

Lab118 : Simple Arithmetic

簡單算術

(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

.....

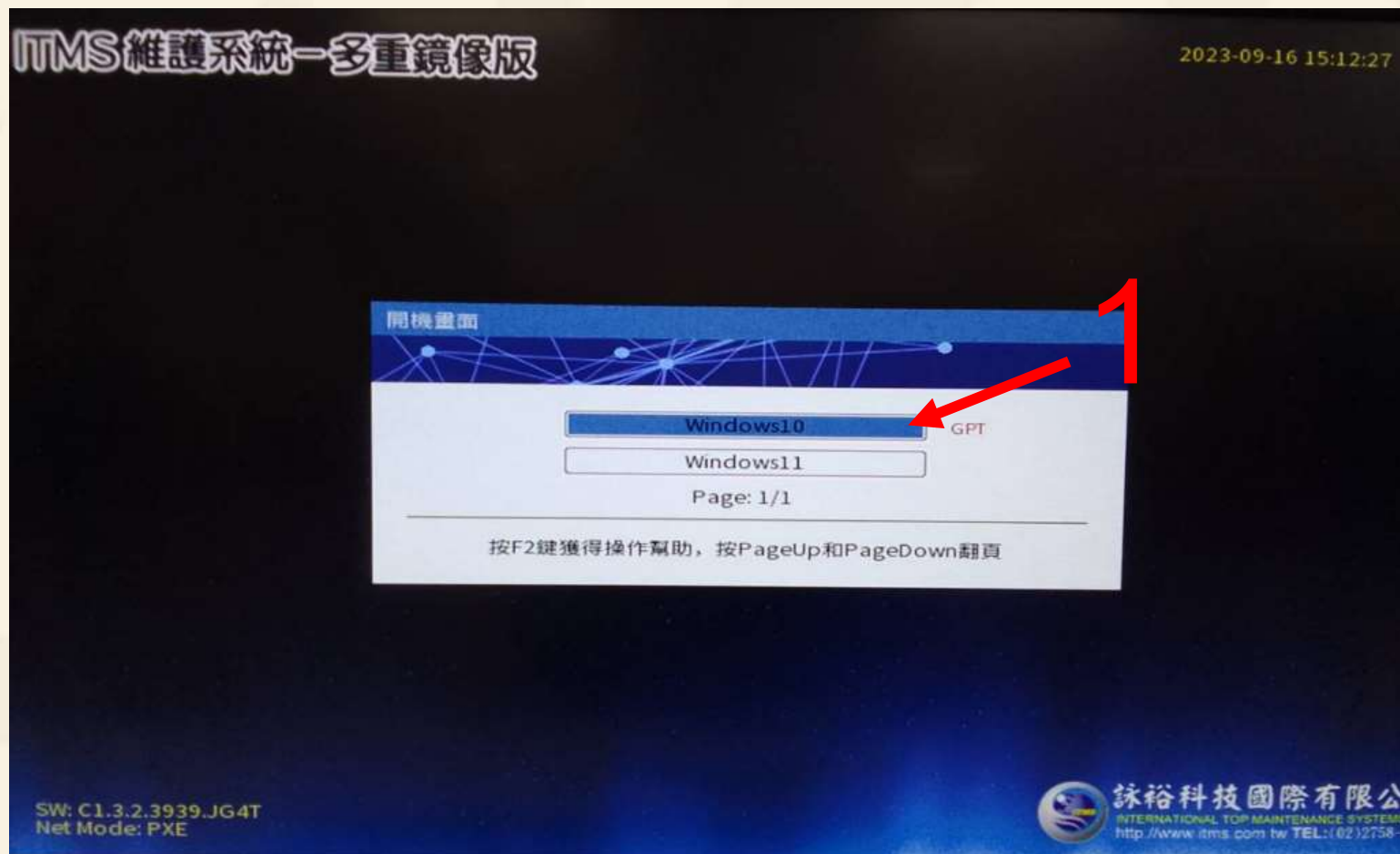
1 2 3 4 5 6 7 8 9 10

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

NumPy ufuncs - Simple Arithm x +

w3schools.com/python/numpy/numpy_ufunc_simple_arithmet...asp

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Poisson Distribution
Uniform Distribution
Logistic Distribution
Multinomial Distribution
Exponential Distribution
Chi Square Distribution
Rayleigh Distribution
Pareto Distribution
Zipf Distribution

