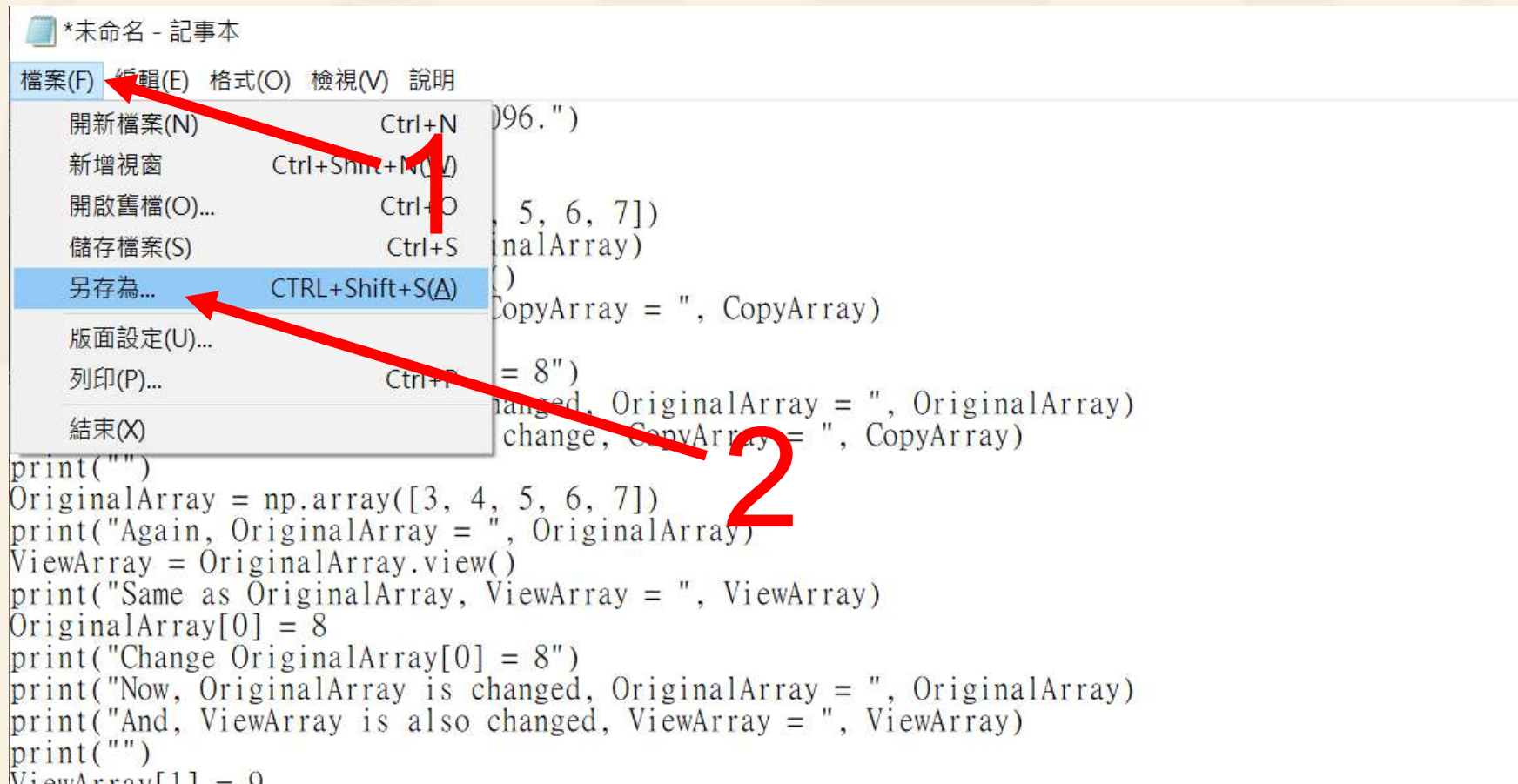
import numpy as np
OriginalArray = np.array([3, 4, 5, 6, 7])
print("OriginalArray = ", OriginalArray)
CopyArray = OriginalArray.copy()
print("Same as OriginalArray, CopyArray = ", CopyArray)
OriginalArray[0] = 8
print("Change OriginalArray[0] = 8")
print("Now, OriginalArray is changed, OriginalArray = ", OriginalArray)
print("But, CopyArray does not change, CopyArray = ", CopyArray)
print("")
OriginalArray = np.array([3, 4, 5, 6, 7])
print("Again, OriginalArray = ", OriginalArray)
ViewArray = OriginalArray.view()
print("Same as OriginalArray, ViewArray = ", ViewArray)
OriginalArray[0] = 8
print("Change OriginalArray[0] = 8")
print("Now, OriginalArray is changed, OriginalArray = ", OriginalArray)
print("And, ViewArray is also changed, ViewArray = ", ViewArray)
print("")
ViewArray[1] = 9
print("Change ViewArray[1] = 9")
print("Now, ViewArray is changed, ViewArray = ", ViewArray)
print("And, OriginalArray is also changed, OriginalArray = ", OriginalArray)
print("")
print("Check the base attribute of CopyArray, CopyArray.base = ", CopyArray.base)
print("None means the CopyArray owns the data.")
print("Check the base attribute of ViewArray, ViewArray.base = ", ViewArray.base)
print("This means the ViewArray does not own the data.")
    
