

SMB 445

grep NISRA \*

<html>  
</html>

getElementById()

' OR 1=1 --

TP/1.1 200 OK

SYN/ACK # What is Python? ";alert(1)//

--dbms=MyS  
--level=3

> mysql -uroot -p

Speaker: SetMao



# # Why Learn Python?

Enlightened

人生苦短，我用 *Python*



# # Install Python (Windows)

到 Python 官網下載  
Python for Windows

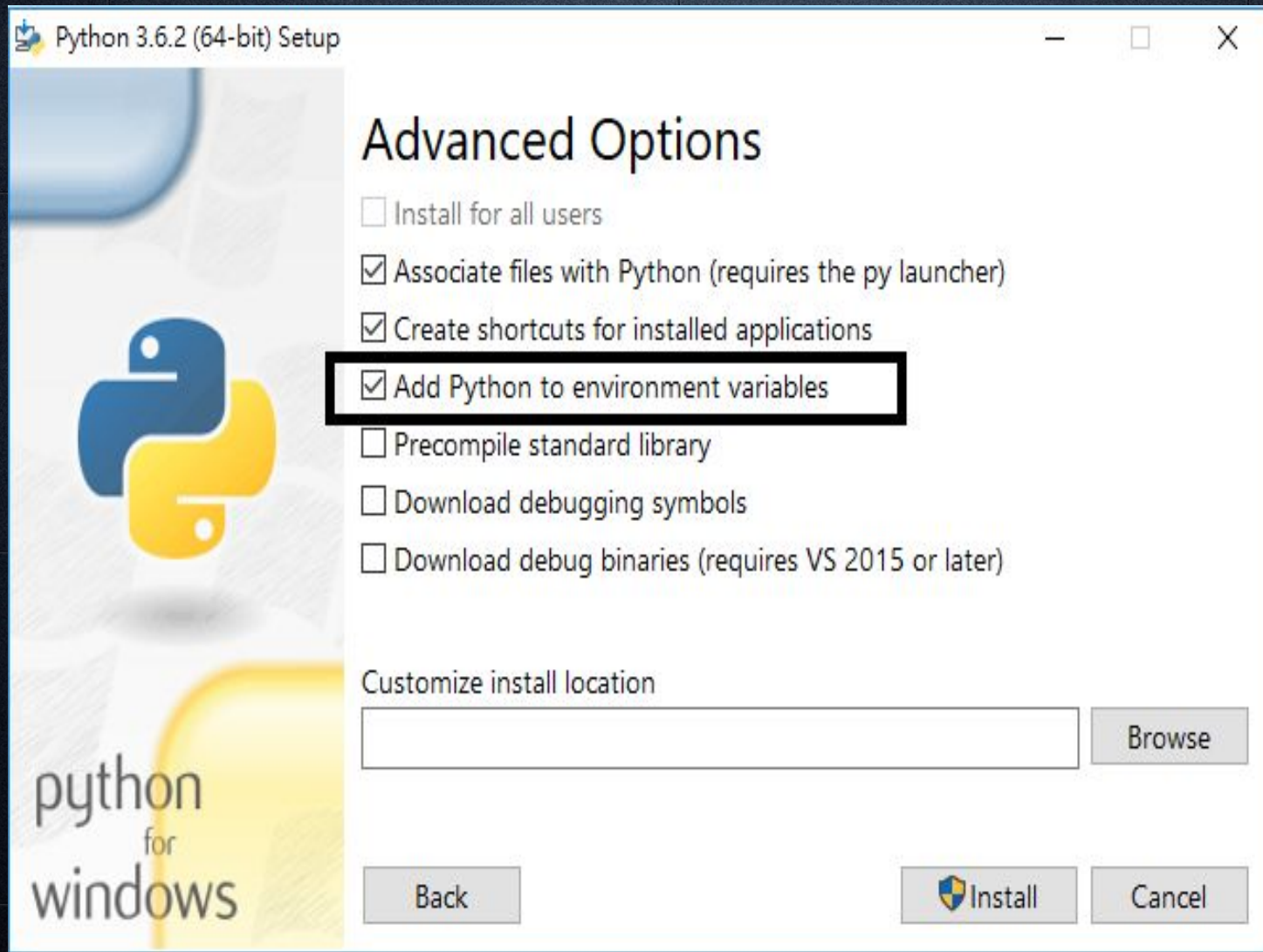


The screenshot shows a web browser window with the address bar displaying "Python Software Foundation [US] | https://www.python.org/downloads/windows/". The page title is "Python Releases for Windows". The content lists various download options for Python 3.6.2 and Python 3.6.2rc2. The option "Download Windows x86-64 executable installer" is highlighted with a black box.

Python Releases for Windows

