OPERATORS

ARITHMETIC OPERATORS

```
In [2]: x1 , y1 = 10 , 5
```

```
In [3]: x1 + y1
```

```
Out[3]: 15
```

```
In [4]: x1 - y1
```

```
Out[4]: 5
```

```
In [5]: x1 * y1
```

```
Out[5]: 50
```

```
In [6]: x1 / y1
```

```
Out[6]: 2.0
```

```
In [7]: x1 // y1
```

```
Out[7]: 2
```

```
In [8]: x1 % y1
```

```
Out[8]: 0
```

```
In [9]: x1 ** y1
```

```
Out[9]: 100000
```

```
In [10]: 3 ** 2
```

```
Out[10]: 9
```

ASIGNMENT OPERATORS

```
In [11]: x = 2
```

```
In [12]: x
```

```
Out[12]: 2
```

```
In [13]: x = x+2
```

```
In [14]: x
```

```
Out[14]: 4
```

```
In [15]: x += 2
```

```
In [16]: x
```

```
Out[16]: 6
```

```
In [17]: x += 2
```

```
In [18]: x
```

```
Out[18]: 8
```

```
In [19]: x *= 2
```

```
In [20]: x
```

```
Out[20]: 16
```

```
In [21]: x -=2
```

```
In [22]: x
```

```
Out[22]: 14
```

```
In [23]: x /= 2
```

```
In [24]: x
```

```
Out[24]: 7.0
```

```
In [25]: x // 2
         x
```

```
Out[25]: 7.0
```

```
In [26]: a , b = 5 , 6
         print(a)
         print(b)
```

```
5
6
```

UNARY OPERATOR

```
In [27]: n = 7
         n

Out[27]: 7

In [28]: m = -(n)

In [29]: m

Out[29]: -7

In [30]: n

Out[30]: 7

In [31]: -n

Out[31]: -7
```

RELATIONAL OPERATOR

```
In [33]: a = 5
         b = 6
         a < b

Out[33]: True

In [34]: a > b

Out[34]: False

In [35]: a != b

Out[35]: True

In [36]: b = 5
         a == b

Out[36]: True

In [37]: a > b

Out[37]: False
```

LOGICAL OPERATORS

```
In [38]: a = 5
         b = 4
         a < 8 and b < 5

Out[38]: True
```

```
In [39]: a < 8 and b < 2

Out[39]: False
```

```
In [40]: a < 8 or b < 2

Out[40]: True
```

```
In [41]: a > 8 or b < 2

Out[41]: False
```

```
In [42]: x = False
         x

Out[42]: False
```

```
In [43]: not x

Out[43]: True
```

```
In [44]: x = not x
         x

Out[44]: True
```

```
In [45]: x

Out[45]: True
```

NUMBER SYSTEM CONVERSION

BINARY

```
In [46]: 25

Out[46]: 25
```

```
In [47]: bin(25)

Out[47]: '0b11001'
```

```
In [49]: int(0b11001)
```

```
Out[49]: 25
```

```
In [50]: bin(30)
```

```
Out[50]: '0b11110'
```

OCTAL

```
In [51]: oct(25)
```

```
Out[51]: '0o31'
```

HEXADECIMAL

```
In [52]: 0x19
```

```
Out[52]: 25
```

HOW TO SWAP 2 VARIABLES IN PYTHON

```
In [53]: a = 5
         b = 6
```

```
In [54]: a = b
         b = a
```

```
In [55]: print(a)
         print(b)
```

```
6
6
```

```
In [57]: a1 = 7
         b1 = 8
```

```
In [58]: temp = a1
         a1 = b1
         b1 = temp
```

```
In [59]: print(a1)
         print(b1)
```

```
8
7
```

In [60]:
```
a2 = 5
b2 = 6
```

In [63]:
```
a2 = a2 + b2
b2 = a2 - b2
a2 = a2 - b2
```

In [64]:
```
print(a2)
print(b2)
```

```
17
28
```

In [65]:
```
a2 , b2
```

Out[65]:
```
(17, 28)
```

In [66]:
```
a2 = b2 = b2 , a2
```

In [67]:
```
a2 , b2
```

Out[67]:
```
((28, 17), (28, 17))
```

In [69]:
```
print(a2)
print(b2)
```

```
((28, 17), (28, 17))
((28, 17), (28, 17))
```

BITWISE OPERATOR

COMPLIMENT OPERATOR

In [70]:
```
~12
```

Out[70]:
```
-13
```

In [71]:
```
~46
```

Out[71]:
```
-47
```

In [72]:
```
~24
```

Out[72]:
```
-25
```

In [73]:
```
~10
```

Out[73]:
```
-11
```

AND OPERATOR

In [74]:
```
12 & 13
```

Out[74]:
```
12
```

OR OPERATOR

In [75]:
```
12 | 13
```

Out[75]:
```
13
```

35 & 40

In [76]:
```
bin(35)
```

Out[76]:
```
'0b100011'
```

In [77]:
```
print(bin(35))
print(bin(40))
```

```
0b100011
0b101000
```

In [78]:
```
35 | 40
```

Out[78]:
```
43
```

XOR OPERATOR - 8TH- AUGUST-- TASK

LEFT SHIFT

In [1]:
```
12 ^ 13
```

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

In [2]:
```
print(bin(25))
print(bin(30))
```

```
0b11001
0b11110
```

In [3]:
```
25 ^ 30
```

Out[3]:
```
7
```

```
In [4]: bin(7)

Out[4]: '0b111'
```

```
In [5]: bin(25)

Out[5]: '0b11001'
```

```
In [6]: bin(30)

Out[6]: '0b11110'
```

LEFT SHIFT & RIGHT SHIFT

LEFT SHIFT

```
In [7]: 10 << 1

Out[7]: 20
```

```
In [8]: 10 << 2

Out[8]: 40
```

```
In [9]: 10 << 3

Out[9]: 80
```

```
In [10]: 10 << 4

Out[10]: 160
```

RIGHT SHIFT

```
In [11]: 10 >> 1

Out[11]: 5
```

```
In [12]: 10 >> 3

Out[12]: 1
```

```
In [13]: bin(20)

Out[13]: '0b10100'
```