```

Replace P11211XXX with your student ID



1. 用鍵盤輸入程式代碼.

建立程式文件 3/4



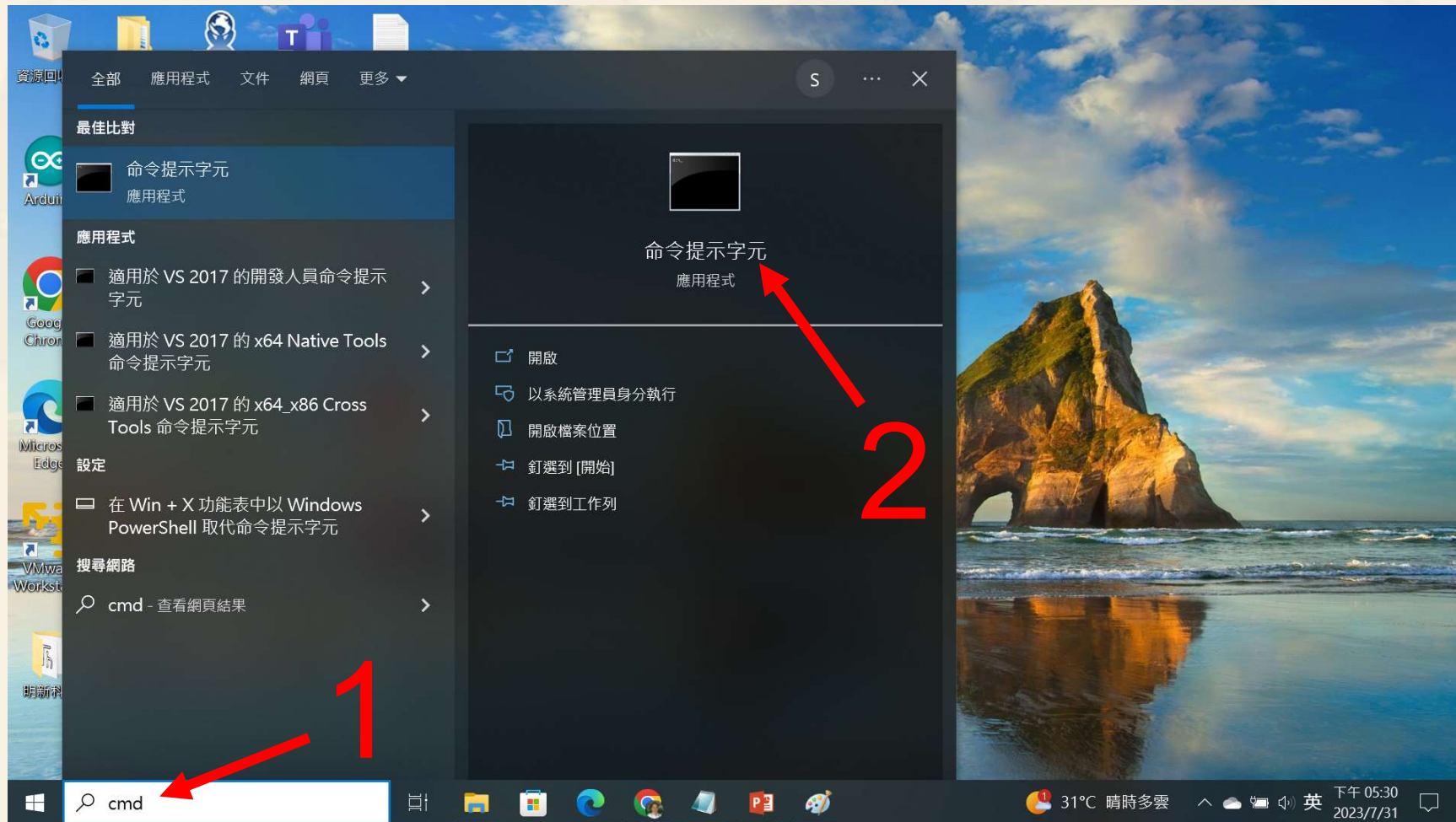
1. 鍵盤輸入檔案. 2. 鍵盤輸入另存為....

建立程式文件 4/4



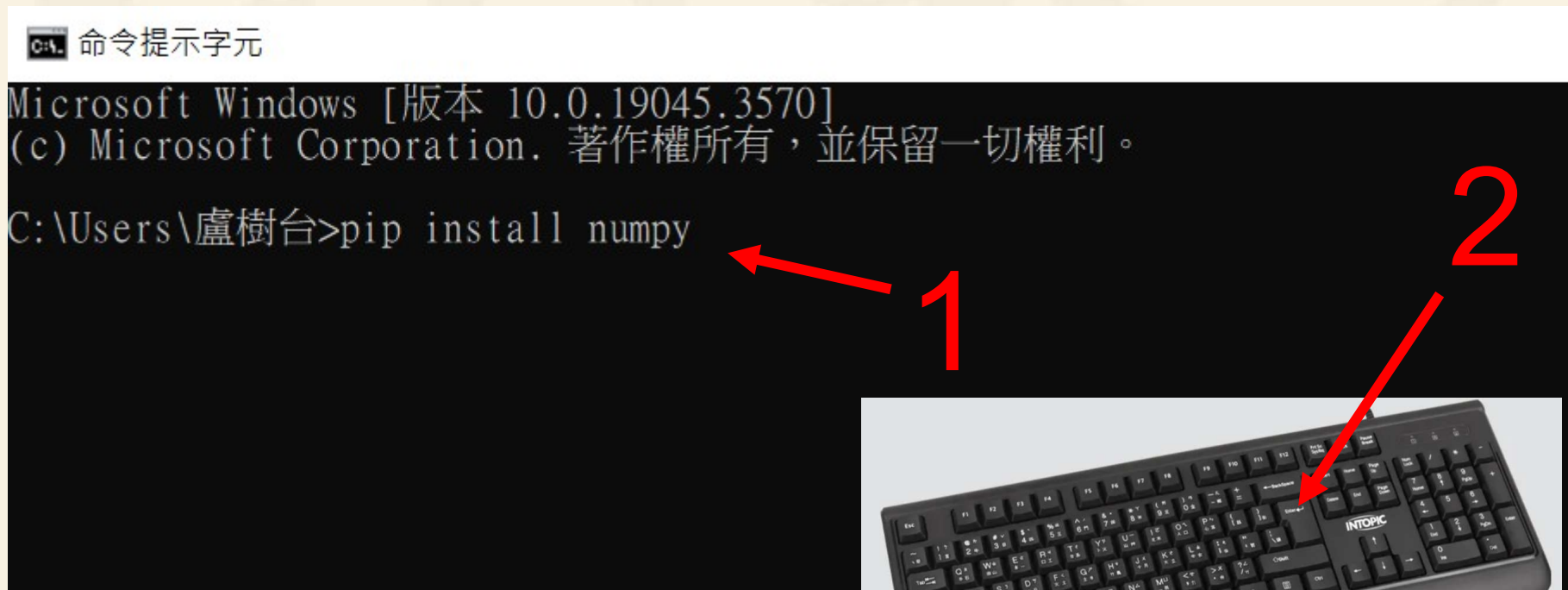
1. 資料夾 = C:\使用者>User>.
2. 檔案名稱 = P11211XXX.py .
3. 存檔類型(T) = 所有檔案.
4. 用滑鼠點選存檔.

檔案執行模式 1/3



1. 用鍵盤輸入cmd.
2. 鍵盤輸入命令提示字元.

檔案執行模式 2/3



1. 用鍵盤輸入pip install numpy.
2. 按一下Enter.

檔案執行模式 3/3

C:\> 命令提示字元

