Q：下列描述何者正確？

a) 中文Window 作業系統中，open()開啟檔案預設編碼格式是UTF-8

b) readlines() 讀取檔案時一次讀一行，並使用字典dict儲存

c) write(3) 會將字串'3'寫入檔案

d) 使用 with open(…) 開啟的檔案，離開區段時會自動關閉

Q：哪一個檔案開啟模式會將內容附加在原內容之後？

a) open(..., mode='r')

b) open(..., mode='w')

c) open(..., mode='a')

d) open(..., mode='r+')

Q：檔案未指定開啟模式mode時預設模式為何？

a) 'r'

b) 'w'

c) 'a'

d) 'b'

5 分鐘

練習：檔案內容英文單字出現次數

- 修改英文單字出現次數程式
  - 輸入讀取檔案名稱
  - 使用例外處理防止檔案不存在錯誤
  - 讀入檔案資料，計算各單字出現次數
  - 忽略大小寫差異

WordCount2.py - D:\Python\Solutions\Ch8\WordCount2.py (3.8.1)

File Edit Format Run Options Window Help

```
with open('song.txt') as f:
    song = f.read()                 # 讀取檔案中歌詞

dict = {}
print("原始歌詞")
print(song)

songLower = song.lower()            # 歌曲改為小寫

for ch in songLower:                # 去掉標點符號
    if ch in ".,?":
        songLower = songLower.replace(ch,'')

songList = songLower.split()        # 將歌曲字串轉成串列

for wd in songList:                 # 將歌曲串列處理成字典
    if wd in dict:                  # 檢查此字是否已在字典內
        dict[wd] += 1               # 累計出現次數
    else:
        dict[wd] = 1                # 第一次出現的字建立此鍵與值

print("單字及出現次數")
print(dict)                         # 列印字典
```

Ln: 24 Col: 0

song.txt - 記事本

檔案(F) 編輯(E) 格式(O) 檢視(V) 說明

```
Are you sleeping, are you sleeping, Brother John, Brother John?
Morning bells are ringing, morning bells are ringing.
Ding ding dong, Ding ding dong.
```

第 3 列，第 32 行 140% Windows (CRLF) UTF-8

Python 3.8.1 Shell

File Edit Shell Debug Options Window Help

```
>>>
=== RESTART: D:\Python\Solutions\Ch8\WordCount2.py ==
原始歌詞
Are you sleeping, are you sleeping, Brother John, Brother John?
Morning bells are ringing, morning bells are ringing.
Ding ding dong, Ding ding dong.
單字及出現次數
{'are': 4, 'you': 2, 'sleeping': 2, 'brother': 2, 'john': 2, 'morn
ing': 2, 'bells': 2, 'ringing': 2, 'ding': 4, 'dong': 2}
>>>
```

Ln: 9 Col: 4

Q：使用記事本開啟CSV檔案，欄位分隔字元為何？

a) =

b) @

c) ,

d) ^

Q：下列哪個指令可以將串列資料輸出至CSV檔案？

a) writer( )

b) writerow( )

c) output( )

d) print( )

5 分鐘

練習：Covid-19 全球疫情

- 至政府資料開放平台下載Covid-19 全球疫情資訊csv檔案
  - https://data.gov.tw/dataset/120449
  - 顯示前10筆資料

檢視資料

資料資源欄位	country_ch、country_en、cases、deaths
檔案格式	CSV
編碼格式	UTF-8
資料量	0
資料下載網址	https://od.cdc.gov.tw/eic/covid19/covid19_global_cases_and_deaths.csv
資料資源描述	country_ch (國家地區中文名), country_en (國家地區英文名), cases (累積病例數), deaths (累積死亡數)

covid19.py - D:\Python\Solutions\Ch8\covid19.py (3.8.1)

File Edit Format Run Options Window Help

```
import csv

file = open('covid19_global_cases_and_deaths.csv', 'r', encoding='utf-8')

csvCursor = csv.DictReader(file)
i = 0
print('%15s%12s%10s' %('country','cases','deaths'))
for row in csvCursor:
    print('%15s%12s%10s'
          %(row['country_en'],
            row['cases'],
            row['deaths']))
    i += 1
    if(i>10):
        break

file.close()
```

Ln: 18 Col: 0

```
    ----+----1----+----2----+----3----+----4----+--
  1 country_ch,country_en,cases,deaths
  2 美國,United States,"33,672,509","614,243"
  3 印度,India,"30,082,778","391,981"
  4 巴西,Brazil,"18,243,483","509,141"
  5 法國,France,"5,764,329","110,935"
  6 土耳其,Turkey,"5,393,248","49,417"
  7 俄羅斯,Russia,"5,388,695","131,463"
  8 英國,United Kingdom,"4,684,572","128,048"
  9 阿根廷,Argentina,"4,350,564","91,438"
 10 義大利,Italy,"4,255,700","127,362"
 11 哥倫比亞,Colombia,"4,060,013","102,636"
 12 西班牙,Spain,"3,777,539","80,766"
```

Python 3.8.1 Shell

File Edit Shell Debug Options Window Help

```
>>>
= RESTART: D:\Python\Solutions\Ch8\covid19.py
        country       cases     deaths
  United States  33,672,509    614,243
          India  30,082,778    391,981
         Brazil  18,243,483    509,141
         France   5,764,329    110,935
         Turkey   5,393,248     49,417
         Russia   5,388,695    131,463
 United Kingdom   4,684,572    128,048
      Argentina   4,350,564     91,438
          Italy   4,255,700    127,362
       Colombia   4,060,013    102,636
          Spain   3,777,539     80,766
>>>
```

Ln: 15 Col: 4