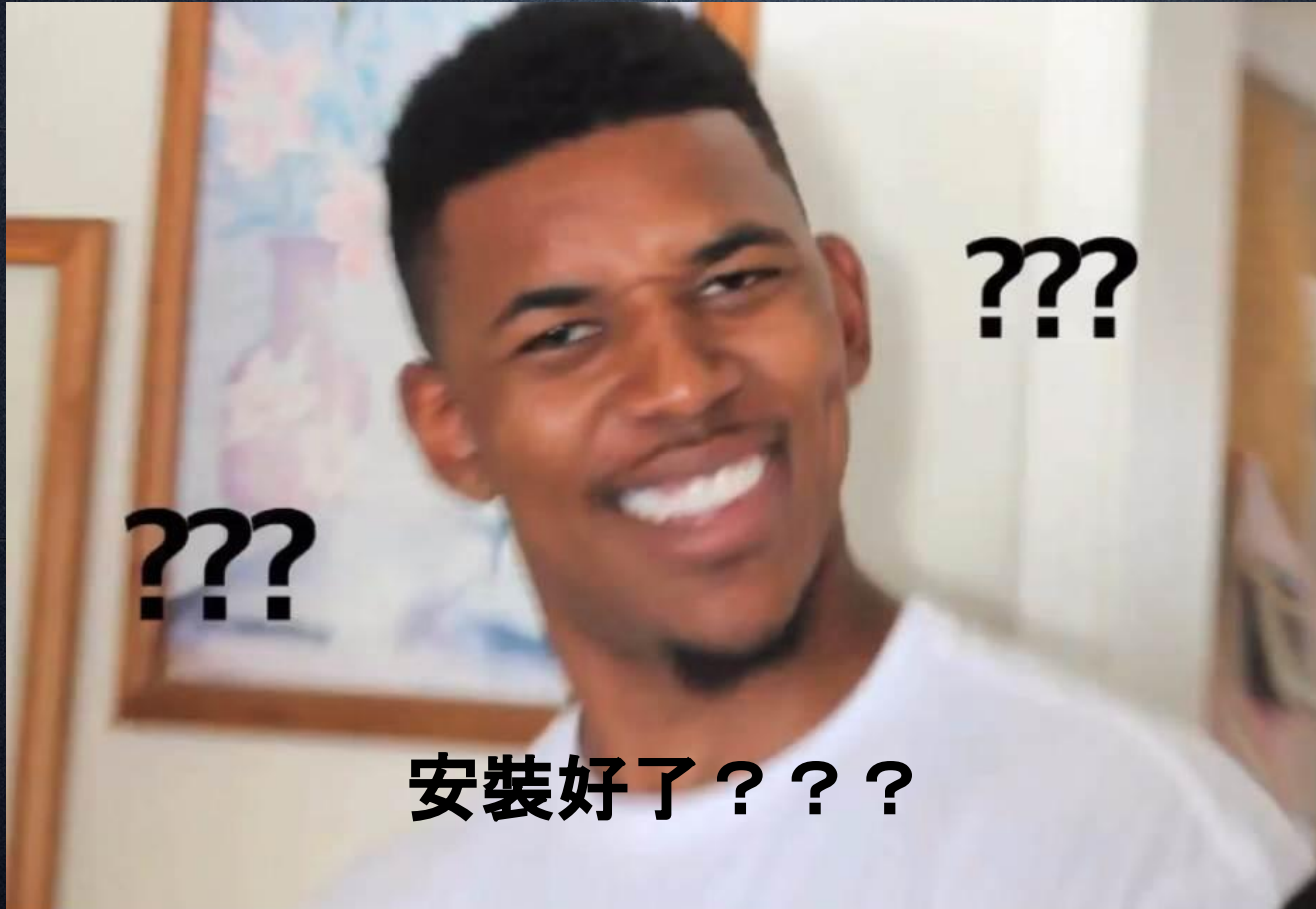
- [Latest Python 3 Release - Python 3.6.2](#)
- [Latest Python 2 Release - Python 2.7.13](#)
- [Python 3.6.2 - 2017-07-17](#)
  - Download [Windows x86 web-based installer](#)
  - Download [Windows x86 executable installer](#)
  - Download [Windows x86 embeddable zip file](#)
  - Download [Windows x86-64 web-based installer](#)
  - Download [Windows x86-64 executable installer](#)
  - Download [Windows x86-64 embeddable zip file](#)
  - Download [Windows help file](#)
- [Python 3.6.2rc2 - 2017-07-07](#)
  - Download [Windows x86 web-based installer](#)
  - Download [Windows x86 executable installer](#)
  - Download [Windows x86 embeddable zip file](#)
  - Download [Windows x86-64 web-based installer](#)

