

```
LOGICAL OPERATOR
In [21]: a=5
Out[21]: 5
In [24]: a=0 and b=3
Out[24]: True
In [23]: a=0 and b=2
Out[23]: False
In [5]: a=0 and b=2
Out[5]: False
In [4]: a=0 or b=2
Out[4]: True
In [7]: x=False
Out[7]: x=False
In [8]: not x
Out[8]: True
In [9]: 25
Out[9]: 25
In [10]: bin(25)
Out[10]: '0b11001'
In [11]: int('0b11001')
Out[11]: 25
In [13]: bin(30)
Out[13]: '0b11110'
In [14]: hex(30)
Out[14]: '0x1e'
In [15]: oct(30)
Out[15]: '0o36'
In [16]: 0o0
Out[16]: 11
In [17]: hex(0)
Out[17]: '0x0'
In [91]: hex(16)
Out[91]: '0x10'
In [92]: hex(19)
Out[92]: '0x13'
In [93]: 0o0
Out[93]: 11
In [94]: 0o0
Out[94]: 10
In [95]: hex(1)
Out[95]: '0x1'
In [96]: hex(25)
Out[96]: '0x19'
In [97]: bin(7)
Out[97]: '0b111'
In [104]: 0x
Out[104]: 0x
Out[102]: 0o0
Out[102]: 10
In [101]: 0o2
Out[101]: 15
In [105]: 0o16
Out[105]: 22
In [106]: 0oab
Out[106]: 171
In [107]: hex(16)
Out[107]: '0x10'
In [108]: hex(22)
Out[108]: '0x16'
In [109]: hex(28)
Out[109]: '0x1c'
In [110]: 0x1c
Out[110]: 28
In [111]: 0x1d
Out[111]: 29
In [112]: hex(30)
Out[112]: '0x1e'
In [114]: hex(0x1f)
Out[114]: '0x1f'
In [115]: int(0x1f)
Out[115]: 31
In [116]: hex(32)
Out[116]: '0x20'
In [117]: int(0x20)
Out[117]: 32
In [118]: hex(26)
Out[118]: '0x1a'
In [119]: 0x19
Out[119]: 25
In [120]: 0x15
Out[120]: 21
In [126]: 0b10
Out[126]: 6
In [124]: 0b101
Out[124]: 5
In [127]: print(0b10)
print(0b101)
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NameError                                Traceback (most recent call last)
Cell In[127], line 1
----> 1 print(0b10)
      2 print(0b101)
NameError: name '0b10' is not defined
In [129]: print(bin(11))
print(bin(0b1011))
0b1011
0b1011
In [130]: print(a2)
print(b2)
6
5
In [18]: a=5
b=6
In [31]: a2=a2+b2
b2=a2+b2
a2=a2+b2
In [32]: print(a2)
print(b2)
9
0
In [33]: print(bin(12))
print(bin(13))
0b1100
0b1101
swapping the variable
In [19]: a=b
b=a
print(a)
print(b)
6
6
In [21]: a1=0
b1=0
In [24]: temp=a1
a1=b1
b1=temp
In [27]: print(a1)
print(b2)
9
8
In [28]: a2=5
b2=6
In [29]: a2=a2+b2
b2=a2+b2
In [30]: b2=a2+b2
In [31]: print(a2)
print(b2)
11
5
In [32]: a2=a2-b2
a2
Out[32]: 6
In [33]: a2,b2
(6, 5)
In [34]: print(a2)
print(b2)
6
5
COMPLEMENT
In [35]: ~0
Out[35]: -1
In [34]: ~6
Out[34]: -7
In [35]: ~54
Out[35]: -55
In [36]: ~22
Out[36]: -23
BITWISE OPERATOR
In [36]: 12&13
Out[36]: 12
In [37]: 12|13
Out[37]: 13
In [38]: 1&0
Out[38]: 0
In [39]: 1|0
Out[39]: 1
In [40]: 12^13
Out[40]: 1
In [41]: 25^30
Out[41]: 7
In [42]: bin(7)
Out[42]: '0b111'
In [43]: 10^2
Out[43]: 2
In [44]: 10^3
Out[44]: 1
In [37]: bin(35)
Out[37]: '0b100011'
In [38]: bin(13)
Out[38]: '0b1101'
In [39]: print(bin(39))
print(bin(40))
0b100011
0b101000
In [40]: 35 & 40
Out[40]: 32
In [41]: 35 | 40
Out[41]: 43
In [42]: bin(32)
Out[42]: '0b100000'
In [43]: int('0b01011')
Out[43]: 43
In [45]: int('0b1110001')
Out[45]: 241
In [46]: bin(2)
Out[46]: '0b10'
In [47]: 20^3
Out[47]: 2
In [48]: 20^2
Out[48]: 5
In [49]: bin(10)
Out[49]: '0b1010'
In [50]: bin(20)
Out[50]: '0b10100'
In [51]: bin(1)
Out[51]: '0b1'
In [52]: 20^1
Out[52]: 10
In [53]: bin(320)
Out[53]: '0b010100000'
In [54]: 20^4
Out[54]: 320
In [55]: 10^1
Out[55]: 20
In [56]: 10^2
Out[56]: 40
In [57]: 10^1
Out[57]: 20
Arithmetic operator
In [45]: x1,y1=0,5
In [46]: x1
Out[46]: 10
In [47]: x1*y1
Out[47]: 15
In [48]: x1-y1
Out[48]: 5
In [49]: x1^y1
Out[49]: 50
In [50]: x1/y1
Out[50]: 2.0
In [51]: x1//y1
Out[51]: 2
In [52]: x1/y
-----
NameError                                Traceback (most recent call last)
Cell In[52], line 1
----> 1 x/y
NameError: name 'y' is not defined
In [53]: x1*y1
Out[53]: 0
In [54]: x1^*y1
Out[54]: 100000
In [55]: x2=3
y2=3
x2^*y2
Out[55]: 27
ASSIGNMENT OPERATOR
In [56]: a=2
a+=2
In [57]: x
Out[57]: 4
In [58]: x+=2
Out[58]: 6
In [59]: x
Out[59]: 6
In [60]: a*=2
x
Out[60]: 12
In [61]: a+=0
x
Out[61]: 14
In [62]: a*=0
x
Out[62]: 28
In [63]: a-=0
x
Out[63]: 24
In [64]: x/=0
Out[64]: 13.0
In [65]: x//x2
x
Out[65]: 6.0
SWAPPING WITHOUT USING THIRD VARIABLE
In [66]: a=b
b=a
a2=a2+b2
b2=a2-b2
a2=a2-b2
In [68]: print(a2)
print(b2)
6
5
unary operator
In [67]: b=7
n
Out[67]: 7
In [70]: b=-a)
Out[70]: -7
In [71]: n
Out[71]: 7
In [72]: n
Out[72]: 7
In [73]: -n
Out[73]: -7
In [74]: n
Out[74]: -7
RELATIONAL OPERATOR
In [75]: a=5
b=6
In [76]: a<b
Out[76]: True
In [77]: a>b
Out[77]: False
In [78]: a==b
Out[78]: False
In [79]: a!=b
Out[79]: True
In [80]: b>5
Out[80]: True
In [82]: a
Out[82]: 5
In [83]: b
Out[83]: 5
In [84]: a<=b
Out[84]: False
In [85]: a==b
Out[85]: True
In [86]: a<=b
Out[86]: True
In [87]: a<=b
Out[87]: False
In [88]: a>=b
Out[88]: False
In [89]: b>7
Out[89]: True
In [90]: a!=b
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