

Logical Operators

Date: Aug 26, 2024

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Reminder: Arithmetic operators (+, -, *, /) to combine numbers

Logical operators: combine booleans

- and
- or
- not

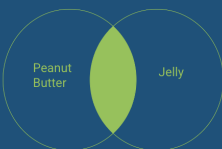
These keywords in Python are logical operators:

- and
- or
- not

They are operators that are used on boolean values.

Logical Operators: and

and returns true only if both operands are true



Peanut butter	Jelly	Peanut butter and Jelly
True	True	True
True	False	False
False	True	False
False	False	False

and

This returns TRUE only if both operands are TRUE.

TRUE and TRUE → TRUE

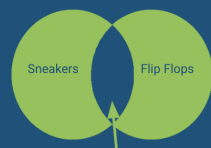
TRUE and FALSE → FALSE

FALSE and TRUE → FALSE

FALSE and FALSE → FALSE

Logical Operators: or

or returns true if either (or both) operand is true



Sneakers	Flip Flops	Sneakers or Flip Flops
True	True	True
True	False	True
False	True	True
False	False	False

or

This returns TRUE if at least one of the operands is TRUE.

TRUE or TRUE → TRUE

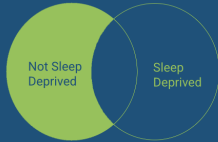
TRUE or FALSE → TRUE

FALSE or TRUE → TRUE

FALSE or FALSE → FALSE

Logical Operators: **not**

not inverts (gives opposite value of) the value of its operand



Sleep Deprived	not Sleep Deprived
True	False
False	True

not

This just gives the opposite value of the operand.

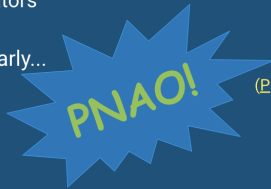
not TRUE → FALSE

not FALSE → TRUE

Combining Operators

Remember PEMDAS? Order of operations for arithmetic operators

Similarly...



(Parentheses, **not**, **and**, **or**)

What order do we evaluate these operators if we have a long expression using these logical operators?

- Anything in parentheses first!
- **not**
- **and**
- **or**

PNAO!!

TODOS

- ☐ HW 1 - Data Types, Expressions, Variables
 - Due this Wednesday Aug 28, 2024 @ 11:59pm!
- ☐ Project 1 (pt. 1) - Blackjack!
 - Released TODAY on Monday Aug 26, 2024 !
 - Due this Sunday Sep 1, 2024 @ 11:59pm!
- ☐ Quiz 2
 - This Friday! Remember it is the first 15 minutes of class :)
 - Covered topics: Variables, Conditionals, I/O (not file input)