NumPy ufunc
ufunc Intro
ufunc Create Function
ufunc Simple Arithmetic
ufunc Rounding Decimals
ufunc Logs
ufunc Summations
ufunc Products
ufunc Differences

Simple Arithmetic

< Previous Next >

Simple Arithmetic

You could use arithmetic operators `+` `-` `*` `/` directly between NumPy arrays, but this section discusses an extension of the same where we have functions that can take any array-like objects e.g. lists, tuples etc. and perform arithmetic *conditionally*.

Arithmetic Conditionally: means that we can define conditions where the arithmetic operation should happen.

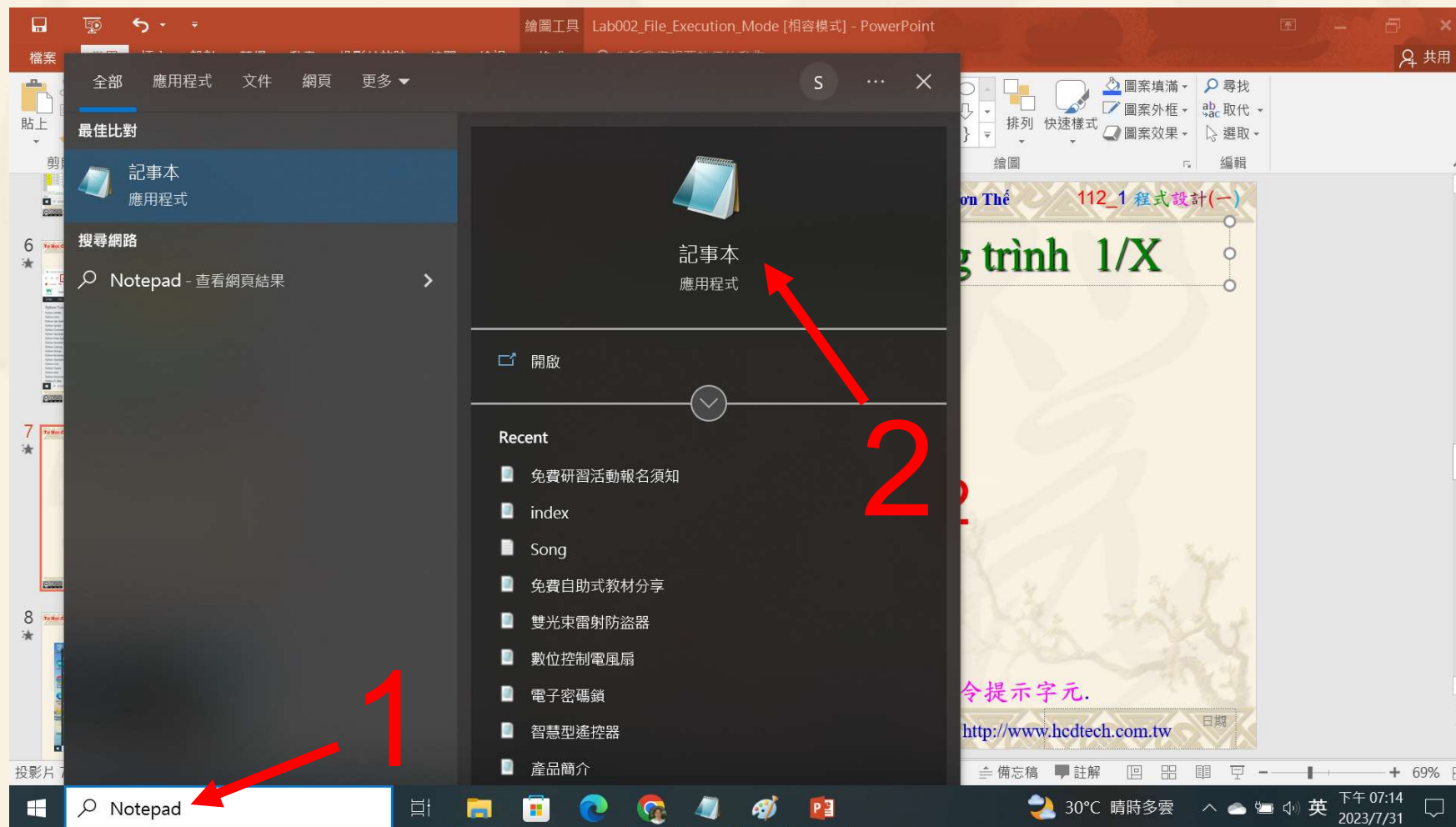
All of the discussed arithmetic functions take a `where` parameter in which we can specify that condition.

