

2조

김학균, 노용준, 남경태

코드 1

```
n = int(input("Enter n : "))
m = int(input("Enter m : "))

while(n>=m>=0):

    def RecursiveSum(n):
        if n==0:
            return 1
        else:
            return RecursiveSum(n-1) * n

    print("C(%d,%d) = %d " %(n,m,RecursiveSum(n)/(RecursiveSum(m)*RecursiveSum(n-m))))

n = int(input("Enter n : "))
m = int(input("Enter m : "))
```

코드1 실행

```
Enter n : 5
```

```
Enter m : 4
```

```
C(5,4) = 5
```

```
Enter n : 0
```

```
Enter m : 0
```

```
C(0,0) = 1
```

```
Enter n : 1
```

```
Enter m : 1
```

```
C(1,1) = 1
```

```
Enter n : 0
```

```
Enter m : 2
```

```
>>>
```

```
===== RESTART: /home/n0y0j/바탕화면/하꾸니코.py =====
```

```
===
```

```
Enter n : aa
```

```
Traceback (most recent call last):
```

```
  File "/home/n0y0j/바탕화면/하꾸니코.py", line 1, in <module>
```

```
    n = int(input("Enter n : "))
```

```
ValueError: invalid literal for int() with base 10: 'aa'
```

```
>>> |
```

코드 2

```
def Combination(n, m):  
    if n == 0:  
        if m == 0:  
            return 1  
        return 0  
    elif m == 0:  
        return 1  
    else:  
        return Combination(n-1, m) + Combination(n-1, m-1)  
  
while True:  
    try:  
        a = int(input("Enter your 'm': "))  
        b = int(input("Enter your 'n': "))  
    except ValueError:  
        print("다시 입력")  
    except NameError:  
        print("다시 입력")  
  
    print("%d C %d = %d" % (a, b, Combination(a, b)))
```

코드 2 실행

```
/Library/Frameworks/Python.framework
```

```
Enter your 'm': 5
```

```
Enter your 'n': 2
```

```
5 C 2 = 10
```

```
Enter your 'm': 0
```

```
Enter your 'n': 0
```

```
0 C 0 = 1
```

```
Enter your 'm': 1
```

```
Enter your 'n': 0
```

```
1 C 0 = 1
```

```
Enter your 'm': 6
```

```
Enter your 'n': 2
```

```
6 C 2 = 15
```

```
Enter your 'm': 0
```

```
Enter your 'n': 1
```

```
0 C 1 = 0
```

```
Enter your 'm':
```

수정코드

```
def Combination(s,t):
    if s==t :
        return 1
    elif t == 0 :
        return 1
    elif s == 0 :
        return 0
    elif t<0:
        return 0
    return Combination(s-1,t-1) + Combination(s-1, t)

while True:
    try:
        n = int(input("Enter n: "))
        if n<0 :
            break
        elif n>=0:
            m = int(input("Enter m: "))
            print("C(%d,%d) = %d" % (n, m, Combination(n, m)))
    except (RecursionError,ValueError):
        print("입력된 수가 올바르지 않습니다. 다시 입력해주세요")
```

파스칼 삼각형

Ex) $3C_2 = 2C_1 + 2C_2$

파스칼 삼각형

Ex) $3C_2 = 2C_1 + 2C_2$

$$\begin{array}{cccccccc}
 & & & & 1 & & & \\
 & & & & 1 & & 1 & \\
 & & & 1 & & 2 & & 1 \\
 & & 1 & & 3 & & 3 & & 1 \\
 & 1 & & 4 & & 6 & & 4 & & 1 \\
 & 1 & & 5 & & 10 & & 10 & & 5 & & 1 \\
 & 1 & & 6 & & 15 & & 20 & & 15 & & 6 & & 1 \\
 & 1 & & 7 & & 21 & & 35 & & 35 & & 21 & & 7 & & 1 \\
 1 & & 1 & & 8 & & 28 & & 56 & & 70 & & 56 & & 28 & & 8 & & 1
 \end{array}$$

코드 실행

Enter n: 0

Enter m: 0

$C(0,0) = 1$

Enter n: 2

Enter m: 0

$C(2,0) = 1$

Enter n: 0

Enter m: 2

$C(0,2) = 0$

Enter n: 2

Enter m: 3

입력된 수가 올바르지 않습니다. 다시 입력해주세요

Enter n: aaa

입력된 수가 올바르지 않습니다. 다시 입력해주세요

Enter n: 하꾸니

입력된 수가 올바르지 않습니다. 다시 입력해주세요

Enter n: 4

Enter m: 3

$C(4,3) = 4$

Enter n: 6

Enter m: 4

$C(6,4) = 15$

Enter n: -1