

Lab094 : Array Slicing

陣列分割

(別怕! 跟著做你就會!)

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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

.....

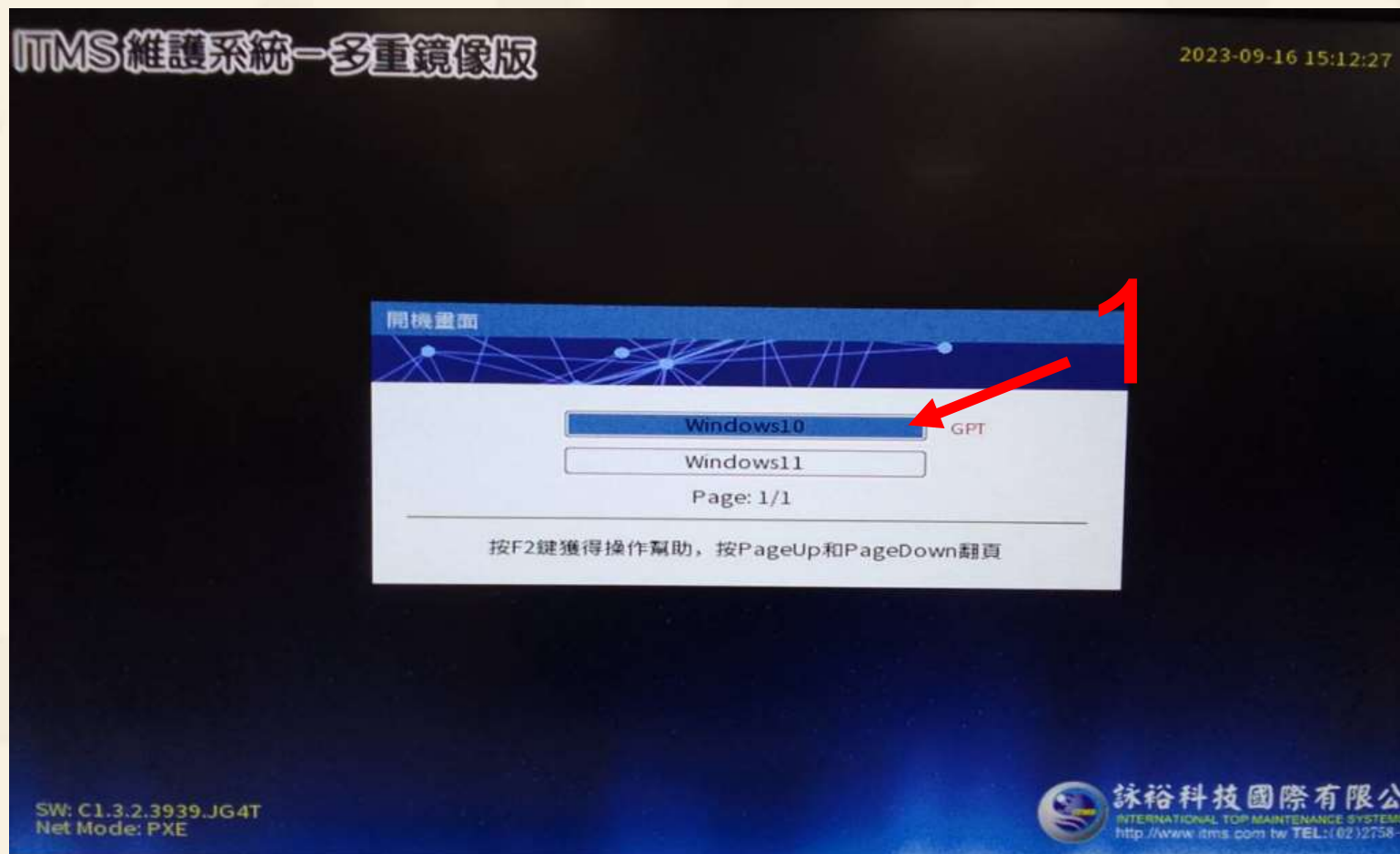
1 2 3 4 5 6 7 8 9 10

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.

