PYTHON

First Timer's Night

Women Who Code – DC Chapter

We are Women Who Code!

- Women Who Code (WWCode) is global non-profit dedicated to inspiring women to excel in technology careers. We work to support this generation in being and becoming leaders and role models in the tech industry.
- We are the DC Chapter!
- Volunteer / Donate
- Visit our Meetup site
- Python Beginners: 1st Wednesday of the Month; Python Hack Night: 3rd Wednesday of the month

What is Python?

- Powerful scripting language that offers simplicity and flexibility
- Easy to learn syntax
- Used in simple and complex programming
- Has a large family of libraries to support a variety of science, math, and engineering applications
- The Python community provides a variety of tools for common applications.
- Scripts well in various codes: Java, Fortran, C#, SQL, Perl,HTML,Lisp, PHP
- Integrates well in various Applications – ESRI ArcGIS, desktop based apps, YouTube, DropBox, NASA scientific work, game development, GUI, Excel, R Studio,
- Interfaces well with all commercial major databases

- ***"Glue it all together with Python"***

Tools You Need

- Python interpreter –To run Python programs on PCs, Macs, and Linux machines

- Text Editor - Program to edit your code.
    - IDLE, Sublime, Atom, TextWrangler….

Python Check

- Check to see if you have Python already installed:
- Windows: Open IDLE or Open up a Command Prompt window. Start > Search > type in "cmd" > push 'Enter'
- Mac: Apple Button + Space > type in "terminal" > push Enter
- In the command prompt, type python and push Enter. If a different prompt (">>>") shows up…
- Congratulations! You already have Python installed.

Install Python

- Download Python
  - Install Python to the default location (assuming you're running Windows, C:\Python27)
  - Version 3.5 comes with the PIP package manager and IDLE text editor

Setting Environment Var for Python – Windows – for using the command line

- When the installation is complete, on your computer navigate: My Computer > [System] Properties > Advanced [System Settings] > Environment Variables
- Under System Variables scroll down until you find the *Variable* called path.
- Push the edit button and add ;C:\Python27 or Python35; to the end of the variable value field.
- Note: This list is semicolon-separated. It will look like: a;b;c;d; and you are just adding another item.
- Exit out of all Command Prompt windows
- Open a new one (Start > Search > "cmd" > Enter)
- Type python then push Enter.
- Python shell appears

- Let's try now a simple Python command!

>>> import this

First Program

- Open a Text Editor and type:

```
# this is your first note!
# please open a file and name it “hello_world.py”
# now write in your file the following line:
print('Hello, world!')
```

- Save the file as hello_world.py to the Desktop.
- Open your terminal or cmd console, and run cd Desktop to navigate to your Desktop directory
  - For Mac and Linux, type python hello_world.py into the terminal.
  - On Windows, just type hello_world.py. Press enter to run your program
- The words "Hello, world!" should be displayed in your console.

Beginner Tips

- Practice a lot
- Understand the code (syntax, format, libraries, functions, classes, packages)
- Start slow – its okay if you don't get right away
- Try to solve code issues on your own first then reach out
- Help out your team mates – repetitive learning.
- It will take time to develop your skill and tool set – Testing code, debugging techniques and using an Integrated Development Environment (IDE)

Using a function & input

```
# save a new file as "greeting.py"
# this is a function definition
def print_greeting(name):
        greeting = 'Hello, ' + name + '!'
        # v3.5 users write:
        print(greeting)
        # v2.7 users write:
        print greeting


# input is a built-in function that takes input from a user's terminal
# use raw_input if you use Python 2   -  MAC
retrieved_name = input('Please enter your name')
print_greeting(retrieved_name)
print("Script complete.")
```

Python training resources

- Coursera
- HackerRank
- StackOverflow
- Slack
- CodeCombat
- GitHub
- kaggle
- How to Think Like a Computer Scientist
- Learn Python the Hard Way

Lynda.com via DC Library

- http://www.dclibrary.org/lynda
- Who can get a library card for free?
- **Maryland**
- Montgomery, Prince George's
- **Virginia**
- Fairfax, Loudoun, Arlington, Prince William, Falls Church, Alexandria, Frederick
- Non-residents - $20 a year
- 19 Python courses and 600+ video tutorials complete with data files to do lessons.