変数　：名詞 英単語 小文字 counter:i, j, k my_num 関数　：英単語 小文字 my_func() クラス：最初が大文字 MyClass 定数　：CONST PI = 3.14 付けてはいけない変数の名前 sum, if, for, ..., # あいうえお ''' あいうえお かきくけこ abcde '''

関数　Function

In [1]:
```
def my_func1():
    pass # pass 処理しない
```

In [2]:
```
def my_func2(a):
    print(a)
```

In [3]:
```
num1 = 4
my_func2(num1)
```

```
4
```

In [4]:
```
num2 = 10
my_func2(num2)
```

```
10
```

In [5]:
```
def my_func3(num1, num2):
    print(num1, num2)
    num_sum = num1 + num2
    print(num_sum)
```

In [6]:
```
my_func3(num1, num2) # num1 = 4, num2 = 10
```

```
4 10
14
```

In [7]:
```
# error
# my_func3(num1)
```

デフォルト

In [8]:
```
# error
# def my_func4(num1=0, num2): # デフォルト値 後ろから
#     print(num1, num2)
#     num_sum = num1 + num2
#     print(num_sum)
```

In [9]:
```
def my_func4(num1, num2=0): # デフォルト値 後ろから
    print(num1, num2)
    num_sum = num1 + num2
    print(num_sum)
```

In [10]:
```
my_func4(num1) # num1 = 4
```

```
4 0
4
```

In [11]:
```
my_func4(num1, num2) # num1 = 4, num2 = 10
```

```
4 10
14
```

In [12]:

```
def my_func5(num1=0, num2=0, num3=0):
    print('num1 =', num1, 'num2 =', num2, 'num3 =', num3)
    num_sum = num1 + num2 + num3
    print('sum =', num_sum)
```

In [13]:

```
my_func5()
```

```
num1 = 0 num2 = 0 num3 = 0
sum = 0
```

In [14]:

```
x = 2
y = 6
z = 9

my_func5(num1=x, num3=z)
```

```
num1 = 2 num2 = 0 num3 = 9
sum = 11
```

返り値 return

In [15]:

```
def my_func6(num1, num2): # def function(引数)
    # print(num1, num2)
    num_sum = num1 + num2
    # print(num_sum)

    return num_sum        # return 返り値
```

In [16]:

```
num3 = my_func6(num1, num2) # num1 = 4, num2 = 10
```

In [17]:

```
num3
```

Out[17]:

```
14
```

リカレント

In [18]:

```
def recurrent1(n):
    n -= 1
    return n
```

In [19]:

```
num = 4
```

In [20]:

```
num = recurrent1(num)
print(num)
num = recurrent1(num)
print(num)
num = recurrent1(num)
print(num)
num = recurrent1(num)
print(num)
```

```
3
2
1
0
```

In [21]:

```
def recurrent2(n):
    if n > 0:
        n -= 1
        print(n)
        recurrent2(n)
```

In [22]:

```
num = 4
recurrent2(num)
```

```
3
2
1
0
```

In [23]:

```
# error
# def recurrent2(n):
#     if n > 0:
#         n -= 1
#         print(n)

#     recurrent2(n)
```

In [24]:

```
# num = 4
# recurrent2(num)
```

グローバル変数, ローカル変数

global : コード全体で使われる変数 local : 関数内のみで使われる変数

In [25]:

```
def my_func(num1, num2):
    sum_num = num1 + num2
    average = sum_num / 2

    return average
```

In [26]:

```
a = 12
b = 8

ave = my_func(a, b)
print(ave)
```

```
10.0
```

In [27]:

```
# print(sum_num) # sum_num は local で呼び起せない
```

In [28]:

```
def my_func(num1, num2):
    global sum_num

    sum_num = num1 + num2
    average = sum_num / 2

    return average
```

In [29]:

```
a = 12
b = 8

ave = my_func(a, b)
```

In [30]:

```
print(sum_num) # sum_num は global で呼び起せる
```

```
20
```

In [ ]:

```

```