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Windows 在 這裡輸入文字來搜尋 20°C 下午 08:30 2023/11/23

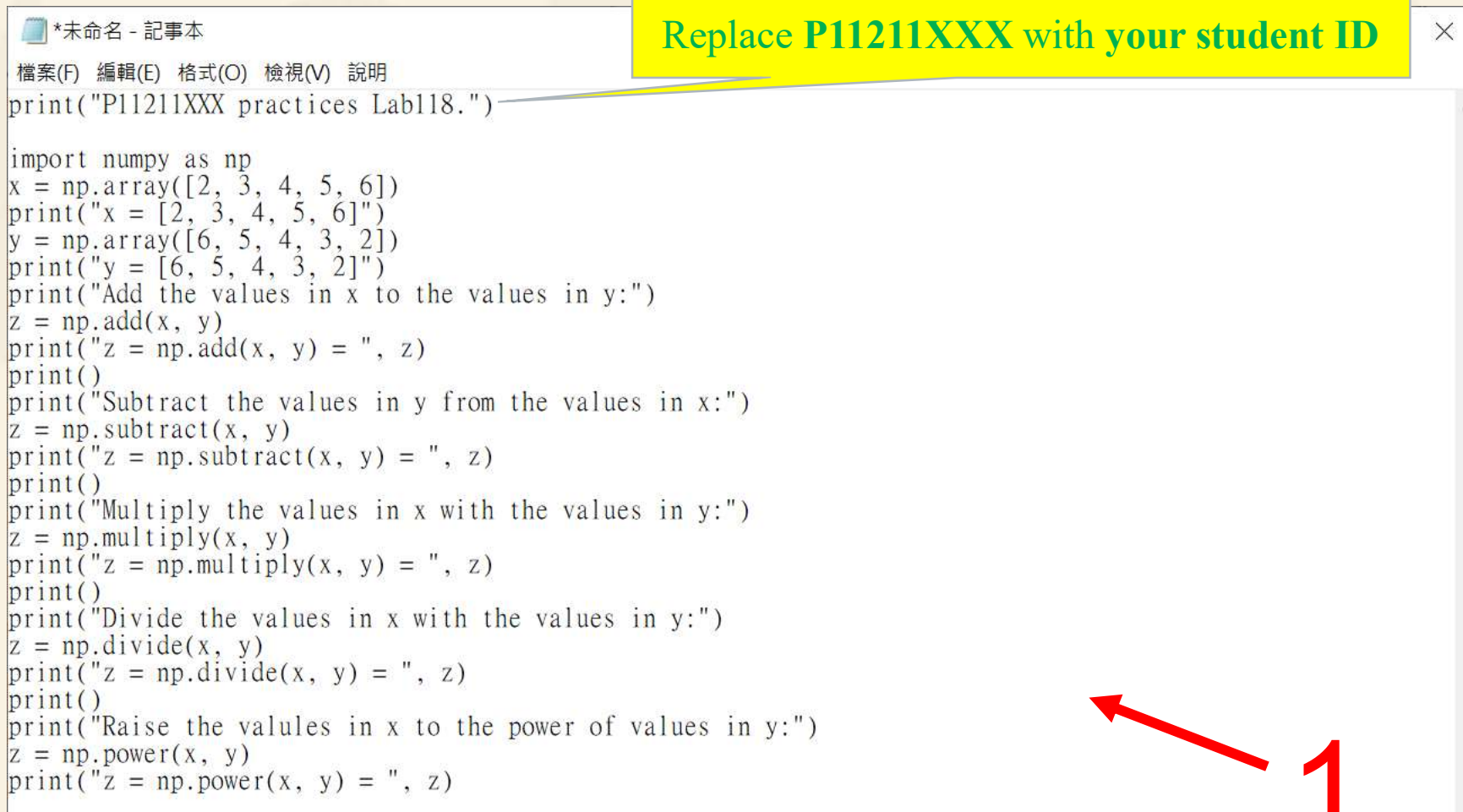
請用善用 Google 翻譯 讀懂 網頁內容

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 Lab118.")

