1. Comparison Operators

1. ">" --> Grater Than.
2. "<" --> Less Than.
3. ">=" --> Grater Than Or Equal To.
4. "<=" --> Less than or Equal To.
5. "==" --> Equal To.
6. "!=" --> Not Dqual To.

In [2]:
```
a=10
b=20
print("a>b is",a>b)
print("a<b is",a<b)
print("a>=b is",a>=b)
```

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

In [5]:
```
a="Arman"
b="Aryan"
print("a>b is",a>b)
print("a<b is",a<b)
print("a>=b is",a>=b)
print("a==b is",a==b)
print("a!=b is",a!=b)
```

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

In [6]:
```
print(True>=True)
print(19>384<484>39<944)
```

```
True
False
```

2. Logical Operators

1. and-->If both argujments are true than only result is true.
2. or--> If atleadt one argument is True than result is true.
3. not-->complement.
4. ex. True and false, True or False, not True, not False

2.1 For non boolean type behaviour

1. and--> X and Y --> If x evaluates to false return X oterwise return Y.
2. or--> X or Y --> If X evaluates to true trturn X otherwise return Y.
3. not--> not X --> If x evaluates to false than result is true otherwise False.
4. ex. 0 means False, non-zero means True, Empty string means false.

3. Turnary or Conditional Operators

Syntax

1. X= "Firstvalue" if 'conition' else "second value"

In [10]:
```
age=int(input("Enter age."))

x="Adult" if age>=18 else "minor"
print(x)
```

```
Enter age.23
Adult
```

4. Assignment Operators

1. "=", "+=", "-=", "*=", "/=", "//=", "%=", "**=".

In [12]:
```
x=10
x+=20
x-=10
x*=2
x/=5
x//=10
x%=2
x**=5
print(x)
```

```
0.0
```

5. Memberdhip Operators

1. in --> Returns True if given object is present in specific collection.
2. not in--> Returns True if given object id not present in specific collection.

In [15]:
```
x="Hello, Python is very easy!"
print("l" in x)
print("d" not in x)
a=[1,2,3,4,5,6]
print(10 in a)
```

```
True
True
False
```

6.Operator Precedence

Operators	Associativity
() Highest precedence	Left - Right
**	Right - Left
+x , -x, ~x	Left - Right
*, /, //, %	Left - Right
+, -	Left - Right
<<, >>	Left - Right
&	Left - Right
^	Left - Right
|	Left - Right
Is, is not, in, not in, <, <=, >, >=, ==, !=	Left - Right
Not x	Left - Right
And	Left - Right
Or	Left - Right
If else	Left - Right
Lambda	Left - Right
=, +=, -=, *=, /= Lowest Precedence	Right - Left

In [17]:
```
print(3+10*2)
print((3+10)*2)
print((3+10)*2/2+(63-55)//3)
```

```
23
26
15.0
```

7. Programs

In [19]:
```
# WAP to find the area of the triangle.
b=int(input("Enter base of triangle. "))
h=int(input("Enter height if triangle. "))
a=0.5*b*h
print("Erea of triangle is :",a)
```

```
Enter base of triangle. 23
Enter height if triangle. 56
Erea of triangle is : 644.0
```

In [20]:
```
# WAP to find the area of the CIRCLE.
import math

p=math.pi
r=int(input("Enter radius of circle. "))
a=p*r*r
print("Erea of circle is :",a)
```

```
Enter radius of circle12
Erea of circle is : 452.3893421169302
```

In [21]:
```
# WAP to swap value of two varibles
a=int(input("Enter value of a. "))
b=int(input("Enter value of b. "))
temp=0
temp=a
a=b
b=temp
print("Value of a is :",a)
print("Value of b is :",b)
```

```
Enter value of a. 4
Enter value of b. 56
Value of a is : 56
Value of b is : 4
```

In [23]:
```
a=int(input("Enter value of a. "))
b=int(input("Enter value of b. "))
a=a+b
b=a-b
a=a-b
print("Value of a is :",a)
print("Value of b is :",b)
```

```
Enter value of a. 23
Enter value of b. 32
Value of a is : 32
Value of b is : 23
```

In [26]:
```
#WAP to concert ferenhit to celcius
c=float(input("Enetr celcius value."))
c1=(f-32)*(5/9)
print(c1)
f=float(input("Enetr ferenhit value."))
f1=c*(5/9)+32
print(f1)
```

```
Enetr celcius value.123
-3.8888888888888893
Enetr ferenhit value.12654
100.33333333333334
```

In [32]:
```
# wAP TO CONVERT GIVEN DAys into year month and days
a=int(input("Enter days."))
year=a//365
month=(a%365)//30
days=(a%365)%30
print("Years :",year," Months : ",month," Days : ",days)
```

```
Enter days.5555
```

```
Years : 15  Months :  2  Days :  20
```

In [33]:
```
a=20
b=10
c=30

print(a>b and a<c)
print(a>b or a>c)
print(not c>b)
print(not c>a)
```

```
True
True
False
False
```

In [37]:
```
#WAP to check the givrn number is poditive or negative uding conditional operator.
c=int(input("Enter number."))
x="Positive" if c>0 else "Negative"
print("the number is :",x)
```

```
Enter number.25
the number is : Positive
```

In [39]:
```
#WAp ofr sven or odd
c=int(input("Enter number."))
x="Odd" if c%2!=0 else "Even"
print("the number is :",x)
```

```
Enter number.54
the number is : Even
```

In [43]:
```
#WAP to find number of notes.
#notes are 10,20,50,100,200,500,2000
a=int(input("Enter rupees"))
th=a//2000
fh=a//500
tth=a//200
oh=a//100
f=a//50
tw=a//20
te=a//10
print("2000 :",th," 500 :",fh," 200 :",tth," 100 :",oh," 50 :",f," 20 :",tw," 10 :",te)
```

```
Enter rupees880
2000 : 0  500 : 1  200 : 4  100 : 8  50 : 17  20 : 44  10 : 88
```

In [ ]:
```
```