Syllabus for Python Coding Bootcamp (March - May, 2018)

A lot of the course material is taken from the two Coursera courses mentioned below, and this is to allow you to go through the Coursera videos, readings and assignments along with attending the class to reinforce what you learn. It also helps you to catch up if you happen to miss a class. These two courses are the first two out of five in the **Python for Everybody** specialization at Coursera. You are recommended to enroll in that, and also support Coursera by doing that.

1. Programming for Everybody (Getting Started with Python)
2. Python Data Structures

Class Schedule

Class 1 (March 21):

- What is a computer?
- What is programming?
- What is a programming language? Why python?
- Using repl.it for practicing coding online
- Writing our first program

Slides:
https://docs.google.com/presentation/d/1-0GJxFE_Pzj5J7WuSjxkx2VnnAdtP6UrJnnP44uDaws/edit?usp=sharing

Related Coursera Material: Chapter One from Course 1

Class 2 (March 28):

- Variables and expressions, using primitive variable types
- Conditional programming
- Loops and iteration

Related Coursera Material: Chapters Two, Three and Five from Course 1

Class 3 (April 4):

- Revising loops, by solving some problems
- Functions
- Advanced topic: Recursion

Related Coursera Material: Chapter Four from Course 1

Class 4 (April 11):

- What is a data structure?
- What is an algorithm?

- The list type
- Implementing binary search

Related Coursera Material: Chapter Eight from Course 2

Class 5 (April 18):
- Strings
- Using codeanywhere for bigger projects
- Files

Related Coursera Material: Chapter Six and Seven from Course 2

Class 6 (April 25):
- Dictionaries
- Tuples
- Problem solving: Let's analyze some data

Related Coursera Material: Chapter Nine and Ten from Course 2

Note: At this point, the Coursera material is already over. For the topics listed below, I will find and post links to other reading material which you can use to pre-read or to revise after the class.

Class 7 (May 2):
- What is an HTTP server?
- Writing is a simple HTTP server and deploying it
- Building a word count service

Class 8 (May 9):
- What is a database?
- Using TinyDB file database
- Discussing our final project: Writing a backend server for a kindle like ebook reading web-app. The server will support the following features:
    - Allow user to login
    - Maintain a library of books for each user, and user can add or remove books from the library.
    - For the books that the user is reading, it will remember the page the user is on, and whenever the user opens a book to read, it will open the last read page.

--- One week break for everyone to work on the final project

Class 9 (May 23, final class):
- Study the solution to the final project

- Discuss what it takes to be a professional programmer and how you can continue your learning to become one.