LOGICAL OPERATORS

CONDITIONAL STATEMENT

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Logical Operators

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Logical AND

```python
# a AND b must be True
a = True
b = True

if a and b:
    print("both are true")
else:
    print("at least one is false")
```

Python

```python
# Check if the a is within a range of 1 to 30
a = 12

if (a > 0) and (a <= 10):
    print(str(a) + " is within the range of 1 to 10.")
elif (a > 10) and (a <= 20):
    print(str(a) + " is within the range of 11 to 20.")
elif (a > 20) and (a <= 30):
    print(str(a) + " is within the range of 21 to 30.")
else:
    print("out of range.")
```

Python

Logical OR

```python
# either a OR b must be True
a = True
b = False

if a or b:
    print("at least one is true")
else:
    print("both are false")
```

Python

```python
# Go outside or stay indoors
weather = "sunny"

if (weather == "rainy") or (weather == "stormy"):
    print("Bring an umbrella or stay indoors!")
elif (weather == "sunny") or (weather == "clear"):
    print("It's a great day to go outside!")
else:
    print("The weather is unpredictable today.")
```

Python

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Logical NOT

```python
# negates the logical state
a = True

not a
```

Python

```python
# Odd or even number
a  = 8

if not(a % 2 == 0):
    print(str(a) + " is even")
else:
    print(str(a) + " is odd")
```

Python