

# EE3031 week3(3/12)

Exercise\_example\_r09941007

Location:(Github, formal ans)

<https://reurl.cc/R6YQj6>

^ Extra exercise will be uploaded to the repo every week.

My\_Example\_code:(upload after class)

<https://reurl.cc/OXYe1A>

❖ Note:

Code will be uploaded after each class,

It's **just** my method, you **don't** need to be exactly the same, just code a project with **similar function**.

Show me your results of each exercises.

Hope you leave with accomplished **7** exercises at least.

# Ntucol\_exercise1



```
Terminal
公司聚餐,飯桌上擺著一道你最愛吃的菜,可是離你挺遠,
就算你伸長了胳膊也夾不到,這時你會怎麼辦呢?
這個問題可以測試你面對喜歡的人反應如何哦!
1.放棄!自己的形象重要
2.請接近那菜的人幫你夾
3.為了肚子,站起來
4.跟靠近那菜的人換座位
請輸入你的決定(1~4整數)
0
Error:The choices are 1 ~ 4 integer
  (Parameter 'choice')
0.5
Error:Input string was not in a correct format.
1
你的選項為:1
結果為:
面子不能當飯吃,單身一輩子吧
Press any key to continue...[ ]
```

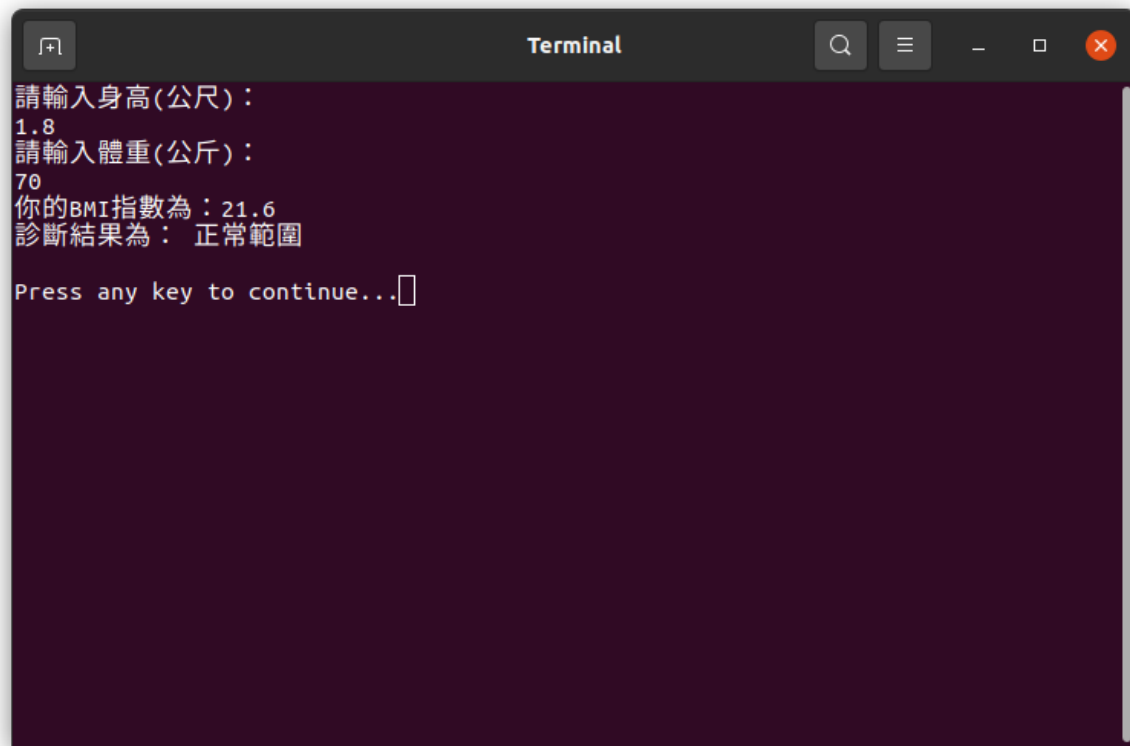
# Ntucol\_exercise2



```
Terminal
請輸入分數(輸入字元來結束):
69
Error:Score is out of range! (70~100)
請輸入分數(輸入字元來結束):
101
Error:Score is out of range! (70~100)
請輸入分數(輸入字元來結束):
99
A+
請輸入分數(輸入字元來結束):
69.99
Error:Score is out of range! (70~100)
請輸入分數(輸入字元來結束):
69.9999
Error:Score is out of range! (70~100)
請輸入分數(輸入字元來結束):
69.999999
B-
請輸入分數(輸入字元來結束):
.....
exit
Press any key to continue...
```