# # Install Python (Windows)





# # Install Python (Windows)



ghtened

# # Install Python (Windows)

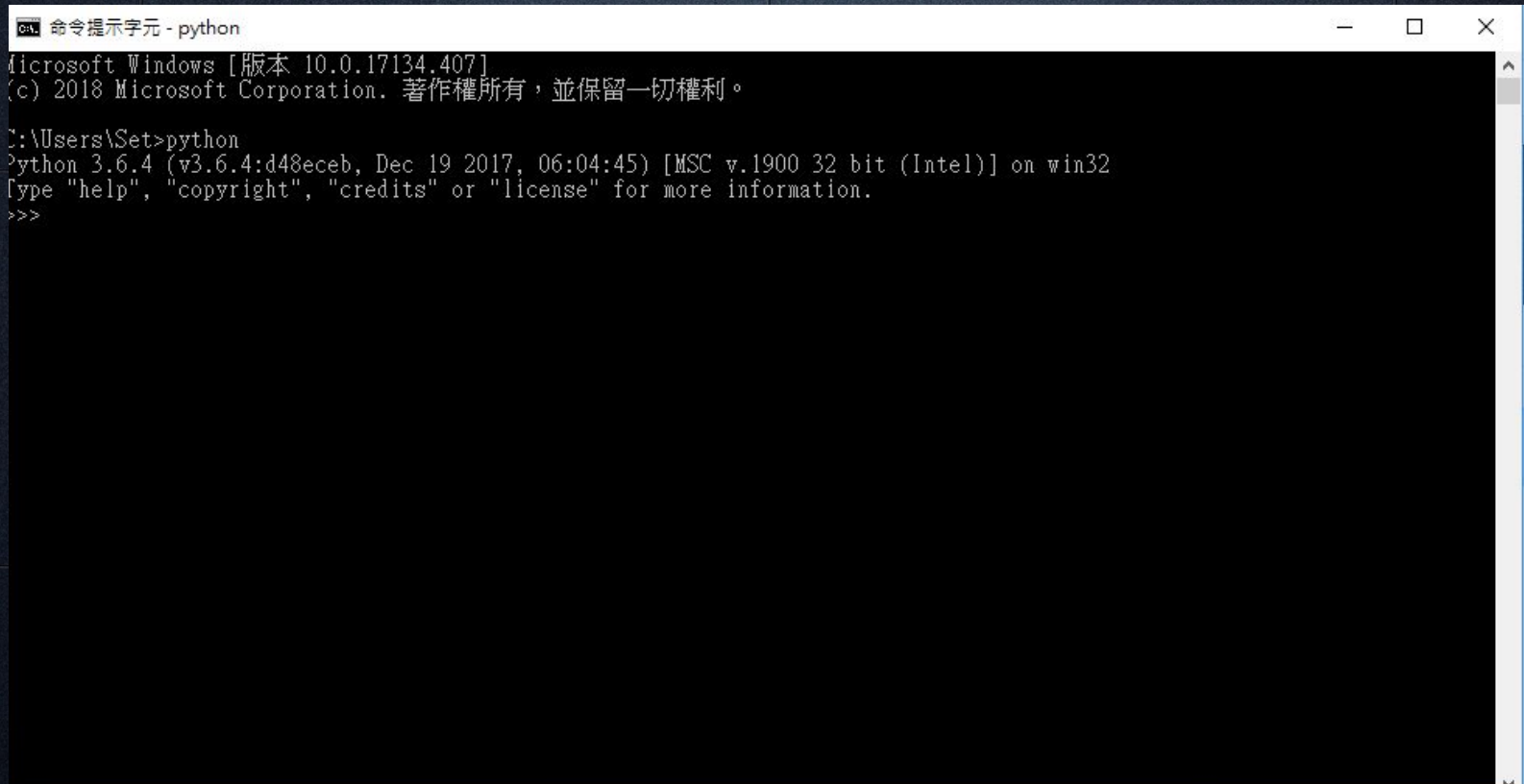
開啟 cmd (命令提示字元)