```
Microsoft Windows [版本 10.0.19045.3570]  
(c) Microsoft Corporation. 著作權所有，並保留一切權利。  
C:\Users\盧樹台>pip install numpy  
Requirement already satisfied: numpy in c:\python39\lib\site-packages (1.26.1)  
C:\Users\盧樹台>Python P11211XXX.py
```

Replace P11211XXX with your student ID



1. 用鍵盤輸入Python P11211XXX.py .
2. 按一下Enter.

Verification Criteria of Lab096

(Lab096的驗收規範) Copy與View不同

**P11211XXX 必需
更換為您的學號**

Ask the teacher to give you points after completing the illustrated results.

(完成右圖指定成果後請教師在您的座位驗收並讓您簽名加分)

```

命令提示字元
Microsoft Windows [版本 10.0.19045.3570]
(c) Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\User>Python P11211XXX.py
P11211XXX practices Lab096.
OriginalArray = [3 4 5 6 7]
Same as OriginalArray, CopyArray = [3 4 5 6 7]
Change OriginalArray[0] = 8
Now, OriginalArray is changed, OriginalArray = [8 4 5 6 7]
But, CopyArray does not change, CopyArray = [3 4 5 6 7]

Again, OriginalArray = [3 4 5 6 7]
Same as OriginalArray, ViewArray = [3 4 5 6 7]
Change OriginalArray[0] = 8
Now, OriginalArray is changed, OriginalArray = [8 4 5 6 7]
And, ViewArray is also changed, ViewArray = [8 4 5 6 7]

Change ViewArray[1] = 9
Now, ViewArray is changed, ViewArray = [8 9 5 6 7]
And, OriginalArray is also changed, OriginalArray = [8 9 5 6 7]

Check the base attribute of CopyArray, CopyArray.base = None
None means the CopyArray owns the data.
Check the base attribute of ViewArray, ViewArray.base = [8 9 5 6 7]
This means the ViewArray does not own the data.

C:\Users\User>
    
```

Every student must do Lab096 once!

養成良好的工作態度

- 離開實驗室時請整理自己的工作座位，為自己的工作態度加分：
 - (1)滑鼠鍵盤歸位 (2)電腦關機 (3)螢幕關閉電源 (4)椅背靠妥 (5)個人責任區(工作座位及週邊範圍)應整潔，不遺留垃圾紙屑等。