Extension: for `69.999999 == 70`, check: [Floating-point numeric types \(C# reference\)](#)

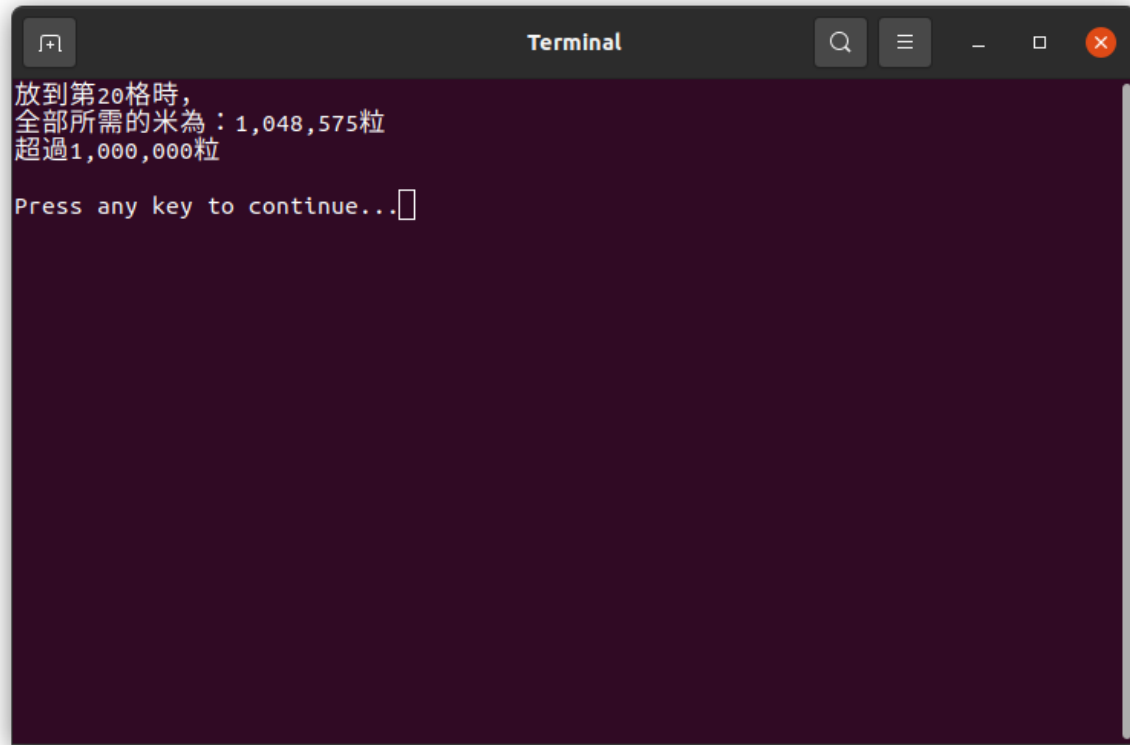
# Ntucol\_exercise3

A screenshot of a macOS Terminal window titled "Terminal". The window has a dark background and a light-colored border. The text inside the terminal is as follows:

```
請輸入身高(公尺):  
1.8  
請輸入體重(公斤):  
70  
你的BMI指數為: 21.6  
診斷結果為: 正常範圍  
Press any key to continue...  
█
```

The cursor is at the end of the last line. The window includes standard macOS window controls (red, yellow, green buttons) and a search icon in the top right corner.

