Bitwise operator

Six operators - complement(~), AND(&), OR(|),XOR(^),LEFTSHIFT(<<),RIGHTSHIT(>>)

In [3]:
```
print(bin(12))
```

```
0b1100
```

In [4]:
```
print(bin(13))
```

```
0b1101
```

In [5]:
```
number = 10
complement = ~number
print(complement)
```

```
-11
```

In [6]:
```
a =0b1100
a
```

Out[6]: 12

In [7]:
```
type(a)
```

Out[7]: int

In [8]:
```
12
```

Out[8]: 12

In [9]:
```
~12
```

Out[9]: -13

In [10]:
```
45
```

Out[10]: 45

In [11]:
```
~45
```

Out[11]: -46

Bitwise Operators

In [12]:
```
print(bin(12))
print(bin(13))
```

```
0b1100
0b1101
```

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

Out[13]: 12

In [15]:
```
1&1
```

Out[15]: 1

In [16]:
```
1&0
```

Out[16]: 0

In [17]:
```
0&1
```

Out[17]: 0

In [18]:
```
0&0
```

Out[18]: 0

In [21]:
```
print(bin(35))
print(bin(40))
```

```
0b100011
0b101000
```

In [22]:
```
35|40
```

Out[22]: 43

In [23]:
```
35&40
```

Out[23]: 32

XOR ^ -> both numbers are different then 1 eles 0

In [24]:
```
12^13
```

Out[24]: 1

In [25]:
```
35^40
```

Out[25]: 11

In [26]:
```
25^30
```

Out[26]: 7

In [27]:
```
bin(25)
```

Out[27]: '0b11001'

In [28]:
```
int(0b11001)
```

Out[28]: 25

Bitwise left operator by default you will take two zeros

In [29]:
```
10<<2
```

Out[29]: 40

In [30]:
```
35<<2
```

Out[30]: 140

In [31]:
```
int(0b10001100)
```

Out[31]: 140

In [32]:
```
67<<2
```

Out[32]: 268

In [33]:
```
bin(268)
```

Out[33]: '0b100001100'

In [34]:
```
int(0b100001100)
```

Out[34]: 268

Bit wise right operator

In [36]:
```
10>>2
```

Out[36]: 2

In [37]:
```
20>>4
```

Out[37]: 1

In [38]:
```
bin(35)
```

Out[38]: '0b100011'

In [39]:
```
35>>2
```

Out[39]: 8

Math module

In [40]:
```
import math
```

In [41]:
```
x=math.sqrt(25)
x
```

Out[41]: 5.0

In [42]:
```
print(math.floor(2.9))
```

```
2
```

In [43]:
```
print(math.ceil(2.9))
```

```
3
```

In [44]:
```
print(math.ceil(2.5))
```

```
3
```

In [45]:
```
print(math.ceil(2.1))
```

```
3
```

In [46]:
```
print(math.pi)
```

```
3.141592653589793
```

In [47]:
```
print(math.e)
```

```
2.718281828459045
```

In [48]:
```
import math as m
```

In [49]:
```
print(m.sqrt(25))
```

```
5.0
```

In [50]:
```
print(m.pow(3,3))
```

```
27.0
```

In [52]:
```
round(m.pow(3,3))
```

Out[52]: 27

Input function in python & Command line input

In [54]:
```
x=input()
y=input()
z=x+y
print(z)
```

```
2,3
```

In [55]:
```
x1=input('Enter the 1st number')
a1=int(x1)
y1=input('Enter the second number')
b1=int(y1)
z1=a1+b1
print(z1)
```

```
8
```

In [ ]:
```

```