

Quiz #3

1. Calculate the following by using 'while' loop.

$$\sum_{\substack{i \geq 1, \\ i^4 < 1000}}^{10} i^4$$

2. Using the two list objects, $x=[1, 2, 3, 4]$ & $y = [5, 6, 7, 8]$, answer the following.
 - (1) Write a Python program to create a list z which consists of the Cartesian product of x and y : $[[1, 5], [1, 6], \dots, [1, 8], [2, 5], \dots, [4, 5], \dots, [4, 8]]$. Use list comprehension.
 - (2) Modify the code in (1) so that only the elements with a sum of two numbers greater than or equal to 8 are left in z . Use list comprehension.
3. Write a function *grading(score)* that work as follows. Use the table below to calculate the letter grade based on the score.

Score	Grade
>90 and <=100	A
>80 and <=90	B
>70 and <=80	C
>60 and <=70	D
<=60	F

```
>>> grading(score=75)
```

Grade is C !

```
>>> grading(-5)
```

Score must be a number between 0 and 100!!

4. Briefly explain why the error occurs in the following expression.

(1)

```
def infoprint( name, age, gender):  
  
    print(name, 'is', age, 'years old', gender, '.')  
  
infoprint (name='Kim', 30, 'male')
```

(2)

```
def infoprint( name, age, gender):  
  
    print(name, 'is', age, 'years old', gender, '.')  
  
infoprint ( 'Kim', gender='male' )
```

(3)

```
fac = 1  
  
def myfactorial(n):  
  
    for i in range(n):  
  
        fac *= i+1  
  
    return fac  
  
myfactorial(n=5)
```