# Ntucol\_exercise4



```
Terminal
放到第20格時，
全部所需的米為：1,048,575粒
超過1,000,000粒

Press any key to continue...□
```

Syntax Hint: For 123,456,789 formatted number, check: **Custom numeric format strings**

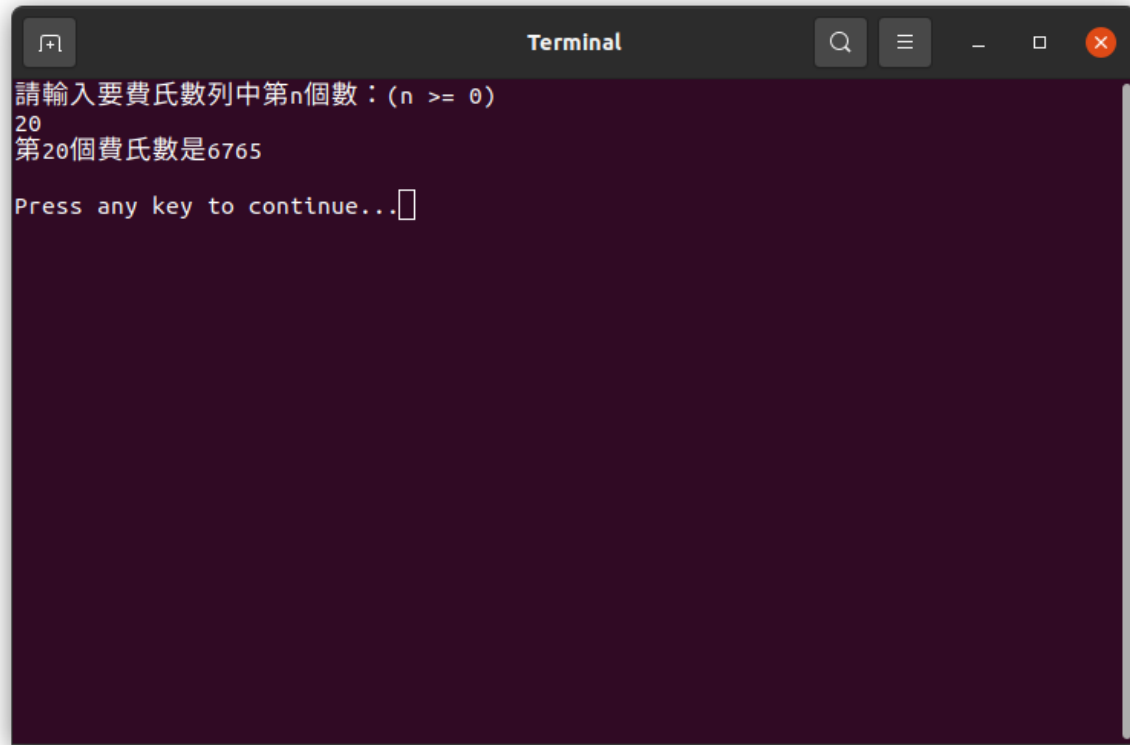
# Ntucol\_exercise5

A terminal window titled "Terminal" with a dark background and light text. It shows a number guessing game in progress. The prompt is "請在0~99間猜一個數字". The user has entered several numbers, and the program responds with "Valid input:integer between 0 ~ 99" for valid inputs and "Too small!" or "Too large!" for invalid ones. The game ends with "BINGO!" and "Number of attempts:7". The prompt "Press any key to continue..." is shown at the bottom.

```
Terminal
請在0~99間猜一個數字
-1
Valid input:integer between 0 ~ 99
100
Valid input:integer between 0 ~ 99
50
Too small!
75
Too small!
87
Too small!
93
Too small!
96
Too small!
98
Too large!
97
BINGO!
Number of attempts:7
Press any key to continue...□
```

