

Arithmetic operators

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In [5]: print('Addition: ', 1 + 2)
print('Subtraction: ', 2 - 1)
print('Multiplication: ', 2 * 3)
print('Division: ', 4 / 2)
print('Division: ', 6 / 2)
print('Division: ', 7 / 2)
print('Division without the remainder: ', 7 // 2)
print('Modulus: ', 3 % 2)
print('Division without the remainder: ', 7 // 3)
print('Exponential: ', 3 ** 2)

# Floating numbers
print('Floating Number,PI', 3.14)
print('Floating Number, gravity', 9.81)

# Complex numbers
print('Complex number: ', 1 + 1j)
print('Multiplying complex number: ',(1 + 1j) * (1-1j))

a = 3
b = 2

total = a + b
diff = a - b
product = a * b
division = a / b
remainder = a % b
floor_division = a // b
exponential = a ** b

print(total)
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)

# Declaring values and organizing them together
num_one = 3
num_two = 4

# Arithmetic operations
total = num_one + num_two
diff = num_two - num_one
product = num_one * num_two
div = num_two / num_two
remainder = num_two % num_one

# Printing values with label
print('total: ', total)
print('difference: ', diff)
print('product: ', product)
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print('division: ', div)
print('remainder: ', remainder)

# Calculating area of a circle
radius = 10
area_of_circle = 3.14 * radius ** 2
print('Area of a circle:', area_of_circle)

# Calculating area of a rectangle
length = 10
width = 20
area_of_rectangle = length * width
print('Area of rectangle:', area_of_rectangle)

# Calculating a weight of an object
mass = 75
gravity = 9.81
weight = mass * gravity
print(weight, 'N')

print(3 > 2)
print(3 >= 2)
print(3 < 2)
print(2 < 3)
print(2 <= 3)
print(3 == 2)
print(3 != 2)
print(len('mango') == len('avocado')) # False
print(len('mango') != len('avocado')) # True
print(len('mango') < len('avocado')) # True
print(len('milk') != len('meat')) # False
print(len('milk') == len('meat')) # True
print(len('tomato') == len('potato')) # True
print(len('python') > len('dragon')) # False

# Boolean comparison
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)

# Another way comparison
print('1 is 1', 1 is 1) # True, because the data values are the same
print('1 is not 2', 1 is not 2) # True, because 1 is not 2
print('A in Asabeneh', 'A' in 'Asabeneh') # True, A found in the string
print('B in Asabeneh', 'B' in 'Asabeneh') # False, there is no uppercase B
print('coding' in 'coding for all') # True, because coding for all has the word
print('a in an:', 'a' in 'an')
print('4 is 2 ** 2:', 4 is 2 ** 2)

print(3 > 2 and 4 > 3) # True - because both statements are true
print(3 > 2 and 4 < 3) # False - because the second statement is false
print(3 < 2 and 4 < 3) # False - because both statements are false
print(3 > 2 or 4 > 3) # True - because both statements are true
print(3 > 2 or 4 < 3) # True - because one of the statement is true
print(3 < 2 or 4 < 3) # False - because both statements are false
print(not 3 > 2) # False - because 3 > 2 is true, then not True gives False
print(not True) # False - Negation, the not operator turns true to false

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print(not False)      # True  
print(not not True)   # True  
print(not not False)  # False
```

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Addition: 3
Subtraction: 1
Multiplication: 6
Division: 2.0
Division: 3.0
Division: 3.5
Division without the remainder: 3
Modulus: 1
Division without the remainder: 2
Exponential: 9
Floating Number,PI 3.14
Floating Number, gravity 9.81
Complex number: (1+1j)
Multiplying complex number: (2+0j)
5
a + b = 5
a - b = 1
a * b = 6
a / b = 1.5
a % b = 1
a // b = 1
a ** b = 9
total: 7
difference: 1
product: 12
division: 1.0
remainder: 1
Area of a circle: 314.0
Area of rectangle: 200
735.75 N
True
True
False
True
True
False
True
False
True
False
True
False
True
True
False
True == True: True
True == False: False
False == False: True
True and True: True
True or False: True
1 is 1 True
1 is not 2 True
A in Asabeneh True
B in Asabeneh False
True
a in an: True
4 is 2 ** 2: True
True
False
False
True
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True
False
False
False
True
True
False

```
<>:99: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?  
<>:100: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?  
<>:105: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?  
<>:99: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?  
<>:100: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?  
<>:105: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?  
C:\Users\Affan\AppData\Local\Temp\ipykernel_12328\1218272147.py:99: SyntaxWarnin  
g: "is" with 'int' literal. Did you mean "=="?  
    print('1 is 1', 1 is 1) # True, because the data values are the same  
C:\Users\Affan\AppData\Local\Temp\ipykernel_12328\1218272147.py:100: SyntaxWarnin  
g: "is not" with 'int' literal. Did you mean "!="?  
    print('1 is not 2', 1 is not 2) # True, because 1 is not 2  
C:\Users\Affan\AppData\Local\Temp\ipykernel_12328\1218272147.py:105: SyntaxWarnin  
g: "is" with 'int' literal. Did you mean "=="?  
    print('4 is 2 ** 2:', 4 is 2 ** 2)
```

In []: