Today Topics

- Operators continuation
- Conditional Statements

In [7]:
```python
1  # Comparision operators
2  a = 5
3  b = 4
4  print(a==b) #5==4
5  print(a!=b)
6  print(a>b)   # 5>4
7  print(a<b)
8  print(a>=b)  #5>=4  ==> 5>4 or 5==4
9  print(a<=b)  # 5<4 or 5==4
```

. . .

In [17]:
```python
1  # Logical operators (and, or, not)
2  print(a,b)
3  print(a>b or a<b) # 5>4 or 5<4
4  print(a<b and a>b)  # 5<4 and 5>4
5  print(not(a<b and a>b))   #5<4  > False
```

```
5 4
True
False
True
```

In [24]:
```python
1  # Identity  (is, is not)
2  a = 5
3  b = 5
4  print(a is b) # id no. verification
5  print(a==b)
6  print(id(a))
7  print(id(b))
8
```

. . .

In [27]:
```python
1  a = "Hello world"
2  b = "Hello world"
3  print(a is b) # id no. verification
4  print(a==b)
5  print(id(a))
6  print(id(b))
7
```

```
False
True
64535552
64535112
```

```python
# Membership operator (in, not in)# for i in range

s = "Python"
print("th" in s)
print("1" in s)
print("r" not in s)
print("@" not in s)
```

```
True
False
True
False
```

```python
# Bitwise operators (and , or, xor(^), leftshift, rightshift,~)

a = 15     # 1111
b = 5      #  0101
print(a&b)#  0101
print(a|b) # 1111
```

. . .

```python
#XOR
a = 15     # 1111
b = 5      #  0101
print(a^b)  #1010
```

```
10
```

```python
# not(~)
a =10
~a
```

Out[44]: -11

```python
#leftshift (<<)
a = 5 #00000101
a<<1   #  00001010
```

Out[45]: 10

```python
# Rightshift(>>)
a = 5 #00000101
a>>1   # 00000010

# 10100000  #00001111
```

Out[46]: 2

Conditional Statements

- if
- else
- elif
- Nested if

Indentation

If statement

syntax: if condition:

            - Statements

In [57]:
```python
1  a = 10
2  if (a==5):
3      print("a is equal to 10")
4  t = a+10
5  t
```

Out[57]: 20

In [61]:
```python
1  a = 5
2  if (a==5):
3      print("a is equal to 10")
4  print(a)
5  print("yes")
```

a is equal to 10
5
yes

In [63]:
```python
1  a = 5
2  if a==10:
3      print(("a is equal to 10"))
4  else:
5      print(a)
6      print("yes")
```

5
yes

```
In [65]:  1  a = 5
          2  if a==10:
          3      print(("a is equal to 10"))
          4  else:
          5      print(a)
          6      print("yes")
```

5
yes

```
In [69]:   1  a = 10    # a==1,  a==2, a==3, a==4, a==5
           2  if a==1:
           3      print("a val is 1")
           4  elif a==2:
           5      print("a val is 2")
           6  elif a==3:
           7      print("a val is 3")
           8  elif a==4:
           9      print("a val is 4")
          10  else:
          11      print("a val is 5")
```

a val is 5

```
In [72]:   1  a = 10    # a==1,  a==2, a==3, a==4, a==5
           2  if a==1:
           3      print("a val is 1")
           4  elif a==2:
           5      print("a val is 2")
           6  elif a==3:
           7      print("a val is 3")
           8  elif a==4:
           9      print("a val is 4")
          10  elif a==5:
          11      print("a val is 5")
          12
```

Nested if

syntax: if Condition:

```
        - Statements
        - if condition:
            - statements
                if condtion:
                    - statements
```

```
1  a = "Python"
2  if a=="Python":
3      if "@" in a:
4          print("@")
5      else:
6          print("doesn't contain P")
7      if "P" in a:
8          print("P")
9
```

```
doesn't contain P
P
```

```
1  a = "Python@"
2  if a=="Python@":
3      print(a)
4      if "@" in a:
5          print("@")
6          if "#" in a:
7              print("#")
8          else:
9              print("No")
10     else:
11         print("doesn't contain P")
12 else:
13     print("condition failed")
```

```
Python@
@
No
```

```
1
```