```python
In [2]: #arthematic operators
        a=6
        b=3
        print('a+b=',a+b)
        print('a-b=',a-b)
        print('a*b=',a*b)
        print('a/b=',a/b)
        print('a//b=',a//b)
        print('a**b=',a**b)
```

```
a+b= 9
a-b= 3
a*b= 18
a/b= 2.0
a//b= 2
a**b= 216
```

```python
In [3]: #comparison operators
        a=10
        b=5
        print('a>b=',a>b)
        print('a<b=',a<b)
        print('a==b =',a==b)
        print('a!=b=',a!=b)
        print('a>=b=',a>=b)
        print('a<=b=',a<=b)
```

```
a>b= True
a<b= False
a==b = False
a!=b= True
a>=b= True
a<=b= False
```

```python
In [4]: #logical operators
        a=True
        b=False
        print('a and b is',a and b)
        print('a or b is',a or b)
        print('not a is', not a)
```

```
a and b is False
a or b is True
not a is False
```

```python
In [6]: #bitwise operators
        a=10
        b=5
        print('a & b=',a&b) #bitwise and
        print('a | b=',a|b) #bitwise or
        print('-a=',-a) #bitwise not
        print('a ^ b=',a&b) #bitwise XOR
        print('a >>3=',a>>3) #bitwise right shift
        print('a<<2=',a<<2) #bitwise left shift
```

```
a & b= 0
a | b= 15
-a= -10
a ^ b= 0
a >>3= 1
a<<2= 40
```

```python
In [11]: #assignment operators
         a=10
         print(a,'\n')
         a+=5
         print(a,'\n')
         a=10
         a-=5
         print(a,'\n')
         a=10
         a*=5
         print(a,'\n')
         a=10
         a/=5
         print(a,'\n')
         a=10
         a%=3
         print(a,'\n')
         a=10
         a//=3
         print(a,'\n')
         a=10
         a**=2
         print(a,'\n')
         a=10
         a&=2
         print(a,'\n')
         a=10
         a|=2
         print(a,'\n')
         a=10
         a^=2
         print(a,'\n')
         a=10
         a>>=2
         print(a,'\n')
         a=10
         a<<=2
         print(a,'\n')
```

```
10

15

5

50

2.0

1

3

100

2

10

8

2

40
```

```python
In [12]: #special operators
         a=5
         b=5
         x='hi'
         y='hi'
         print(a is b)
         print(x is not y)
```

```
True
False
```

```python
In [13]: x=[1,2,3]
         print(1 in x)
         print(5 not in x)
```

```
True
True
```

```python
In [ ]:
```