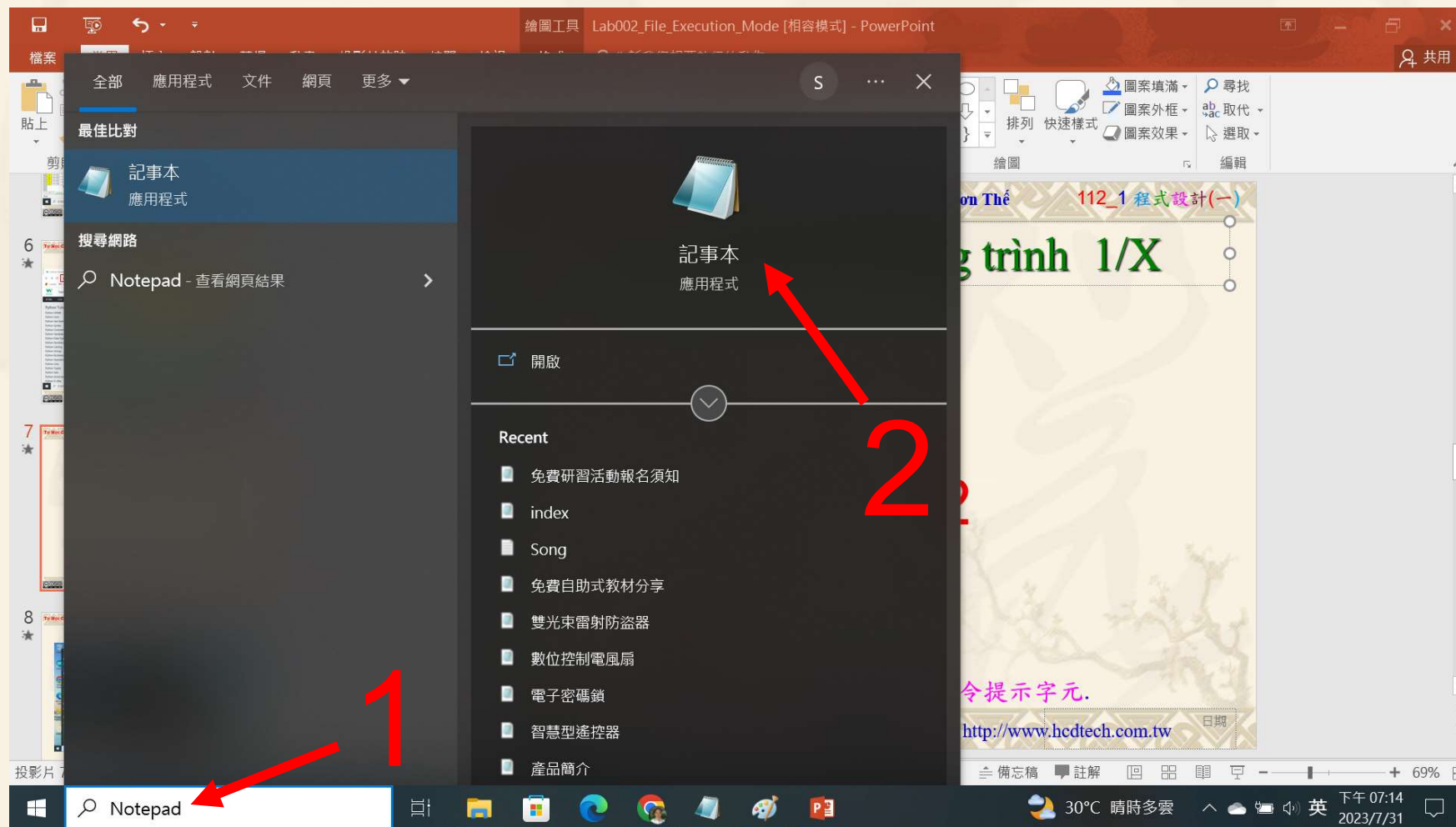
善用 Google 翻譯



請先開啟網頁閱讀

The screenshot shows a web browser window with the URL `w3schools.com/python/numpy/numpy_array_slicing.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) is overlaid on the page. The page content includes a navigation menu with "PYTHON" selected, a sidebar with "NumPy Array Slicing" highlighted, and the main article titled "NumPy Array Slicing" with the sub-heading "Slicing arrays". The article text explains that slicing in Python involves taking elements from one index to another, and provides examples of slice notation like `[start:end]` and `[start:end:step]`. The Windows taskbar at the bottom shows the date and time as 2023/11/10, 05:48.

建立程式文件 1/4



1. 鍵盤輸入Notepad. 2. 用滑鼠點選記事本.

