

Arithmetic operations in python

In []:

Integers

In [46]: `print('Addition: ',1+2)`

Addition: 3

In [47]: `print('Subtraction: ',2-1)`

Subtraction: 1

In [48]: `print('Multiplication: ',2*3)`

Multiplication: 6

In [49]: `print('Division: ',4/2)`

Division: 2.0

In [50]: `print('Division: ',7/2)`

Division: 3.5

In [51]: `print('Division without the remainder: ',7//2)`

Division without the remainder: 3

In [52]: `print('Modulus: ',7%4) # remainder`

Modulus: 3

In [53]: `print('Exponential: ',4**3)`

Exponential: 64

In []:

Floating numbers

In [54]: `print('Floating number, PI ',3.14)`

Floating number, PI 3.14

In [55]: `print('floating number, gravity',9.81)`

floating number, gravity 9.81

In []:

Complex numbers

```
In [56]: print('complex number:',1+2j)
```

```
complex number: (1+2j)
```

```
In [57]: print('complex number multiplication:',(1+2j)*(1-2j))
```

```
complex number multiplication: (5+0j)
```

```
In [ ]:
```

Declaring the variable at the top first

```
In [58]: a = 3
```

```
In [59]: b = 2
```

```
In [ ]:
```

Arithmetic operations and assigning the result to a variable

```
In [60]: a=3  
b=2
```

```
In [61]: total = a+b
```

```
In [62]: diff = a-b
```

```
In [63]: product = a*b
```

```
In [64]: division = a/b
```

```
In [65]: remainder = a%b
```

```
In [66]: floor_division = a//b
```

```
In [67]: exponential = a**b
```

```
In [ ]:
```

```
In [68]: print(total)
```

5

```
In [69]: print('a+b= ',total)
print('a-b= ',diff)
print('a*b= ',product)
print('a/b= ',division)
print('a%b= ',remainder)
print('a//b= ',floor_division)
print('a**b= ',exponential)
```

```
a+b= 5
a-b= 1
a*b= 6
a/b= 1.5
a%b= 1
a//b= 1
a**b= 9
```

Declaring two values and organizing them together

```
In [70]: n1 = 3
n2 = 4
```

```
In [ ]:
```

```
In [71]: total = n1+n2
diff = n1-n2
pro = n1*n2
div=n1/n2
rem=n1%n2
```

```
In [ ]:
```

```
In [72]: print('total: ',total)
print('Difference:',diff)
print('Product:',pro)
print('Division:',div)
print('Remainder:',rem)
```

```
total: 7
Difference: -1
Product: 12
Division: 0.75
Remainder: 3
```

```
In [ ]:
```

Calculating area of a circle

```
In [73]: rad = 10
aroc = 3.14*rad**2
```

```
print('Area of a circle:',aroc)
```

Area of a circle: 314.0

In []:

Calculating area of a rectangle

```
In [74]: l=10
          b=20
          area =l*b
          print('Area of rectangle:',area)
```

Area of rectangle: 200

In []:

Calculating weight of an object

```
In [75]: mass=75
          gravity =9.81
          weight=mass*gravity
          print(weight,'N')
```

735.75 N

In []:

Boolean

```
In [76]: print(3>2)
          print(3<2)
          print(3>=2)
          print(3<=2)
          print(2<3)
          print(2>3)
          print(2>=3)
          print(2<=3)
          print(3==2)
          print(3!=2)
```

True
False
True
False
True
False
False
True
False
True

In []:

```
In [77]: print(len('mango')==len('avacado'))  
         print(len('mango')!=len('avacado'))  
         print(len('mango')<=len('avacado'))  
         print(len('mango')>=len('avacado'))
```

False
True
True
False

```
In [78]: print(len('milk')==len('meat'))  
         print(len('milk')!=len('meat'))
```

True
False

```
In [79]: print(len('tomato')==len('potato'))  
         print(len('python')>len('dragon'))
```

True
False

In []:

Boolean comparision

```
In [80]: print('True==True:',True==True)  
         print('True==False:',True==False)  
         print('False==False:',False==False)  
         print('True and True:',True and True)  
         print('True or False:', True or False)
```

True==True: True
True==False: False
False==False: True
True and True: True
True or False: True

In []:

```
In [83]: print('1 is 1',1 is 1)  
         print('1 is not 2',1 is not 2)
```

```
print('A in Asabaneh', 'A' in 'Asabaneh')
print('B in Asabaneh', 'B' in 'Asabaneh')
print('coding' in 'coding for all')
print('a in an:', 'a' in 'an')
print('4 is 2**2', 4 is 2**2)
```

```
1 is 1 True
1 is not 2 True
A in Asabaneh True
B in Asabaneh False
True
a in an: True
4 is 2**2 True
```

```
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:2: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?
<>:7: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:2: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?
<>:7: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
C:\Users\Shiva\AppData\Local\Temp\ipykernel_19852\3499324321.py:1: SyntaxWarning: "i
s" with 'int' literal. Did you mean "=="?
    print('1 is 1',1 is 1)
C:\Users\Shiva\AppData\Local\Temp\ipykernel_19852\3499324321.py:2: SyntaxWarning: "i
s not" with 'int' literal. Did you mean "!="?
    print('1 is not 2',1 is not 2)
C:\Users\Shiva\AppData\Local\Temp\ipykernel_19852\3499324321.py:7: SyntaxWarning: "i
s" with 'int' literal. Did you mean "=="?
    print('4 is 2**2', 4 is 2**2)
```

In []:

```
In [84]: print(3>2 and 4>3)
print(3>2 and 4<3)
print(3<2 and 4<3)
print(3>2 or 4>3)
print(3>2 or 4<3)
print(3<2 or 4<3)
print(not 3>2)
```

```
True
False
False
True
True
False
False
```

In []:

```
In [85]: print(not True)
print(not False)
print(not not True)
print(not not False)
```

False

True

True

False

In []:

In []:

In []: