



# 110-1基礎程式設計(8)

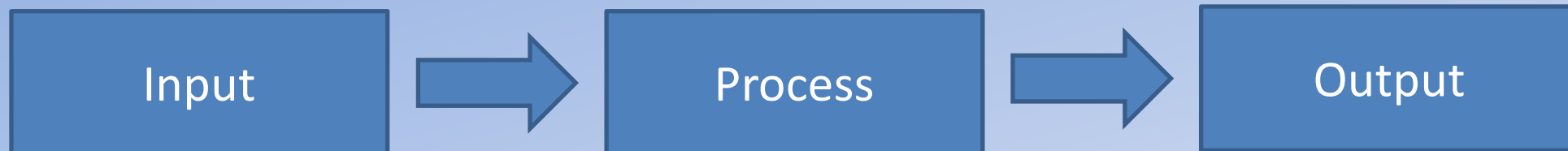
亞大資工系

# 課程大綱

- Week9-檔案處理
  - Topic 1(主題1)-寫入檔案: open() 和print() function
  - Topic 2(主題2)-讀出檔案: open() and for line in fin
  - Topic 3(主題3)-讀寫檔案: f.read() and f.write()
  - Topic 4(主題4)-用with
  - Topic 5(主題5)-資料排序
  - Topic 6(主題6)-複習變數型別
  - Topic 7(主題7)-十進制 (Decimal) 浮點數運算
  - Topic 8(主題8)-複習格式化輸出



# IPO Model (W9)



從檔案輸入資料  
I/O函數:open()  
I/O函數:read()

使用for 迴圈讀入檔案內容  
with/as的使用  
資料排序, sorted()函數  
內建函數max()/min()函數

I/O函數:close()  
I/O函數:write()



# Topic 1-寫入檔案open() 和print()

- Step 1: 將一個List ( 串列 ) 資料寫入檔案
- Step 2: 開啟一個檔案
- Step 3: 使用print()寫入檔案

```
fout = open('score.txt', 'w')  
for score in scores:  
    print(score, file=fout)  
fout.close()
```



# Topic 2-讀出檔案: for line in fin

- Step 4: 從score.txt輸入資料到程式，印出來
- Step 5: 從score.txt輸入資料，算人數

```
count=0
fin=open('score.txt')
for line in fin:
    count +=1
fin.close()
print(f"The number is {count}")
```



# Topic 3 讀寫檔案: f.read() and f.write()

- Methods of File Objects:
  - f.read(size)
  - f.readline()
  - f.write(string)
  - f.seek(5)
  - f.tell()
  - f.close()



# Topic 4-用with

```
count = 0
```

```
total = 0
```

```
with open('score.txt') as fin:
```

```
    for line in fin:
```

```
        count += 1
```

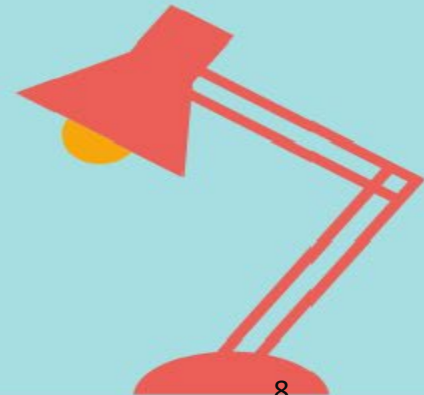
```
        total += int(line)
```

```
print(f"Average score= {total/count:.2f}")
```



# Topic 5-資料排序

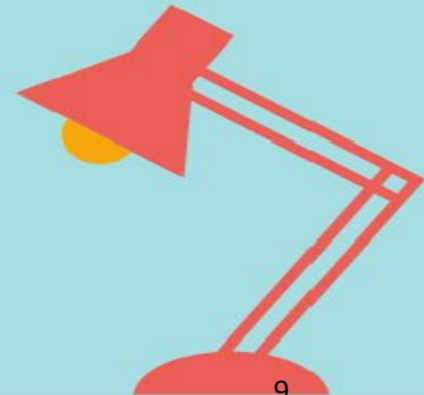
- 用obj.sort()排序
- scores.sort(reverse = False)
- scores.sort(reverse = True)
  
- 用sorted()函數排序
- sorted(scores,reverse = False)
- sorted(scores,reverse = True)





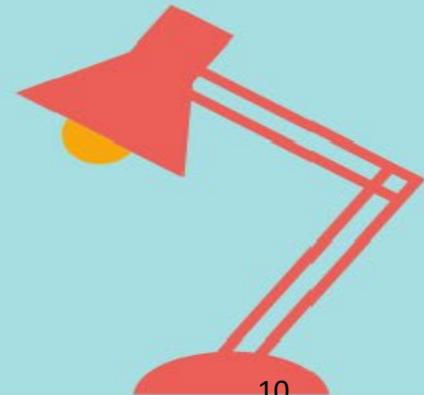
# Topic 6 複習變數型態

- 數值型態 : int, float, bool
- 字串型態 : str, chr
- 字元
- 容器型態 : list, tuple, set, dict



# Topic 7(主題7)- 二進制的浮點數運算和 十進制 (Decimal) 浮點數運算

```
a = round(Decimal('0.70') * Decimal('1.05'), 2)
b = round(.70 * 1.05, 2)
print(f"{a}")
print(f"{b}")
```



# Topic 8-複習格式化輸出

說明：

**%-formatting** 格式化列印

```
print('Art: %5d, Price per Unit: %8.2f' % (435, 59.058))
```

**str-format ( Python 2.6+ )** 格式化列印

```
print("Art: {0:5d}, Price per Unit: {1:8.2f}".format(435, 59.058))
```

**f-string ( Python 3.6+ )** 格式化列印

```
A = 435; B = 59.058
```

```
print(f"Art:{A:5d}, Price per Unit: {B:8.2f}")
```



Thanks!

Q&A