然後輸入 python





# # Install Python (Windows)



```
命令提示字元 - python
Microsoft Windows [版本 10.0.17134.407]
(c) 2018 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\Set>python
Python 3.6.4 (v3.6.4:d48eceb, Dec 19 2017, 06:04:45) [MSC v.1900 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

如果出現跟上圖類似的畫面就代表你安裝成功了!!

# # Hello World

```
print("Hello World!")
```

Enlightened



# # Review

- Variable
- Operator
- Reserved Word
- Coding Style

Enlightened



# # Variable

在程式中為了方便，我們會將需要的資料貼上標籤方便識別跟使用，比如

```
name = 'Set'
```

```
age = 18
```

```
score = 100
```

而等號左邊的就被稱為「變數」

我們並不在乎裡面裝著什麼，只在乎它代表什麼

Enlightened



# # Review

- Variable
- Operator
- Reserved Word
- Coding Style

Enlightened



# # Operator

- +

- -

- \*

- /

- //

- \*\*

- %

Enlightened



```
> python3
Python 3.7.3 (default, Apr 7 2020, 14:06:47)
[Clang 11.0.3 (clang-1103.0.32.59)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> 1 + 1
2
>>> 2 + 3
5
>>> 2 - 5
-3
>>> 2 * 15
30
>>> 4 / 2
2.0
>>> 5 / 2
2.5
>>> 5 // 2
2
>>> 2 ** 3
8
>>> 5 % 2
1
>>> █
```



# Operator

Enlightened

DIY



# # Review

- Variable
- Operator
- Reserved Word
- Coding Style

Enlightened



# # Reserved Word

```
import keyword  
keyword.kwlist
```

Enlightened



# # Review

- Variable
- Operator
- Reserved Word
- Coding Style

Enlightened



# # Coding Style

```
this_is_a_number = 1
```

PEP8



# # Input / Output

打開慣用的文字編輯器



Enlightened



# # Input / Output

```
name = input("Please enter your name: ")  
print("Hello " + name)
```

Enlightened



# Execute.py

Enlightened

該怎麼執行 .py 的檔案呢？



# # Execute.py

1. 打開小黑窗(命令提示字元)
2. 輸入 python 加一個空白
3. 把 .py 檔拉進小黑窗
4. 按 enter



# # Lab 0

Enlightened

```
print(input * 2)
```



## # Lab 0

```
something = input("Please enter your name: ")  
print(something * 2)
```

Enlightened



# # Review (Data Type)

- int
- float
- string
- boolean

Enlightened



# # Magic