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 Lab094.")

import numpy as np
MyArray = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9, 10])
print("MyArray = ", MyArray)
print("Slice elements from index 1 to index 6 of MyArray: ", MyArray[1:6])
print("Slice elements from the beginning to index 5 of MyArray: ", MyArray[:5])
print("Slice elements from index 5 to the end of MyArray: ", MyArray[5:])
print("Slice elements from the beginning to the end of MyArray step 2: ", MyArray[::2])
print("Slice from the index 3 from the end to index 1 from the end of MyArray: ", MyArray[-3:-1])
print("")

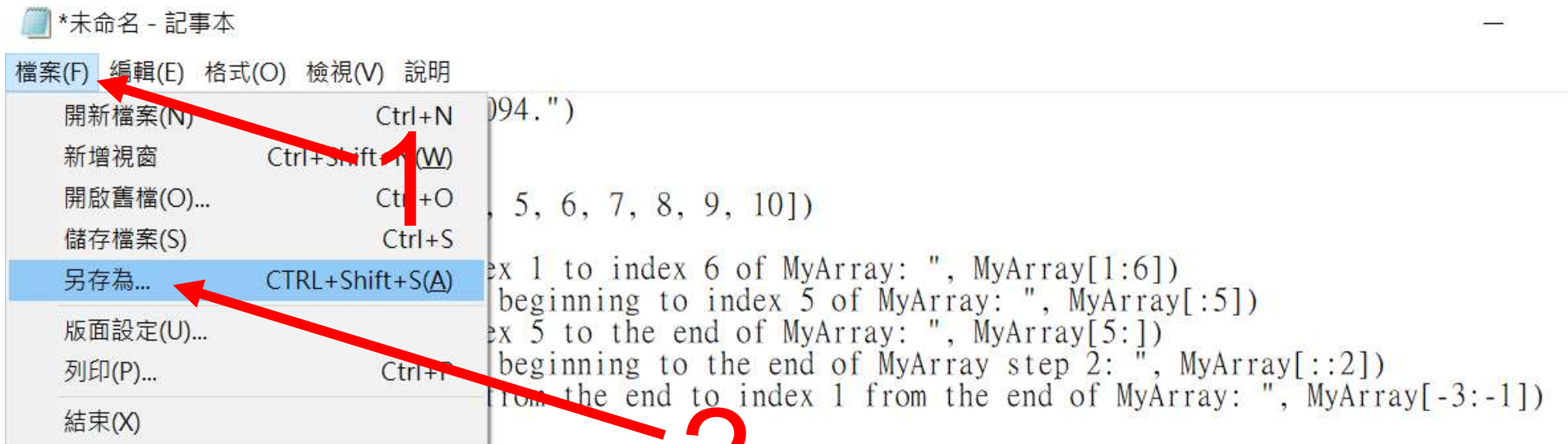
My2dArray = np.array([[1, 2, 3, 4, 5], [6, 7, 8, 9, 10]])
print("My2dArray = ")
print(My2dArray)
print("From the second element, slice elements from index 1 to index 4 (not included):")
print(My2dArray[1, 1:4])
print("From both elements, slice index 1 to index 4 (not included), this will return a 2-D array:")
print(My2dArray[0:2, 1:4])
```

Replace P11211XXX with your student ID



1. 用鍵盤輸入程式代碼.

建立程式文件 3/4



```
My2dArray = np.array([[1, 2, 3, 4, 5], [6, 7, 8, 9, 10]])
print("My2dArray = ")
print(My2dArray)
print("From the second element, slice elements from index 1 to index 4 (not included):")
print(My2dArray[1, 1:4])
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```

