

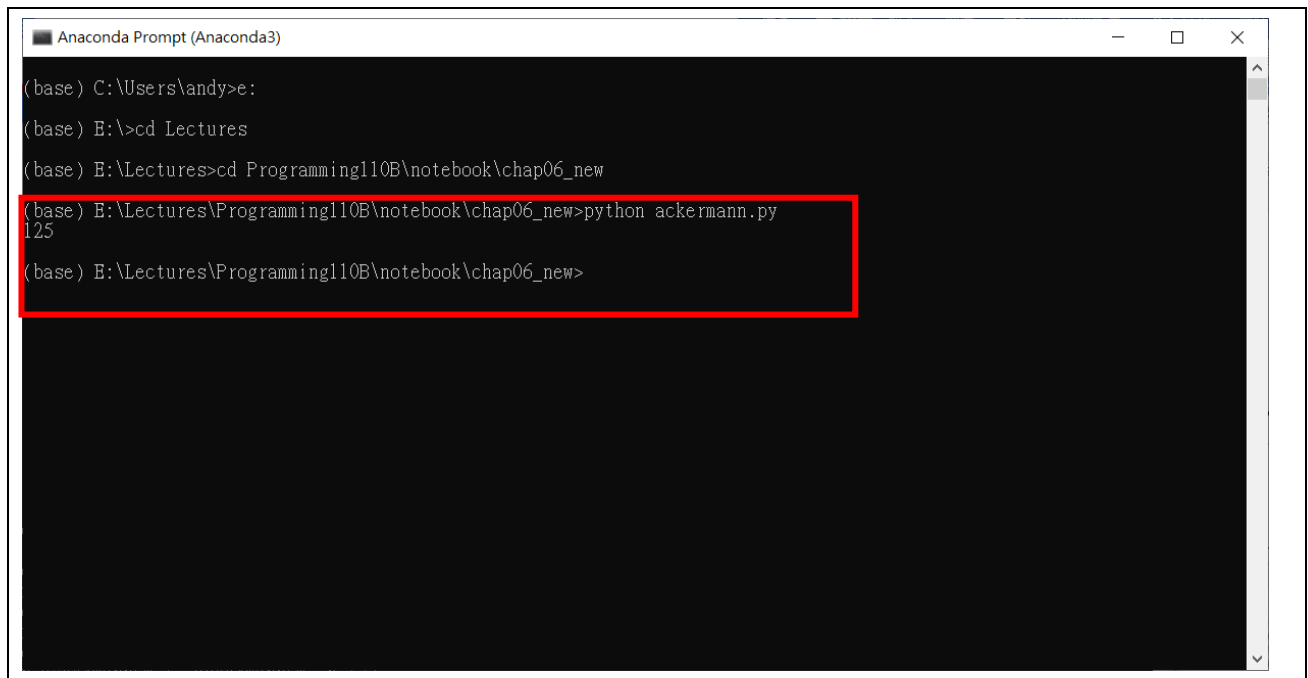
Anaconda Prompt 執行程式方法

以執行 ackermann.py 程式為例：

(Think Python Chapter 6, Exercise 6.2)

一、切換磁碟與資料夾，然後執行程式

例如：



```
Anaconda Prompt (Anaconda3)
(base) C:\Users\andy>e:
(base) E:\>cd Lectures
(base) E:\Lectures>cd Programming110B\notebook\chap06_new
(base) E:\Lectures\Programming110B\notebook\chap06_new>python ackermann.py
125
(base) E:\Lectures\Programming110B\notebook\chap06_new>
```

The screenshot shows a terminal window titled "Anaconda Prompt (Anaconda3)". The prompt is "(base)". The user navigates from the root directory to "E:\", then to "Lectures", then to "Programming110B\notebook\chap06_new". Finally, they execute "python ackermann.py", which outputs "125". The last two lines of the command history are highlighted with a red rectangle.

See http://en.wikipedia.org/wiki/Ackermann_function

```
n, m: non-negative integers
"""
if m == 0:
    return n+1
if n == 0:
    return ackermann(m-1, 1)
return ackermann(m-1, ackermann(m, n-1))

for i in range(4):
    m = int(input('m='))
    n = int(input('n='))
    print(ackermann(m, n))
```

程式需使用者輸入 m 與 n 的值，利用 `for` 迴圈可以進行多次的測試

```
E:\Lectures\Programming110B\notebook\chap06_new\ackermann_new.py - Notepad++
檔案(F) 編輯(E) 搜尋(S) 檢視(V) 編碼(N) 語言(L) 設定(T) 工具(O) 巨集(M) 執行(R) 外掛(P) 視窗(W) ?

ackermann_new.py
3  Think Python, 2nd Edition
4  by Allen Downey
5  http://thinkpython2.com
6
7  Copyright 2015 Allen Downey
8
9  License: http://creativecommons.org/licenses/by/4.0/
10 """
11
12 from __future__ import print_function, division
13
14
15 def ackermann(m, n):
16     """Computes the Ackermann function A(m, n)
17
18     See http://en.wikipedia.org/wiki/Ackermann\_function
19
20     n, m: non-negative integers
21     """
22     if m == 0:
23         return n+1
24     if n == 0:
25         return ackermann(m-1, 1)
26     return ackermann(m-1, ackermann(m, n-1))
27
28
29 for i in range(4):
30     m = int(input('m='))
31     n = int(input('n='))
32     print(ackermann(m, n))
33
Anaconda Prompt (Anaconda3)
(base) E:\Lectures\Programming110B\notebook\chap06_new>python ackermann_new.py
m=1
n=2
4
m=2
n=3
9
m=3
n=4
125
m=4
n=5
Traceback (most recent call last):
  File "ackermann_new.py", line 32, in <module>
    print(ackermann(m, n))
  File "ackermann_new.py", line 26, in ackermann
    return ackermann(m-1, ackermann(m, n-1))
  File "ackermann_new.py", line 26, in ackermann
    return ackermann(m-1, ackermann(m, n-1))
  File "ackermann_new.py", line 26, in ackermann
    return ackermann(m-1, ackermann(m, n-1))
  File "ackermann_new.py", line 26, in ackermann
    return ackermann(m-1, ackermann(m, n-1))
[Previous line repeated 994 more times]
  File "ackermann_new.py", line 25, in ackermann
    return ackermann(m-1, 1)
  File "ackermann_new.py", line 22, in ackermann
    if m == 0:
RecursionError: maximum recursion depth exceeded in comparison
(base) E:\Lectures\Programming110B\notebook\chap06_new>
```

三、利用 redirection (轉向) 輸入資料

利用 Anaconda Prompt 執行程式

1. 切換磁碟、目錄，找到程式和測試資料所在的目錄

2. 輸入以下指令執行程式

```
python ackermann_new.py < testdata.txt
```

- “<” 代表資料流動的方向
- 在執行 `ackermann_new.py` 程式的時候，會將 `testdata.txt` 的內容做為程式的輸入資料來源

