## Operators

### Assignment Operators

```python
a = 10
print(a)
```
→ 10

```python
b = 5
a = b
print(a)
```
→ 5

```python
c = 10
c += 12 # c = c+12
print(c)
```
→ 22

```python
d = 20
d -= 7 # d = d-7
print(d)
```
→ 13

```python
e = 100
e *= 2 # e = e*2 , 100*2 = 200
print(e)
e /= 5 # e = e/5, 200/5 = 40.0
print(e)
```
→ 200
    40.0

```python
f = 14
f %= 5 # f = f%5
print(f)
```
→ 4

```python
g = 12
g //= 5
print(g)
```
→ 2

### Bitwise Operators

```
14 & 21
```

⇥  4

```
bin(14)
```

⇥  '0b1110'

```
bin(21)
```

⇥  '0b10101'

```
14 | 21
```

⇥  31

```
14 ^ 21
```

⇥  27

```
~13
```

⇥  -14

```
~105
```

⇥  -106

```
~-14
```

⇥  13

```
~-1156
```

⇥  1155

```
~0
```

⇥  -1

## Left Shift (<<) & Right Shift(>>)

```
print(10<<2)
print(10>>2)
```

⇥  40
   2

```
print(120<<1)
print(120<<2)
print(120<<3)
print(120<<4)
```

⇥  240
   480
   960
   1920

```python
print(-120<<1)
print(-120<<2)
print(-120<<3)
print(-120<<4)
```

```
-240
-480
-960
-1920
```

```python
print(120>>1)
print(120>>2)
print(120>>3)
print(120>>4)
```

```
60
30
15
7
```

```python
print(-120>>1)
print(-120>>2)
print(-120>>3)
print(-120>>4)
```

```
-60
-30
-15
-8
```

```python
120//(2**4)
```

```
7
```

## Membership Operators

"in" & "not in"

```python
players = ["Kohli", "Ponting", "Clarke"]

print("Kohli" in players)
print("kohli" in players)
```

```
True
False
```

```python
"Rohit" not in players
```

```
True
```

```python
"Kohli" not in players
```

```
False
```

```python
k = set((6,2,3,5))
print(k)
2 in k
```

```
{2, 3, 5, 6}
True
```

```python
"2" in k
```

```
False
```

```
2.0 in k
```

```
→▼   True
```

```
True in k
```

```
→▼   False
```

```
k = set()
```

```
True in k
```

```
→▼   False
```

```
statement = "Virat is best ODI    player in this era"
```

```
"   player" in statement
```

```
→▼   True
```

### Identity Operators

"is" & "is not"

```
l1 = [1,2,3,4,5]
l2 = [1,2,3,4,5]

print(id(l1))
print(id(l2))

l3 = l1
print(id(l3))

print(l2 is l1)
print(l3 is l1)
print(l1 is l3)
print(l2 is not l1)
print(l1 is not l2)
```

```
→▼   133869667189120
      133869667191040
      133869667189120
      False
      True
      True
      True
      True
```

```
l1 = (1,2,3,4,5)
l2 = (1,2,3,4,5)

print(id(l1))
print(id(l2))

l3 = l1
print(id(l3))

print(l2 is l1)
print(l3 is l1)
print(l1 is l3)
print(l2 is not l1)
print(l1 is not l2)
```

```
→▼   133869667144928
      133869668244256
```

```
133869667144928
False
True
True
True
True
```

```python
print(l1 is not l3)
```

→ False

```python
a = 1200
b = 1200
print(id(a))
print(id(b))
print(a is b)
print(b is a)
```

→ ```
133869667116560
133869667115824
False
False
```

## Operator Precedence

```python
5+12*7/2-10
```

→ 37.0

```python
~-2
```