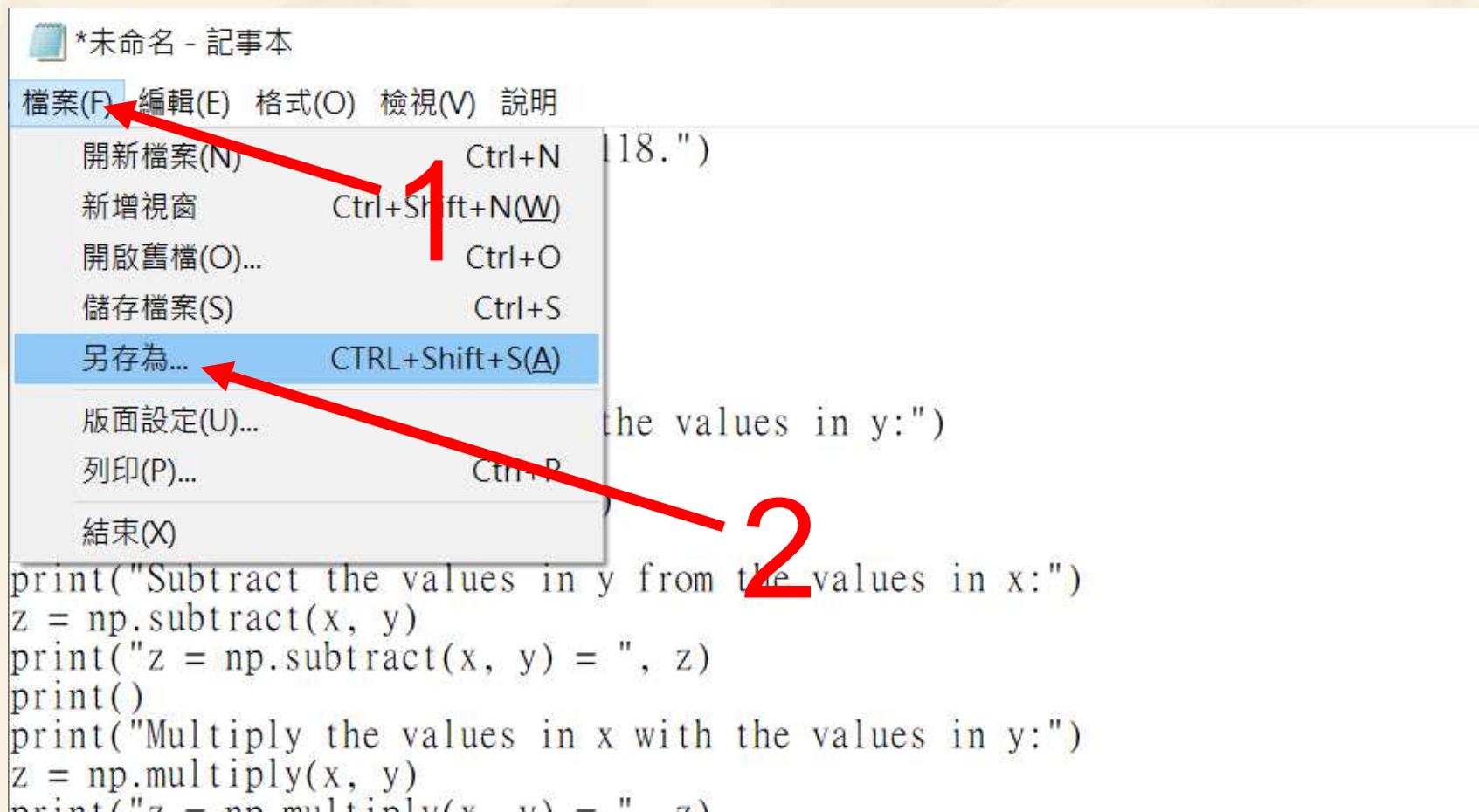
import numpy as np
x = np.array([2, 3, 4, 5, 6])
print("x = [2, 3, 4, 5, 6]")
y = np.array([6, 5, 4, 3, 2])
print("y = [6, 5, 4, 3, 2]")
print("Add the values in x to the values in y:")
z = np.add(x, y)
print("z = np.add(x, y) = ", z)
print()
print("Subtract the values in y from the values in x:")
z = np.subtract(x, y)
print("z = np.subtract(x, y) = ", z)
print()
print("Multiply the values in x with the values in y:")
z = np.multiply(x, y)
print("z = np.multiply(x, y) = ", z)
print()
print("Divide the values in x with the values in y:")
