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 hardrive (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}, "
\
"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.