

Strings

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Let's Review

- * What is an assignment statement?
- * What does it do?
- * How do I write it?

Let's Review

- * What is an assignment statement?
 - * a statement that assigns a value to a variable
- * What does it do?
 - * it stores the specified value in the memory space identified by the given variable
- * How do I write it?
 - * `name = 'Winchester'`

Let's Review

- * How do I print information to the screen?
- * How do I read input in from the user?
- * What if I want the input to be an integer (whole number)?
- * What if I want the input to be a float (decimal number)?

Let's Review

- * How do I print information to the screen?
 - * `print('Hello, World!')`
- * How do I read input in from the user?
 - * `name = input('Please enter your name: ')`
- * What if I want the input to be an integer (whole number)?
 - * `num = int(input('Please enter a number: '))`
- * What if I want the input to be a float (decimal number)?
 - * `decimalNum = float(input('Please enter a number: '))`

Math

* What do the following symbols do?

1. *

2. -

3. +

4. /

5. //

6. %

* Test them out! For each symbol, try entering:

```
val = 5 ? 2  
print(val)
```

* Where ? represents each of the different symbols

Math

* What do the following symbols do?

1. * multiplication
2. - subtraction
3. + addition
4. / division
5. // integer division aka floored division (only returns the whole number in the resulting quotient)
6. % modulus (gets the remainder of the division)

Order of Operations

- * What do you think is the mathematical order of operations?

Order of Operations

- * What do you think is the mathematical order of operations? - Same as in math
- * PEMDAS
- * Parentheses, Exponent, Multiplication/Division, Addition/Subtraction

Naming a Variable

- * Wait...what's a variable again?

Naming a Variable

- * It must start with a letter (uppercase or lowercase) or an underscore _
- * It can also contain digits, like 1 or 9, just not as the first character
- * It can't be a Python keyword such as and, def, elif, else, for, if, import, in, not, or, return, or while. These have special meaning in Python and are part of the language.
- * Case does matter. A variable named result is not the same as one named Result.

Strings

- * Strings are words...strings of letters
- * Each letter has a position within the string
- * The positions start at 0, but the length is the number of characters within the string
- * Ex:

name = 'Winchester'
0123456789

Manipulating Strings

- * We can manipulate strings...
- * We can add multiple strings together
- * We can multiply strings
- * We can change the capitalization
- * We can find letters/characters within the string

Concatenating Strings

- * Concatenation is a fancy word for addition
- * `firstname = 'Anthony'`
- * `lastname = 'Winchester'`
- * `fullname = ????`

Concatenating Strings

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- * `firstname = 'Anthony'`
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Concatenating Strings

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Not quite!

Concatenating Strings

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- * `firstname = 'Anthony'`
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- * `fullname = firstname + ' ' + lastname`

Concatenating Strings

- * Concatenation is a fancy word for addition
- * `firstname = 'Anthony'`
- * `lastname = 'Winchester'`
- * `fullname = firstname + ' ' + lastname`
- * How would I modify this to add a salutation (e.g., Mr., Mrs., Dr.)

Multiplying Strings

- * If you have a repetitive syllable or term, you can multiply strings
- * `letters = 'ma'`
- * `name = letters * 2`
- * result is 'mama'

Capitalization

- * We can change the capitalization of strings
- * make everything lowercase:
`lowercase = name.lower()`
- * make everything uppercase:
`uppercase = name.upper()`
- * capitalize just the first letter:
`capital = name.capitalize()`

Search/Find

- * If we wanted to find a specific character or character sequence in a string, we can use `find()`
- * `position = name.find('i')`
- * if `name = 'Mississippi'`, position would be???

Search/Find

- * If we wanted to find a specific character or character sequence in a string, we can use `find()` to locate the first position that it appears in the string
- * `position = name.find('i')`
- * if `name = 'Mississippi'`, position would be???
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Your Turn