Extension: Binary search algorithm

# Ntucol\_exercise6

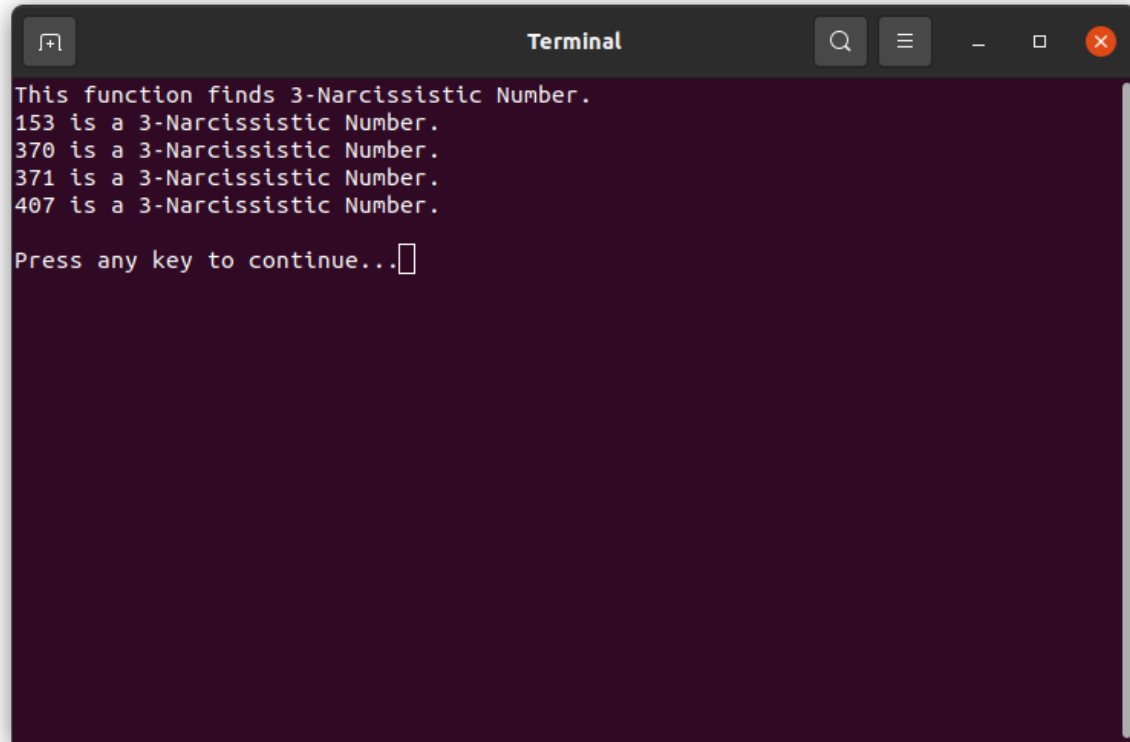


A terminal window titled "Terminal" with a dark background. It shows the execution of a C# program. The prompt "請輸入要費氏數列中第n個數：(n >= 0)" is followed by the input "20". The output is "第20個費氏數是6765". The prompt "Press any key to continue..." is shown at the bottom with a cursor.

```
Terminal
請輸入要費氏數列中第n個數：(n >= 0)
20
第20個費氏數是6765
Press any key to continue...
```

Syntax Hint: Tuple types (C# reference)

## extra\_exercise\_easy

A terminal window titled "Terminal" with a dark purple background and white text. It displays the output of a program that finds 3-Narcissistic numbers. The text shows four numbers: 153, 370, 371, and 407, each followed by the text "is a 3-Narcissistic Number.". At the bottom, it prompts the user to "Press any key to continue..." with a cursor. The terminal window has standard macOS window controls (red, yellow, green buttons) and a search icon in the title bar.

```
Terminal
This function finds 3-Narcissistic Number.
153 is a 3-Narcissistic Number.
370 is a 3-Narcissistic Number.
371 is a 3-Narcissistic Number.
407 is a 3-Narcissistic Number.
Press any key to continue... 
```

Syntax Hint: C#, Math.Pow()



# Extra\_exercise\_medium

```
Terminal
Please enter num1:100
Please enter num2:150
The GCD of 100 and 150 is:50
The LCM of 100 and 150 is:300

Press any key to continue...
```

```
Terminal
Please enter num1:100
Please enter num2:100
The GCD of 100 and 100 is:100
The LCM of 100 and 100 is:100

Press any key to continue...
```

```
Terminal
Please enter num1:100
Please enter num2:99
The GCD of 100 and 99 is:1
The LCM of 100 and 99 is:9900

Press any key to continue...
```

```
Terminal
Please enter num1:100
Please enter num2:-1
Value out of range.

Press any key to continue...
```

Syntax Hint: Tuple types (C# reference)

# Extra\_exercise\_hard

```
Enter N:5  
F(1)=1, ratio=0  
F(2)=1, ratio=1  
F(3)=2, ratio=2  
F(4)=3, ratio=1.5  
F(5)=5, ratio=1.6666666666666667  
按Enter鍵結束
```