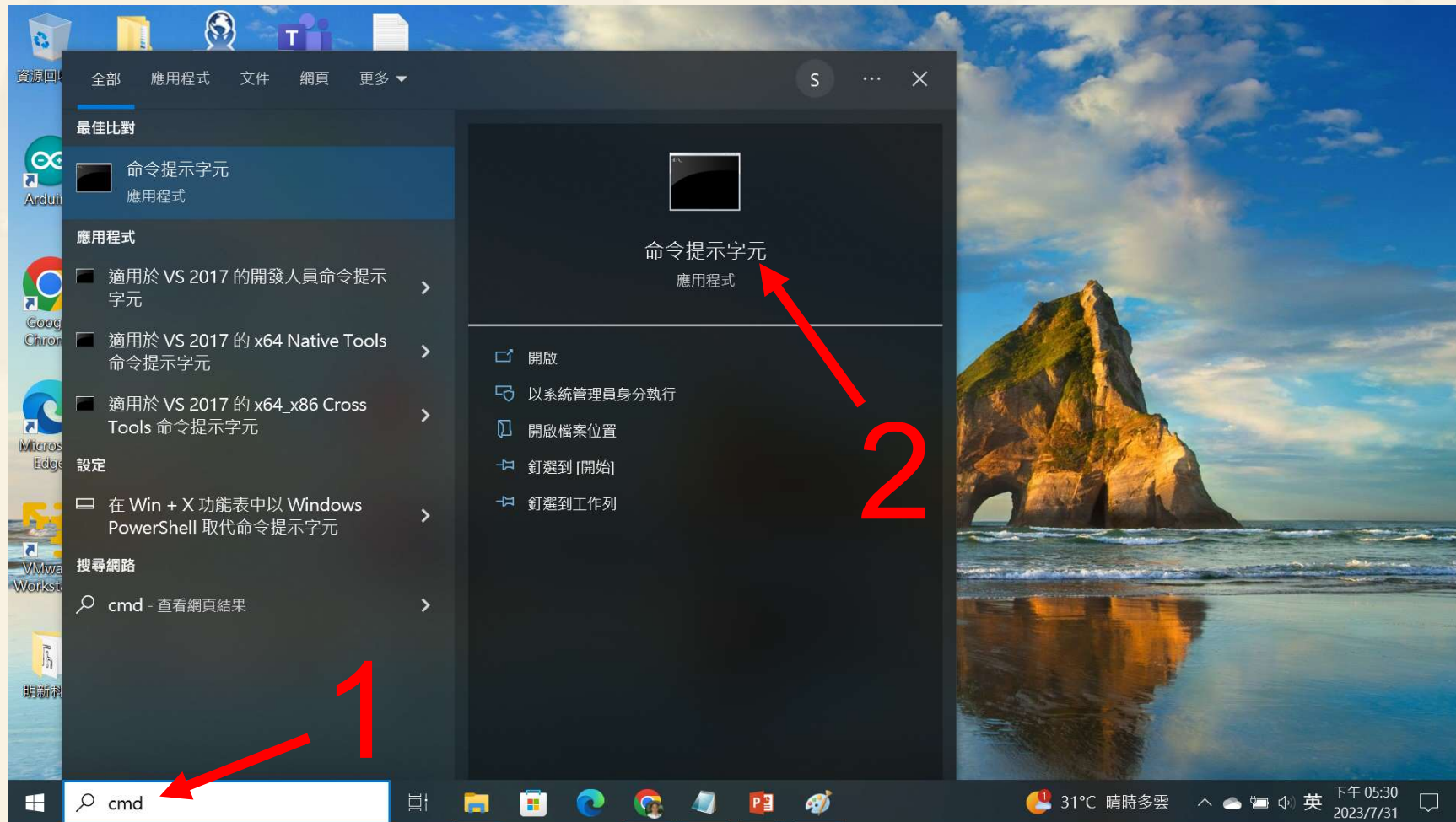
1. 用滑鼠點選檔案. 2. 用滑鼠點選另存為....

建立程式文件 4/4



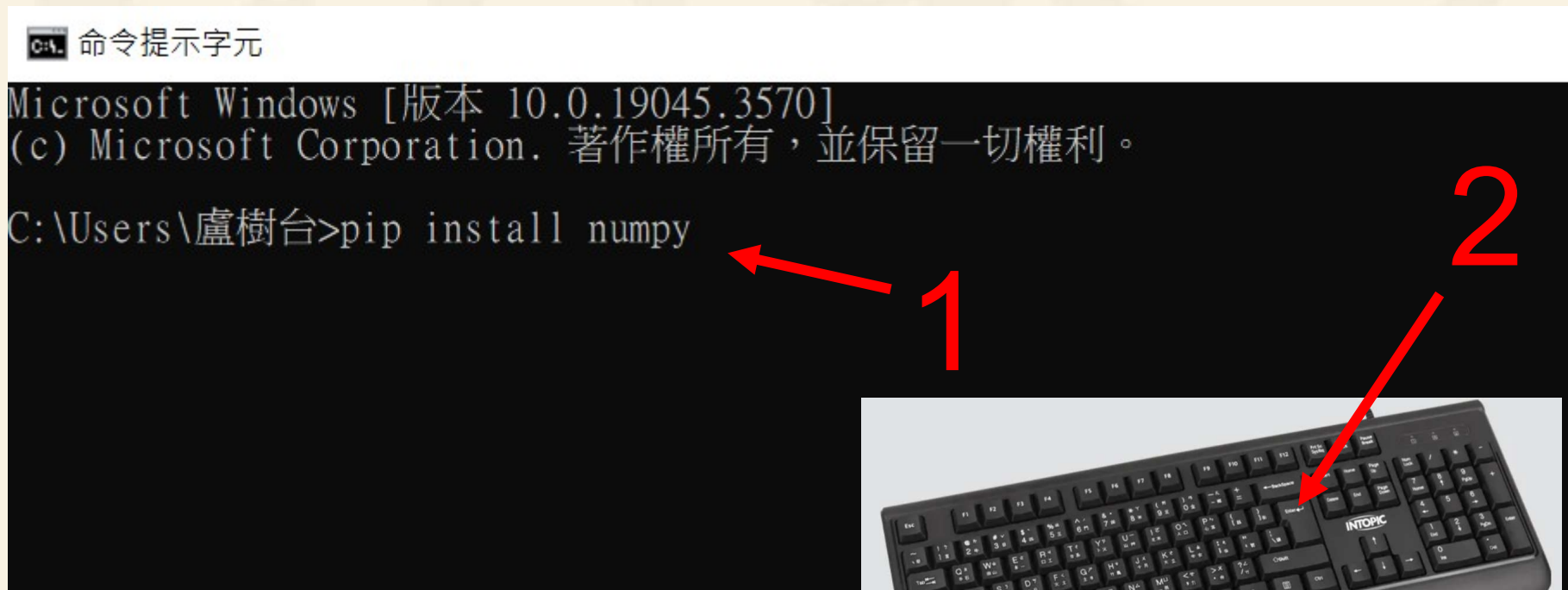
1. 資料夾 = C:\使用者>User>.
2. 檔案名稱 = P11211XXX.py .
3. 存檔類型(T) = 所有檔案.
4. 用滑鼠點選存檔.

