

# TQC Python 考題重點 by 楊恭佑老師

## TQC+ 程式語言Python 第1類：基本程式設計

TQC+ 程式語言Python 108 座標距離計算

```
x1 = eval(input())
y1 = eval(input())
x2 = eval(input())
y2 = eval(input())
print("( %s , %s )" % (x1, y1))
print("( %s , %s )" % (x2, y2))
dist = ((x1-x2)**2+(y1-y2)**2)**0.5
print("Distance =%.4f" % dist)
```

## TQC+ 程式語言Python 第2類：選擇敘述

TQC+ 程式語言Python 208 十進位換算

```
"""
0  1  2  3  4  5  6  7  8  9
0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
"""

n = eval(input())

if n <= 9:
    print(n)
elif n == 10:
    print("A")
elif n == 11:
    print("B")
elif n == 12:
    print("C")
elif n == 13:
    print("D")
elif n == 14:
    print("E")
elif n == 15:
    print("F")
```

## TQC+ 程式語言Python 第3類：迴圈敘述

TQC+ 程式語言Python 304 迴圈倍數總和

```
a = eval(input())
sum = 0
for i in range(1, a+1):
    if i % 5 == 0:
        sum += i
print(sum)
```

TQC+ 程式語言Python 310 迴圈公式計算

```
a = eval(input())
sum = 0
for i in range(2, a+1):
    sum += 1/((i-1)**0.5+i**0.5)
print("%.4f" % sum)
```

## TQC+ 程式語言Python 第4類：進階控制流程

TQC+ 程式語言Python 408 奇偶數個數計算

```
Even = Odd = 0
for i in range(10):
    if eval(input()) % 2 == 0:
        Even += 1
print("Even numbers: %d" % Even)
print("Odd numbers: %d" % (10-Even))
```

## TQC+ 程式語言Python 第5類：函式(Function)

TQC+ 程式語言Python 504 次方計算

```
def compute(a, b): return a**b

a = eval(input())
b = eval(input())
c = compute(a, b)
print(c)
```

TQC+ 程式語言Python 506 一元二次方程式

```
def compute(a, b, c):
```

```

condition = b**2-4*a*c
if condition >= 0:
    ans1 = (-b+condition**0.5)/(2*a)
    ans2 = (-b-condition**0.5)/(2*a)
    return ans1, ans2
else:
    return 0

a = eval(input())
b = eval(input())
c = eval(input())

if compute(a, b, c) == 0:
    print("Your equation has no root.")
else:
    ans1, ans2 = compute(a, b, c)
    if ans1 == ans2:
        print(ans1)
    else:
        print("%s, %s" % (ans1, ans2))

```

## TQC+ 程式語言Python 第6類：串列(List)的運作(一維、二維以及多維)

TQC+ 程式語言Python 602 撲克牌總和

```

sum = 0
for i in range(5):
    s = input()
    if s == "J":
        sum += 11
    elif s == "Q":
        sum += 12
    elif s == "K":
        sum += 13
    elif s == "A":
        sum += 1
    else:
        sum += int(s)

print(sum)

```

TQC+ 程式語言Python 610 平均溫度

```

temp = []
for i in range(4):
    print("Week %d:" % (i+1))
    for j in range(3):
        temp.append(eval(input("Day %d:" % (j+1))))
print("Average: %.2f" % (sum(temp)/12))
print("Highest:", max(temp))
print("Lowest:", min(temp))

```

## TQC+ 程式語言Python 第7類：數組 ( Tuple )、集合 ( Set ) 以及 詞典 ( Dictionary )

TQC+ 程式語言Python 704 集合條件判斷

```

Set = set()
while (True):
    n = eval(input())
    if n == -9999:
        break
    Set.add(n)

print("Length:", len(Set))
print("Max:", max(Set))
print("Min:", min(Set))
print("Sum:", sum(Set))

```

TQC+ 程式語言Python 710 詞典搜尋

```

d = {}
while (True):
    k = input("Key: ")
    if k == "end":
        break
    v = input("Value: ")
    d[k] = v

k = input("Search key: ")
print(k in d)

```

## TQC+ 程式語言Python 第8類：字串(String)的運作

TQC+ 程式語言Python 804 大寫轉換

```
s = input()
print(s.upper())
print(s.title())
```

TQC+ 程式語言Python 810 最大值與最小值之差

```
k = eval(input())
for i in range(k):
    s = input()
    L = [eval(i) for i in s.split()]
    print("%.2f" % (max(L)-min(L)))
```

## TQC+ 程式語言Python 第9類：檔案與異常處理

TQC+ 程式語言Python 902 資料加總

```
# 變數=開啟(檔案位置,讀取r 寫入w,編碼)
f = open("read.txt", "r", encoding="UTF-8")
data = f.read()
L = [int(i) for i in data.split()]
print(sum(L))
```

TQC+ 程式語言Python 906 字串資料取代

```
fName = input()
s1 = input()
s2 = input()

with open(fName, "r+", encoding="UTF-8") as file:
    data = file.read()
    print("=== Before the replacement")
    print(data)
    print("=== After the replacement")
    data = data.replace(s1, s2)
    print(data)
    file.seek(0)
    file.write(data)
```