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python™

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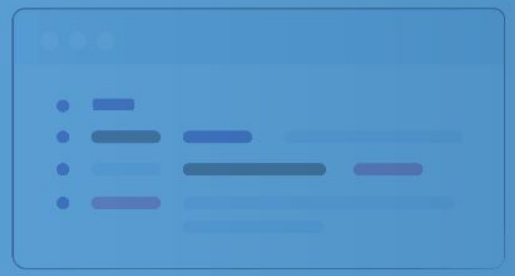
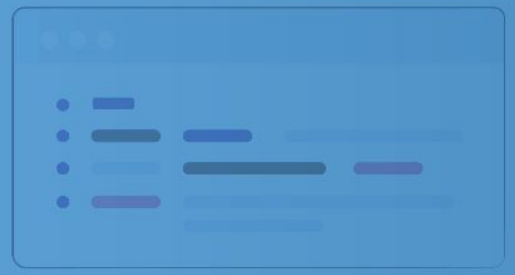
Day 4



Content :

1. Operator precedence
2. Comparison operations
3. Logical operators
4. Special operators
5. Exercises



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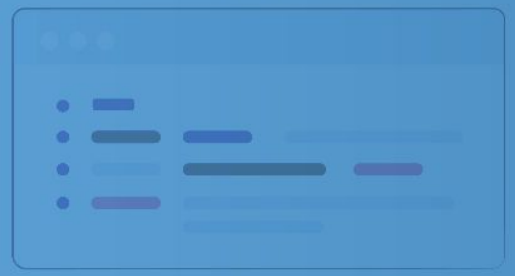
01 Operator precedence



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01- Operator precedence

Python Operators Precedence Rule - PEMDAS

- P – Parentheses.
- E – Exponentiation.
- M – Multiplication.
- D – Division.
- A – Addition.
- S – Subtraction.

01- Operator precedence

app.py

```python
# Multiplication has higher precedence
# than subtraction
print(10 - 4 * 2)
# 2
```

app.py

```python
# Parentheses () has higher precedence
print((10 - 4) * 2)
# 12
```

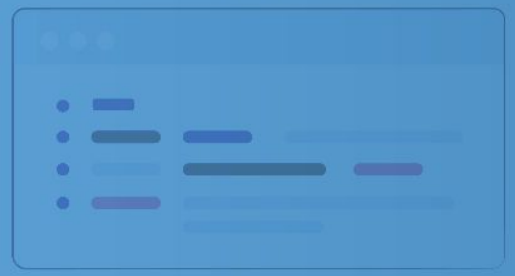
app.py

```python
# Left-right associativity
print(5 * 2 // 3)
# Output: 3

# Shows left-right associativity
print(5 * (2 // 3))
# Output: 0
```

app.py

```python
# Shows the right-left associativity of **
# Output: 512, Since 2**(3**2) = 2**9
print(2 ** 3 ** 2)

# If 2 needs to be exponated fisrt, need to use ()
# Output: 64
print((2 ** 3) ** 2)
```

02 Comparison operations



02- Comparison operations

Comparison operators compare two values/variables and return a boolean result: True or False. For example :

app.py

```
a = 5
b = 2
# equal to operator
print('a == b =', a == b)

# not equal to operator
print('a != b =', a != b)

# greater than operator
print('a > b =', a > b)

# less than operator
print('a < b =', a < b)

# greater than or equal to operator
print('a >= b =', a >= b)

# less than or equal to operator
print('a <= b =', a <= b)
 #a == b = False
 # a != b = True
 # a > b = True
 # a < b = False
 # a >= b = True
 #a <= b = False
```

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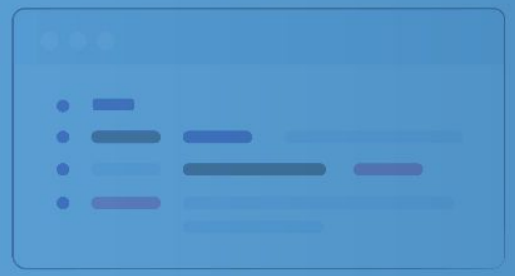
03 Logical operators



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03- Logical operators

Logical operators are used to check whether an expression is True or False. They are used in decision-making. For example:

app.py

```
a = 5
b = 6

print((a > 2) and (b ⩾ 6))    # True
```

03- Logical operators

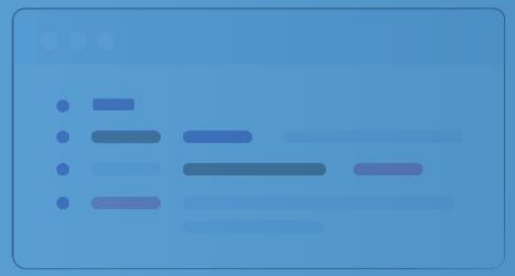
app.py

```python
# logical AND
print(True and True)      # True
print(True and False)     # False

# logical OR
print(True or False)      # True

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

04 Special operators



04- Special operators

app.py

```python
x1 = 5
y1 = 5
x2 = 'Hello'
y2 = 'Hello'
x3 = [1,2,3]
y3 = [1,2,3]

print(x1 is not y1)  # prints False

print(x2 is y2)  # prints True

print(x3 is y3)  # prints False
```

app.py

```python
x = 'Hello world'
y = {1:'a', 2:'b'}

# check if 'H' is present in x string
print('H' in x)  # prints True

# check if 'hello' is present in x string
print('hello' not in x)  # prints True

# check if '1' key is present in y
print(1 in y)  # prints True

# check if 'a' key is present in y
print('a' in y)  # prints False
```

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Thank you

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