

# 중간과제

2011-11894

김태영

# 중간과제 #1

```
In [9]: ## 중간고사 과제1
        ## 2011-11894 김태영

        ## Case 1

        def case1(size):
            print('Case #1')

            for i in range(1, size+1):
                print('*'*i)
```

```
In [10]: case1(5)
```

```
Case #1
*
**
***
****
*****
```

```
In [11]: ## Case 2
```

```
Case #2
*
**
***
****
*****
```

In [11]: `## Case 2`

```
def case2(size):
    print('Case #2')

    for i in range(1, size+1):
        print(' '*i)
```

In [12]: `case2(5)`

```
Case #2
*
**
***
****
*****
```

In [13]: `## Case 3`

```
def case3(size):
    print('Case #3')
```



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```

```
In [13]: ## Case 3

def case3(size):
    print('Case #3')

    width = 2 * size - 1
    formatter = '{: ^' + str(width) + '}'

    for i in range(1, size+1):
        amount = 2 * i - 1
        print(formatter.format('*' * amount))

In [14]: case3(5)

Case #3
  *
 ***
*****
*****
*****

In [15]: ## Case 4

def case4(size):
    print('Case #4')
```

```
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*****
*****
*****

In [15]: ## Case 4

def case4(size):
    print('Case #4')

    width = 2 * size - 1
    formatter = '({:^' + str(width) + '})'

    for i in range(size, 0, -1):
        amount = 2 * i - 1
        print(formatter.format('*' * amount))

In [16]: case4(5)

Case #4
*****
*****
*****
***
*

In [17]: ## Case 5
```



In [17]: `## Case 5`

```
def case5(size):  
    print('Case #5')  
  
    width = 2 * size - 1  
    formatter = '{:^' + str(width) + '}'  
  
    for i in range(1, size+1):  
        amount = 2 * i - 1  
        print(formatter.format('*' * amount))  
  
    for i in range(size-1, 0, -1):  
        amount = 2 * i - 1  
        print(formatter.format('*' * amount))
```

In [18]: `case5(5)`

```
Case #5  
  *  
 ***  
*****  
*****  
*****  
*****  
*****  
  *  
 ***  
  *
```

```
def case6(size):
    print('Case #6')

    width = 2 * size - 1
    formatter = '{: ^' + str(width) + '}'

    for i in range(1, size+1):
        if i==1:
            print(formatter.format('#'))
        else:
            amount = 2 * i - 1
            print(formatter.format('#' + '*' * (amount-2) + '#'))

    for i in range(size-1, 0, -1):
        if i==1:
            print(formatter.format('#'))
        else:
            amount = 2 * i - 1
            print(formatter.format('#' + '*' * (amount-2) + '#'))
```

In [20]: case6(5)

```
Case #6
#
##
###
####
#####
#####
#####
#####
#####
```



# 중간과제 #2

```
In [1]: ## 중간고사 과제2
        ## 2011-11894 김태영

        print('입력양식 : 이름, 키, 몸무게, 좋아하는브랜드')
        print('(종단 : n)')
        print('')

        people = {}

        while True:
            line = input('> ')
            if line.lower() == 'n':
                break

            name, height, weight, brand = line.split(',')
            people[name]={'height': height, 'weight': weight, 'brand': brand}

        ## 덱서너리의 data에 대해서 최소/최대/평균/중위값을 구하는 함수 정의
        def calculation(data, **ppl):

            number = len(ppl)
            list = []
            total = int()
            for name in ppl:
```

```

name, height, weight, brand = line.split(',')
people[name]=('height': height, 'weight': weight, 'brand': brand)

## 딕셔너리의 data에 대해서 최소/최대/평균/중위값을 구하는 함수 정의
def calculation(data, **ppl):

    number = len(ppl)
    list = []
    total = int()
    for name in ppl:
        list.append(ppl[name][data])
        total += int(ppl[name][data])
    list.sort()

    print('최소값?', list[0])
    print('최대값?', list[number-1])
    print('평균값?', total/number)

    if number % 2 == 1:
        print('중위값?', list[int(number/2)])
    else:
        middle=0
        middle= int(list[int(number/2)]+int(list[int(number/2-1)]))
        print('중위값?', middle/2)
    return None

```

## 함수를 이용하여 사람들 키의 최소/최대/평균/중위값 출력





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##사람들이 좋아하는 브랜드 TOP3 출력
brand_list = []
for name in people:
    brand_list.append(people[name]['brand'])

from collections import defaultdict

brand_count = defaultdict(int)
for brand in brand_list:
    brand_count[brand] += 1

brand_sort = (sorted(zip(brand_count.values(), brand_count.keys())))
top = int(1)
size = len(brand_sort)-1

print('###사람들이 좋아하는 브랜드 TOP3 (브랜드/인원)###')
while top <= 3 and size >= 0:
    if brand_sort[size][0] == brand_sort[size-1][0]:
        while brand_sort[size][0] == brand_sort[size-1][0]:
            print(brand_sort[size][1], '(', brand_sort[size][0], '명 )')
            top += 1
            size -= 1
        print(brand_sort[size][1], '(', brand_sort[size][0], '명 )')
        top += 1
        size -= 1
    else:
        print(brand_sort[size][1], '(', brand_sort[size][0], '명 )')
        top += 1
        size -= 1
```

```
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입력양식 : 이름, 키, 몸무게, 좋아하는브랜드
(중단 : n)

> 다운,160,50,루이비통
> 민지,165,55,샤넬
> 수완,170,58,구찌
> 수호,172,65,구찌
> 송민,173,49,프라다
> 아미,160,60,생로랑
> 예찬,180,70,발렌티노
> 유민,158,50,루이비통
> 재백,175,70,루이비통
> 재원,185,80,프라다
> n
###사람들의 키###
최소값? 158
최대값? 185
평균값? 169.8
중위값? 171.0

###사람들의 몸무게###
최소값? 49
최대값? 80
평균값? 60.7
중위값? 59.0

###사람들이 좋아하는 브랜드 TOP3 (브랜드/인원)###
루이비통 ( 3 명 )
프라다 ( 2 명 )
구찌 ( 2 명 )
```