```
this_a_string = "NISRA"
```

```
print(this_a_string + " Enlightened")
```

```
print(this_a_string * 3)
```



## # Lab 0

```
something = input("Please enter your name: ")  
print(something * 2)
```

Enlightened



那如果我想要輸出為數值乘以 2  
該怎麼做呢？



# # Data Type

- `int => int()`
- `float => float()`
- `string => str()`
- `boolean => boolean()`

Enlightened



試試看寫出一個把輸入的數字乘以 2 並輸出的程式吧！



## # Lab 0+

試試看寫出一個把輸入的數字乘以 2 並輸出的程式吧！

- input: 數字(int or float)
- output: 數字 \* 2



## # Lab 0+

```
number = int(input("Please enter a number: "))  
print(number * 2)
```

Enlightened



# # Lab 1

## 設計出一個計算命中率的程式

- input: 怪物閃避值
- output: 命中率
- 角色初始命中值為 800
- 命中率 = (角色命中值 - 怪物閃避值) / 1000 \* 100%



## # Lab 1

```
hit_value = 800
```

```
dodge_value = int(input("輸入怪物的閃避值: "))
```



## # Lab 1

```
hit_value = 800
dodge_value = int(input("輸入怪物的閃避值: "))
hit_rate = (hit_value - dodge_value) / 1000 * 100
print("命中率為:" + str(hit_rate) + "%")
```



Enlightened

有了命中率，那然後呢？



# # Lab 2

Enlightened

來打怪吧(っ・Д・)っ



## # Lab 2

基於 Lab 1, 設計出一個可以輸入怪物的閃避值後, 攻擊怪物一次的程式

- input: 怪物閃避值
- output: 有沒有打到怪 (Hit / Miss)



## # Lab 2

Enlightened

我要怎麼根據命中率來算有沒有打中？



# # Lab 2

Enlightened

Tip: random + if / else



# # Lab 2

Enlightened

Tip: **random** + if / else



# random

```
import random  
random.randint(1, 100)
```

Enlightened



# if / else / elif

Enlightened

Tip: random + if / else



## # if / else / elif

```
number = int(input("Please enter a number: "))  
if number > 0:  
    print("Positive")  
elif number == 0:  
    print("Zero")  
else:  
    print("Negative")
```



# # if / else / elif

## Compare Operator:

- >
- <
- >=
- <=
- !=
- ==

Enlightened



# if / else / elif

Enlightened

=? ==?

= = ?



# if / else / elif

- =: 賦值

Enlightened



# if / else / elif

- =: 賦值
- ==: 相等

Enlightened



# if / else / elif

- = : 賦值
- == : 相等
- == : 表情符號

Enlightened



## # Lab 2

基於 Lab 1, 設計出一個可以輸入怪物的閃避值  
後, 攻擊怪物一次的程式

- input: 怪物閃避值
- output: 有沒有打到怪物 (Hit / Miss)



## # Lab 2

```
import random
```

```
hit_value = 800
```

```
dodge_value = int(input("輸入怪物的閃避值: "))
```

```
hit_rate = (hit_value - dodge_value) / 1000 * 100
```

```
random_value = random.randint(1, 100)
```

```
if random_value > hit_rate:
```

```
    print("Miss")
```

```
elif random_value <= hit_rate:
```

```
    print("Hit")
```



# # Lab 3

Enlightened

可以打怪物了，但是怪物不會死啊

(／`Д')／～＝



# # Lab 3

Enlightened

那來寫個可以打死怪物的程式吧！



## # Lab 3

基於 Lab 2, 寫一個可以打死怪物的程式

input: 怪物閃避值

output: 每一次打怪物的結果 (Hit / Miss)

- 怪物初始血量: 1000
- 角色初始攻擊: 100

Enlightened



Enlightened

## 打死怪物的定義是什麼？



要怎麼重複打怪物直到怪物  
的血量歸零？



# # Lab 3

Enlightened

Tip: Loop(for / while)



# # Loop

for loop

