

# 四則演算

In [1]: `1+1`

Out[1]: 2

In [2]: `2-3`

Out[2]: -1

In [4]: `2*-9`

Out[4]: -18

In [5]: `3/2`

Out[5]: 1.5

In [6]: `5%2`

Out[6]: 1

In [7]: `5//2`

Out[7]: 2

In [8]: `num1 = 6`  
`num2 = 2`

In [9]: `num1 * num2`

Out[9]: 12

In [10]: `ans = num1 * num2`

In [11]: `ans`

Out[11]: 12

In [ ]:

In [ ]:

In [42]:

```
a = 1
b = 2

print("a = {}, b = {}".format(a, b))
print("a = " + str(a) + ", b = " + str(b))

print(f"a = {a}, b = {b}") #f文字列 (f-strings)
```

```
a = 1, b = 2
a = 1, b = 2
a = 1, b = 2
```

In [ ]:

```
1, -1    int
0.2      float
"abc"    str
True False bool
```

In [12]:

```
num3 = 1
```

In [13]:

```
type(num3)
```

Out[13]: int

In [14]:

```
name = "Ken"
```

In [15]:

```
type(name)
```

Out[15]: str

In [22]:

```
a = 1
type(a)
```

Out[22]: int

In [23]:

```
b = str(a)
type(b)
```

Out[23]: str

In [24]:

```
b
```

Out[24]: '1'

In [25]:

```
c = 1.52
```

In [26]:

```
type(c)
```

Out[26]: float

```
In [28]: c = int(c)
c
```

```
Out[28]: 1
```

```
In [ ]:
```

```
In [ ]:
```

## if

```
In [ ]: """
if 条件式:
    条件を満たしたとき実行したい処理
else:
    条件を満たさなかったときに実行したい処理
"""
```

```
In [33]: #変数a=3であるか判定
a = 3

if a == 3:
    print("a is 3")
```

```
a is 3
```

```
In [34]: a = 4
if a == 3:
    print("a is 3")
else:
    print("a is not 3")
```

```
a is not 3
```

- 比較演算子
  - `a == b` aとbが等しい
  - `a != b` aとbが等しくない
  - `a < b` aよりbが大きい
  - `a > b` aよりbが小さい
- 論理演算子
  - `a and b`
    - `a or b`
    - `not a`

```
In [36]: # aが10以上20未満か判定
a = 33
if (a >= 10) and (a < 20):
    print("10 <= {} < 20".format(a))
```

In [37]:

```
n = 8
if n > 0:
    print("n > 0")
else:
    print("n <= 0")
```

n &gt; 0

In [41]:

```
n = -4

if n > 0:
    print("n > 0")

elif n == 0:
    print("n == 0")

else:
    print("n < 0")
```

n &lt; 0

## for

In [61]:

```
for i in range(5):
    print(i)
```

0  
1  
2  
3  
4

In [43]:

```
for i in range(1, 6):
    print(i)
```

1  
2  
3  
4  
5

In [44]:

```
for i in range(5):
    print(i+1)
```

1  
2  
3  
4  
5

In [46]:

```
for i in range(10, 1, -1):
    print(i)
```

10  
9  
8  
7  
6  
5  
4  
3  
2

```
In [47]: for i in range(11):  
        if i % 2 != 0:  
            print(i)
```

```
1  
3  
5  
7  
9
```

```
In [48]: for i in range(10):  
        if i == 5:  
            break  
  
        print(i)
```

```
0  
1  
2  
3  
4
```

```
In [63]: for i in range(10):  
        if i == 5:  
            continue  
  
        print(i)
```

```
0  
1  
2  
3  
4  
6  
7  
8  
9
```

## while

```
In [72]: i = 1  
while i < 15:  
    print(i)  
    i += 1  
  
"""  
i += 1 --> i = i+1  
i -= 1 --> i = i -1  
"""
```

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12
```

13  
14

Out[72]: '¥ni += 1 --> i = i+1¥ni -= 1 --> i = i -1¥n'

In [33]:

```
i = 1
while i <= 10:

    if i% 2 != 0:
        print("i =", i)
    i = i+1

print("loop end")
```

i = 1  
i = 3  
i = 5  
i = 7  
i = 9  
loop end

In [65]:

```
i = 10
while i > 1:

    print(i)

    i -= 1
```

10  
9  
8  
7  
6  
5  
4  
3  
2

In [ ]:

In [54]:

```
math = input("input math result")
```

In [55]:

```
math
```

Out[55]: '67'

In [56]:

```
type(math)
```

Out[56]: str

In [57]:

```
math + 22
```

```
-----
TypeError                                Traceback (most recent call last)
<ipython-input-57-5b43967d3feb> in <module>
----> 1 math + 22

TypeError: must be str, not int
```

In [58]: `math = int(math)`

In [59]: `type(math)`

Out[59]: `int`

In [60]: `math + 11`

Out[60]: `78`

In [ ]: