```
# =============== calcsum  ===============
def calcsum(n):
    sum = 0
    for num in range(n + 1):
        sum += num
    return sum

print("~ 4 =", calcsum(4))
print("~ 10 =", calcsum(10))

# =============== calcrange  ===============
def calcrange(begin, end):
    sum = 0
    for num in range(begin, end + 1):
        sum += num
    return sum

print("3 ~ 7 =", calcrange(3, 7))

# =============== printsum  ===============
def printsum(n):
    sum = 0
    for num in range(n + 1):
        sum += num
    print("~", n, "=", sum)

printsum(4)
printsum(10)

# =============== vararg  ===============
def intsum(*ints):
    sum = 0
    for num in ints:
        sum += num
    return sum

print(intsum(1, 2, 3))
print(intsum(5, 7, 9, 11, 13))
print(intsum(8, 9, 6, 2, 9, 7, 5, 8))

# =============== defaultarg  ===============
```

```
def calcstep(begin, end, step):
    sum = 0
    for num in range(begin, end + 1, step):
        sum += num
    return sum

print("1 ~ 10 =", calcstep(1, 10, 2))
print("2 ~ 10 =", calcstep(2, 10, 2))

# =============== calcstep  ===============
def calcstep(begin, end, step = 1):
    sum = 0
    for num in range(begin, end + 1, step):
        sum += num
    return sum

print("1 ~ 10 =", calcstep(1, 10, 2))
print("1 ~ 100 =", calcstep(1, 100))

# =============== keywordarg  ===============
def calcstep(begin, end, step):
    sum = 0
    for num in range(begin, end + 1, step):
        sum += num
    return sum

# =============== keywordvararg  ===============
def calcstep(**args):
    begin = args['begin']
    end = args['end']
    step = args['step']

    sum = 0
    for num in range(begin, end + 1, step):
        sum += num
    return sum

print("3 ~ 5 =", calcstep(begin = 3, end = 5, step = 1))
print("3 ~ 5 =", calcstep(step = 1, end = 5, begin = 3))

# =============== calcscore  ===============
```

```
def calcscore(name, *score, **option):
    print(name)
    sum = 0
    for s in score:
        sum += s
    print("총점 :", sum)
    if (option['avg'] == True ):
        print("평균 :", sum / len(score))

calcscore("김상형", 88, 99, 77, avg = True)
calcscore("김한슬", 99, 98, 95, 89, avg = False)

# =============== local  ===============
def kim():
    temp = "김과장의 함수"
    print(temp)

kim()
print(temp)

# =============== local2  ===============
def kim():
    temp = "김과장의 함수"
    print(temp)

def lee():
    temp = 2 ** 10
    return temp

def park(a):
    temp = a * 2
    print(temp)

kim()
print(lee())
park(6)

# =============== global  ===============
salerate = 0.9

def kim():
```

```
    print("오늘의 할인율 :", salerate)

def lee():
    price = 1000
    print("가격 :", price * salerate)

kim()
salerate = 1.1
lee()

# =============== global2  ===============
price = 1000

def sale():
    price = 500

sale()
print(price)

# =============== id  ===============
price = 1000

def sale():
    price = 500
    print("sale", id(price))

sale()
print("global", id(price))

# =============== global3  ===============
price = 1000

def sale():
    global price
    price = 500

sale()
print(price)

# =============== docstring  ===============
def calcsum(n):
```

```
    """1 ~ n까지의 합계를 구해 리턴한다."""
    sum = 0
    for i in range(n+1):
        sum += i
    return sum

help(calcsum)

# =============== builtin  ===============
print(abs(-5))
print(max(3, 7))
print(min([8, 9, 1, 6, 2]))
```