```
for i in range(10):  
    print(i)
```

while loop

```
i = 0  
while i < 10:  
    print(i)  
    i = i + 1
```

Enlightened



# # Loop

使用時機：

- for: 明確知道迴圈次數的時候
- while: 不知道迴圈次數，但是有迴圈終止條件

Enlightened



## # Lab 3

基於 Lab 2, 寫一個可以打死怪物的程式

input: 怪物閃避值

output: 每一次打怪物的結果 (Hit / Miss)

- 怪物初始血量: 1000
- 角色初始攻擊: 100

Enlightened



# # Lab 3

```
import random

hit_value = 800
monster_hp = 1000
attack_value = 100
dodge_value = int(input("輸入怪物的閃避值: "))
hit_rate = (hit_value - dodge_value) / 1000 * 100
while monster_hp >= 0:
    random_value = random.randint(1, 100)
    if random_value > hit_rate:
        print("Miss")
    elif random_value <= hit_rate:
        monster_hp -= attack_value
        print("Hit")
print("Monster is dead.")
```



## # Lab 3

基於 Lab 2, 寫一個打10次怪物並顯示結果的程式

Enlightened

input: 怪物閃避值

output: 每一次打怪物的結果 (Hit / Miss)

- 怪物初始血量: 1000
- 角色初始攻擊: 100



## # Lab 3

```
import random

hit_value = 800
monster_hp = 1000
attack_value = 100
dodge_value = int(input("輸入怪物的閃避值: "))
hit_rate = (hit_value - dodge_value) / 1000 * 100
for i in range(10):
    random_value = random.randint(1, 100)
    if random_value > hit_rate:
        print("Miss")
    elif random_value <= hit_rate:
        monster_hp -= attack_value
        print("Hit")
```



## # Lab 4

只有一隻怪物，會不會有點無聊？

Enlightened

那我們來做一個關卡，裡面有很多隻怪物給我們打吧！

∫ ∫ H'' • \_ • \ ∫ H''



## # Lab 4

生成一個有 10 隻怪物的關卡，每隻怪物都有自己的閃避值

Enlightened

- input: None
- output: 印出 10 隻怪物的閃避值



# # Lab 4

Enlightened

Tip: List



# # Lab 4

1. 陣列
2. 有序
3. 用 index 存取
4. index 從 0 開始
5. 裡面存的資料型態沒有限制

Enlightened



# # Lab 4

```
dodge_list = [000, 100, 200, 300, 400, 500, 600, 700, 800, 900]
```

```
print(dodge_list[0])  
print(dodge_list[1])  
print(dodge_list[2])  
print(dodge_list[3])  
print(dodge_list[4])  
print(dodge_list[5])  
print(dodge_list[6])  
print(dodge_list[7])  
print(dodge_list[8])  
print(dodge_list[9])
```

Enlightened



# # Lab 4

Enlightened

Tip: List + for



## # Lab 4

```
dodge_list = [000, 100, 200, 300, 400, 500, 600, 700, 800, 900]
```

```
for value in dodge_list:  
    print(value)
```

Enlightened



## # Lab 4+

生成一個有 10 隻怪物的關卡，每隻怪物都有自己的閃避值

Enlightened

- input: 每一隻怪物的閃避值
- output: 印出 10 隻怪物的閃避值



要怎麼對 List 中的東西做  
新增 / 刪除呢？



# # Lab 4+

Enlightened

append()

remove()

pop()



## # Lab 4+

```
dodge_list = []  
for _ in range(10):  
    dodge_value = int(input("請輸入怪物的閃避值: "))  
    dodge_list.append(dodge_value)  
  
for dodge_value in dodge_list:  
    print(dodge_value)
```



# # Lab 5

Enlightened

有關卡了，我們來闖關吧(\*' v`\*)



## # Lab 5

剛剛發現了一個迷宮，裡面有 10 隻怪物，每隻怪物都有自己的閃避值，請召喚勇者來闖關

- input: 每一隻怪物的閃避值
- output: 勇者打每一關的狀況



SMB 445

grep NISRA \*

<html>  
</html>

getElementById()

' OR 1=1 --

TP/1.1 200 OK

SYN/ACK

# End

";alert(1)//

> mysql -uroot -p

--dbms=MyS  
--level=3