

WEEK4 REVIEW

20171701 - 정지현 20171688 - 임이현
20171693 - 장우혁 20171677 - 이정하

30 lines (23 sloc) | 589 Bytes

```
1 def combination(n, r):
2     if r == 0:
3         return 1
4     elif n == r:
5         return 1
6     elif n < r:
7         return 0
8     else:
9         return combination(n-1, r) + combination(n-1, r - 1)
10
11
12 def factorial(n):
13     facto = 1
14     for i in range(n, 0, -1):
15         facto *= i
16     return facto
17
18
19 def combinationf(n, r):
20     return int(factorial(n) / (factorial(r) * factorial(n - r)))
21
22
23 n = int(input("Enter n: "))
24 r = int(input("Enter r: "))
25
26 if n < 0 or r < 0:
27     print("양수를 입력하세요")
28 else:
29     print("C(n, r):", combination(n, r))
30     print("C(n, r):", combinationf(n, r))
```

36 lines (29 sloc) | 821 Bytes

```
1 def combination(n, r):
2     if r == 0:
3         return 1
4     elif n == r:
5         return 1
6     elif n < r:
7         return 0
8     else:
9         return combination(n-1, r) + combination(n-1, r - 1)
10
11
12 def factorial(n):
13     facto = 1
14     for i in range(n, 0, -1):
15         facto *= i
16     return facto
17
18
19 def combinationf(n, r):
20     return int(factorial(n) / (factorial(r) * factorial(n - r)))
21
22
23 while True:
24     try:
25         n = int(input("Enter n: "))
26         r = int(input("Enter r: "))
27
28         if n == -1 or r == -1:
29             break
30         elif n < 0 or r < 0:
31             print("양수를 입력하세요")
32         else:
33             print("C(%d, %d): %d" % (n, r, combination(n, r)))
34             print("C(%d, %d): %d" % (n, r, combinationf(n, r)))
35     except ValueError:
36         print("숫자를 입력해주세요")
```


 @@ -2,20 +2,30 @@

```
2 def Combination(n, m):
3     if n == 0 or m == 0:
4         return 0
5 -     if n == m:
6
7         return 1
8     elif m == 1:
9         return n
10    else:
11        return Combination(n - 1, m) + Combination(n - 1, m - 1)
12
13 while True:
14 -     n = int(input("Enter n:"))
15 -     m = int(input("Enter m:"))
16 -     if n == -1:
17 -         break
18 -     elif m > n:
19 -         print("ERROR")
20 -         continue
21 -     print("C(%d,%d) =" % (n, m), Combination(n, m))
```

```
2 def Combination(n, m):
3     if n == 0 or m == 0:
4         return 0
5 +     elif n < -1 or m < -1:
6 +         return 0
7 +     elif n == m:
8         return 1
9     elif m == 1:
10        return n
11    else:
12        return Combination(n - 1, m) + Combination(n - 1, m - 1)
13 +n = 0
14 +m = 0
15 while True:
16 +     try:
17 +         n = int(input("Enter n:"))      # n 또는 m 이 -1일 시 무조건 그 순간 break 처리
18 +         if n == -1:
19 +             break
20 +         m = int(input("Enter m:"))
21 +         if m == -1:
22 +             break
23 +         if m < -1 or n < -1:
24 +             print("C(%d,%d) =" % (n, m), Combination(n, m)) #음수일 시 return 0으로 처리해주기 위함(m > n 아닐 경
                우를 위해
25 +         else:
26 +             if m > n:
27 +                 print("ERROR")
28 +                 continue
29 +             print("C(%d,%d) =" % (n, m), Combination(n, m))
30 +     except:
31 +         print("VALUE ERROR")
```


21 lines (17 sloc) | 431 Bytes

```
1 def facto(n):
2     f = 1
3     for i in range (1,n+1) :
4         f *= i
5     return f
6
7 def combination(n, m):
8     return int(facto(n) / (facto(m) * facto(n - m)))
9
10 def calculate(n, m):
11     if (m == 0 or n==m):
12         return 1
13     elif n < m:
14         return 0
15     else:
16         return combination(n - 1, m) + combination(n - 1, m - 1)
17
18
19 n = int(input("Enter n:"))
20 m = int(input("Enter m: "))
21 print( calculate(n, m))
```

```
1 # *factorial
2
3 # def facto(n):
4 #     f = 1
5 #     for i in range (1,n+1) :
6 #         f *= i
7 #     return f
8 #
9 # def combination(n, m):
10 #     return int(facto(n) / (facto(m) * facto(n - m)))
11
12 def calculate(n, m):
13     if (m == 0 or n==m):
14         return 1
15     elif n < m:
16         return 0
17     else:
18         return calculate(n - 1, m) + calculate(n - 1, m - 1)
19
20
21 while (1):
22     try:
23         n = int(input("Enter n:"))
24         m = int(input("Enter m: "))
25         if n == -1:
26             break
27         elif n<=0 or m< 0 :
28             print(" \tn>0이어야 하고 m>=0 이어야 합니다.\n\t값을 다시 입력해주세요.")
29             continue
30         elif n>0 or m>=0:
31             break
32
33     except ValueError:
34         print("값을 입력해주세요.")
35
36
37 print( calculate(n, m))
```


Executable File | 34 lines (24 sloc) | 730 Bytes

```
1  # 20171677 이정하
2  # assignment4 :조합으로 factorial 만들기
3
4  def combination_recursive(n, r):
5      if n == 0 or r == 0:
6          return 1
7      elif n < r:
8          return 0
9      elif n == r:
10         return 1
11     else:
12         return combination_recursive(n-1, r) + combination_recursive(n-1, r-1)
13
14
15  while True:
16      try:
17          n = int(input("Enter n : "))
18
19          if n == -1:
20              break
21          m = int(input("Enter m : "))
22
23          if n < 0 or m < 0:
24              print("정확한 값을 입력해주세요")
25              continue
26
27      except ValueError:
28          print("숫자를 입력해주세요")
29          continue
30
31      print("C(%d,%d) = %d" %(n, m, combination_recursive(n, m)))
32
33
```

20171677 - 이정하