HW1_1

a. 題目

台積電明天要公布第四季營收,老闆說公布的營收如果較上季成長超過一成,隔天就買進;如果比上季差,隔天就賣出;其他狀況皆不買賣 (上季營收: 84.9 億)

輸入: 台積電公布的營收數字(revenue) (億)

輸出: 買進 or 賣出 or 不買賣

b. 程式架構

```
Input float(revenue)
If revenue > 84.9*1.1
   output 買進
elif revenue >= 84.9
   output 不買賣
else
   output 賣出
```

c. 討論

因原輸入已有小數點出現，故 input 時需儲存為浮點數，程式才能判斷。

d. 執行畫面

```
In [1]: runfile('C:/Users/Kevin/Desktop/107-2/Introduction of Programming
(py)/HW1_1.py', wdir='C:/Users/Kevin/Desktop/107-2/Introduction of
Programming (py)')

Please enter TSMC's fourth quarter revenue( 100 million ): 80
賣出

In [2]: runfile('C:/Users/Kevin/Desktop/107-2/Introduction of Programming
(py)/HW1_1.py', wdir='C:/Users/Kevin/Desktop/107-2/Introduction of
Programming (py)')

Please enter TSMC's fourth quarter revenue( 100 million ): 85
不買賣

In [3]: runfile('C:/Users/Kevin/Desktop/107-2/Introduction of Programming
(py)/HW1_1.py', wdir='C:/Users/Kevin/Desktop/107-2/Introduction of
Programming (py)')

Please enter TSMC's fourth quarter revenue( 100 million ): 94
買進

In [4]:
```

e. 程式碼

```
revenue = float(input( "Please enter TSMC's fourth quarter revenue( 100
million ): " ))

if revenue > 84.9 * 1.1 :
      print("買進")
elif revenue >= 84.9 :
      print("不買賣")
else:
     print("賣出")
```

HW1_2

a. 題目

A 銀行交易員在開盤時打來說:0050 幫我買在今天均價 N 張,最簡單的方式就是在未來的 270 分鐘交易時間裡,每 5 分鐘買相同張數 (共交易 54 次,每次張數 N/54,無條件捨去取到整數),並在最後一次買齊全部部位。請印出每次購買後,當前已買進的部位總數(張數),直到買齊 N 張。

b. 程式架構

```
Input int(stocks)
Position = 0
Stocks_to_buy = stocks / 54
for 1 to 54
   position += stocks_to_buy
   print(position)
print(stocks)
```

c. 討論

因每個時段所需購買張數固定，故可直接於 Loop 外面先計算每個時段所需購買張數，再以 position 這個變數去記錄總張數，且於 loop 裡面 print 出每個時段所共持有張數，最後因需要將部位補齊，且這個數值為已知，故在 loop 外可直接 print 出原須購買之固票張數。

d. 執行畫面

```
Please enter the number of stocks you wish to buy: 60
Position = 1
Position = 2
Position = 3
Position = 4
Position = 5
Position = 6
Position = 7
Position = 8
Position = 9
Position = 10
Position = 11
Position = 12
Position = 13
Position = 14
Position = 15
Position = 16
Position = 17
Position = 18
Position = 19
Position = 20
Position = 21
Position = 22
Position = 23
Position = 24
Position = 25
Position = 26
Position = 27
Position = 28
Position = 30
Position = 31
Position = 32
Position = 33
Position = 34
Position = 35
Position = 36
Position = 37
Position = 38
Position = 39
Position = 40
Position = 41
Position = 42
Position = 43
Position = 44
Position = 45
Position = 46
Position = 47
Position = 48
Position = 49
Position = 50
Position = 51
Position = 52
Position = 53
Position = 60
```

e. 程式碼

```
stocks = int( input( "Please enter the number of stocks you wish to buy: " ) )
position = 0
stocks_to_buy = stocks / 54

for i in range( 1, 54 ):
        position += int(stocks_to_buy)
        print( "Position = %d" % position )

print( "Position = %d" % stocks )
```

HW1_3

a. 題目

輸入:一個五位數數字

測試這個數字有沒有迴文的情況,例如:12321, 32123, 94549 都是迴文的例子

b. 程式架構

Input int(num)

If int(num / 10000) == num % 10 and (int(num / 1000)) % 10 == int((num % 100) / 10)

Print True

Else

Print False

c. 討論

這個程式最簡單直覺的方法應該是直接以 array 來看是否回文，但利用除法以及取餘數比較有趣，所以我就用數學方法來做了。

比較需要注意的是使用除法的時候，因為我們要捨去掉小數，需要將數字轉換型別成 integer，才能使用==來判斷是否相等。

而以回文來說，第三位數字是甚麼都不重要，所以沒針對他來做任何判斷。

d. 執行畫面

```
In [3]: runfile('C:/Users/Kevin/
Kevin/Desktop/107-2/Introduction

Enter a 5-digit number: 12321
True

In [4]: runfile('C:/Users/Kevin/
Kevin/Desktop/107-2/Introduction

Enter a 5-digit number: 11111
True

In [5]: runfile('C:/Users/Kevin/
Kevin/Desktop/107-2/Introduction

Enter a 5-digit number: 54555
False

In [6]: runfile('C:/Users/Kevin/
Kevin/Desktop/107-2/Introduction

Enter a 5-digit number: 78478
False

In [7]: runfile('C:/Users/Kevin/
Kevin/Desktop/107-2/Introduction

Enter a 5-digit number: 78487
True
```

e. 程式碼

```
num = int(input( "Enter a 5-digit number: " ))

if int(num / 10000) == num % 10 and (int(num / 1000)) % 10 == int((num % 100)
/ 10) :
      print( "True" )
else:
     print( "False" )
```