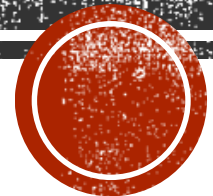


# LECTURE 2

Strings



# SOFTWARE YOU WILL NEED

- Git
  - Github Desktop (desktop.github.com)
  - Github
- ArcPro
- Anaconda
  - Python 3 x 64bit
  - Miniconda or Anaconda
  - <https://conda.io/docs/user-guide/install/windows.html>



# STRING

- Quotes
  - Multi line string
- Slash
- Special characters
- Concatenation
- Other string types
  - Raw string, unicode,
- String functions



# QUOTES

- Single
  - `Print ('Hello Class!')`
- Double
  - `Print ("Hello Class")`
  - `Print ("Hello Class 'GIS 5578' ")`
- Triple
  - `print (''' David said 'Hello class GIS 5578', then the class said "You used the wrong quotes" ''')`



# SLASH

- Back slash or slash = “ \ ”
- Forward slash = “ / ”
- Escaping Quotes
  - `print('David said \' Hello class GIS 5578\‘ ’)`
  - `print ('Let\'s be friends ’)`



# SPECIAL CHARACTERS

- `\\` Backslash (\)
- `\'` Single quote (')
- `\"` Double quote (")
- `\a` ASCII Bell (BEL)
- `\b` ASCII Backspace (BS)
- `\f` ASCII Formfeed (FF)
- `\n` ASCII Linefeed (LF)
- `\r` ASCII Carriage Return (CR)
- `\t` ASCII Horizontal Tab (TAB)
- `\v` ASCII Vertical Tab (VT)



# CONCATENATION

- `>>> f_name = 'David'`
- `>>> l_name = 'Haynes'`
- `>>> print( f_name + l_name)`
- Fix it so you get  
'David Haynes'



# MULTILINED STRING

- Multilined string
  - Parentheses
    - `myText = ('Put several strings within parentheses ' 'to have them joined together.')`
  - Slash
    - `myText2 = 'This is another way to join text' \`  
`'together. What do you think?'`





# OTHER STRINGS

- Specify a path on your harddrive (USB)
  - `mypath = 'X:\nowhere'`
  - `mypath`
  - `Print(mypath)`
  - `path2 = 'X:\somewhere'`
  - `path2`
  - `print(mypath)`
  - `print(r'x:\nowhere')`



# STRING FUNCTIONS

- `dir(str)`
- **Test Code**
  - `dhword = 'python'`
  - `dhword[0]`
  - `dhword[0] = 'P'`
  - `dhword.replace('ython', 'earl')`
- **Strip: removes spaces at the beginning and end**
  - `'spacious'.strip()`
  - `'www.example.com'.strip('cmowz.')`



# OLD STRING FORMATTING

- `name = input("What is your name?")`
- `quest = input("What is your quest?")`
- `color = input("What is your favorite color?")`

```
print("Ah, so your name is %s , your quest is %s, " \
      "and your favorite color is %s." % (name, quest,
      color))
```



# STRING FORMATTING

%c	character
%s	string conversion via str() prior to formatting
%i	signed decimal integer
%d	signed decimal integer
%u	unsigned decimal integer
%o	octal integer
%x	hexadecimal integer (lowercase letters)
%X	hexadecimal integer (UPPERcase letters)
%e	exponential notation (with lowercase 'e')
%E	exponential notation (with UPPERcase 'E')
%f	floating point real number
%g	the shorter of %f and %e
%G	the shorter of %f and %E



# NEW STRING FORMATTING

- `name = input("What is your name?")`
- `quest = input("What is your quest?")`
- `color = input("What is your favorite color?")`

```
Print("Ah, so your name is {0} , your quest is {1}, "  
\n  
"and your favorite color is {2}.".format(name, quest,  
color)
```



# HOW DO YOU?

- Capitalize all letters in your first name
- Capitalize the first letter in your name
- Capitalize all first letters in sentence
  - Sentence = 'my movie title'
- Is my name a palindrome ? What about "Mr. Owl at my metal worm" or "kayak"
- Determine how many 'r' in <http://www.terrapop.org>
- What is the 5 character in the url
- What is the sequence that returns "terrapop" from the url
- Make a path directory using .join



# CODING EXERCISES

## PIG LATIN PYTHON

- Write some code that will take any string input and covert it to pig latin.
- Pig Latin is loosely defined as taking the first letter of each word, putting it at the end of the word, and adding "ay" to the end of each word.
- **Advanced**
  - Do this sor a sentence.