z = np.divide(x, y)
print("z = np.divide(x, y) = ", z)
print()
print("Raise the values in x to the power of values in y:")
z = np.power(x, y)
print("z = np.power(x, y) = ", z)
```

Replace P11211XXX with your student ID

1

1. 用鍵盤輸入程式代碼.

建立程式文件 3/4



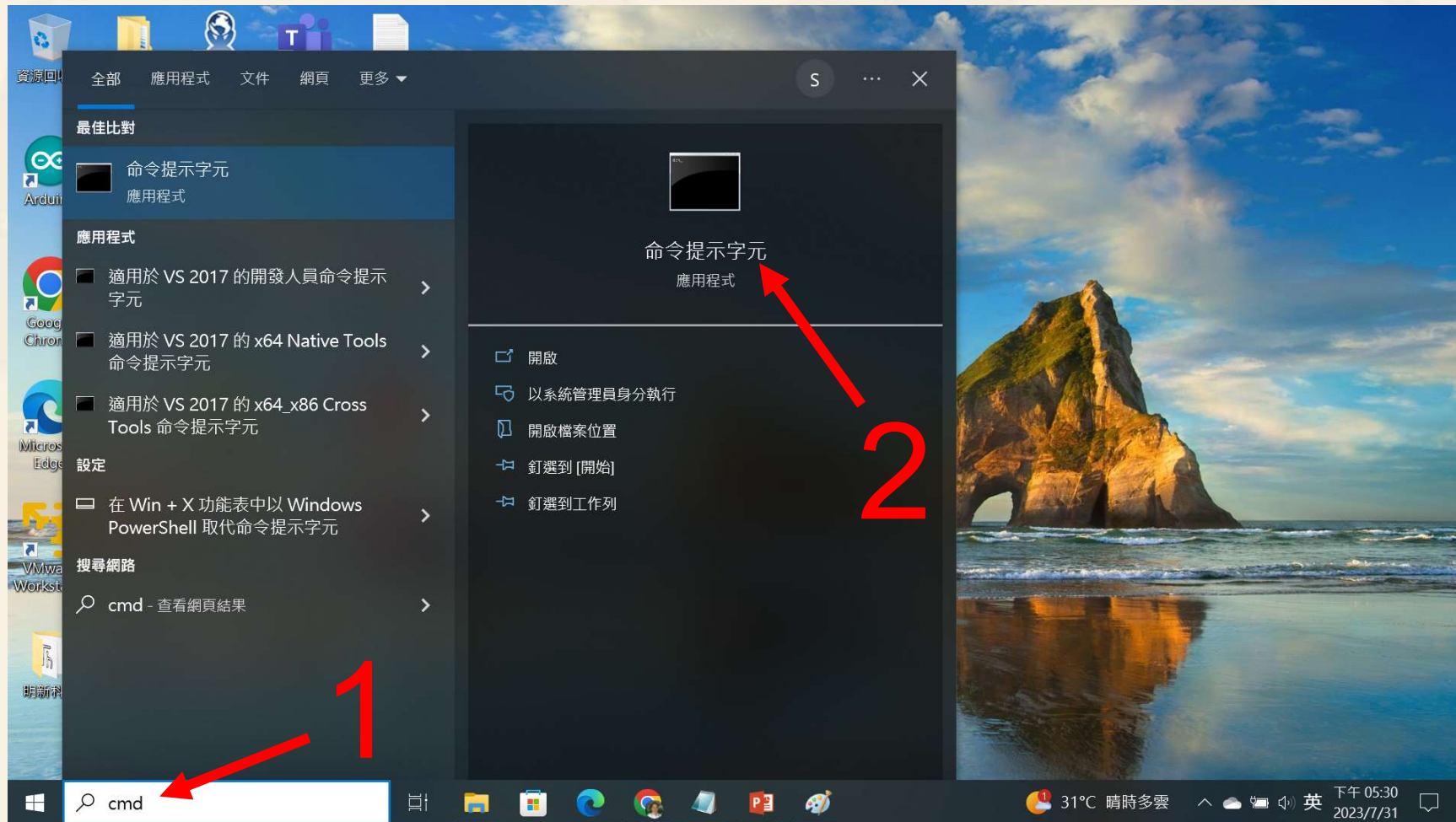
1. 用滑鼠點選檔案. 2. 用滑鼠點選另存為....

建立程式文件 4/4



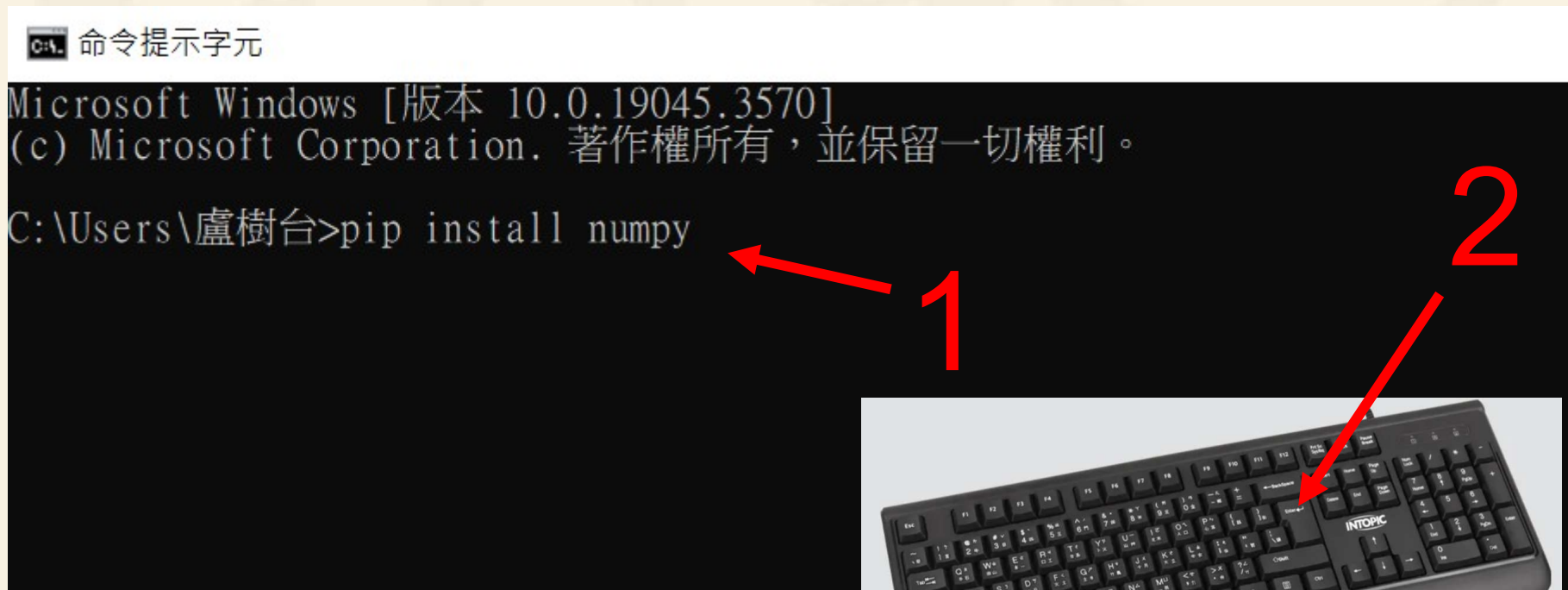
1. 資料夾 = C:\使用者>User>.
2. 檔案名稱 = P11211XXX.py .
3. 存檔類型(T) = 所有檔案.
4. 用滑鼠點選存檔.

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



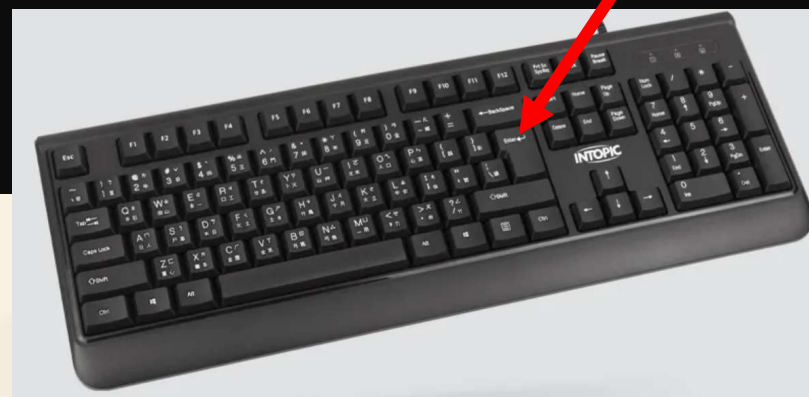
1. 用鍵盤輸入pip install numpy.
2. 按一下Enter.

檔案執行模式 3/3

 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 Lab118

(Lab118的驗收規範)簡單算術

**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)

```

C:\Users\盧樹台>Python P11211XXX.py
P11211XXX practices Lab118.
x = [2, 3, 4, 5, 6]
y = [6, 5, 4, 3, 2]
Add the values in x to the values in y:
z = np.add(x, y) = [8 8 8 8 8]

Subtract the values in y from the values in x:
z = np.subtract(x, y) = [-4 -2 0 2 4]

Multiply the values in x with the values in y:
z = np.multiply(x, y) = [12 15 16 15 12]

Divide the values in x with the values in y:
z = np.divide(x, y) = [0.33333333 0.6

Raise the values in x to the power of values in y:
z = np.power(x, y) = [ 64 243 256 125 36]

C:\Users\盧樹台>

```

```

P11211XXX - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明
print("P11211XXX practices Lab118.")

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z = np.divide(x, y)
print("z = np.divide(x, y) = ", z)
print()
print("Raise the values in x to the power of values in y:")
z = np.power(x, y)
print("z = np.power(x, y) = ", z)

```

Every student must do Lab118 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。