檔案執行模式 1/3



1. 鍵盤輸入cmd.
2. 用滑鼠點選命令提示字元.

檔案執行模式 2/3



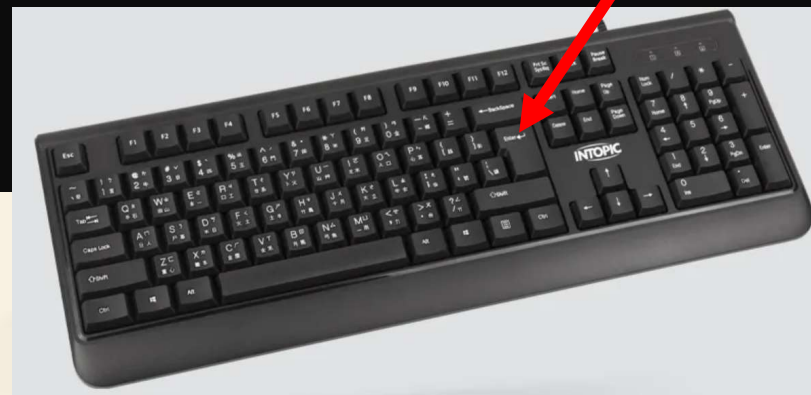
1. 用鍵盤輸入pip install numpy.
2. 按一下Enter.

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 Lab094

(Lab094的驗收規範)陣列分割

**P11211XXX 必需
更換為您的學號**

```

C:\Users\User>Python P11211XXX.py
P11211XXX practices Lab094.
MyArray = [ 1 2 3 4 5 6 7 8 9 10]
Slice elements from index 1 to index 6 of MyArray: [2 3 4 5 6]
Slice elements from the beginning to index 5 of MyArray: [1 2 3 4 5]
Slice elements from index 5 to the end of MyArray: [ 6 7 8 9 10]
Slice elements from the beginning to the end of MyArray step 2: [1 3 5 7 9]
Slice from the index 3 from the end to index 1 from the end of MyArray: [8 9]

My2dArray =
[[ 1 2 3 4 5]
 [ 6 7 8 9 10]]
From the second element, slice elements from index 1 to index 4 (not included):
[7 8 9]
From both elements, slice index 1 to index 4 (not included), this will return a 2-D array:
[[2 3 4]
 [7 8 9]]
C:\Users\User>
    
```

```

P11211XXX - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明
print("P11211XXX practices Lab094.")

import numpy as np
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print("Slice from the index 3 from the end to index 1 from the end of MyArray: ", MyArray[-3:-1])
print("")

My2dArray = np.array([[1, 2, 3, 4, 5], [6, 7, 8, 9, 10]])
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print(My2dArray[1, 1:4])
print("From both elements, slice index 1 to index 4 (not included), this will return a 2-D array:")
print(My2dArray[0:2, 1:4])
    
```

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)

Every student must do Lab094 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。

