Python Programming Syllabus

1. An Informal Introduction to Python
    - 1.1. Using Python as a Calculator
        - 1.1.1. Numbers
        - 1.1.2. Strings
        - 1.1.3. Lists
    - 1.2. First Steps Towards Programming

2. More Control Flow Tools
    - 2.1. if Statements
    - 2.2. for Statements
    - 2.3. The range() Function
    - 2.4. break and continue Statements, and else Clauses on Loops
    - 2.5. pass Statements
    - 2.6. Defining Functions
    - 2.7. More on Defining Functions
        - 2.7.1. Default Argument Values
        - 2.7.2. Keyword Arguments
        - 2.7.3. Special parameters
            - 2.7.3.1. Positional-or-Keyword Arguments
            - 2.7.3.2. Positional-Only Parameters
            - 2.7.3.3. Keyword-Only Arguments
            - 2.7.3.4. Function Examples
        - 2.7.3.5. Recap
        - 2.7.4. Arbitrary Argument Lists
        - 2.7.5. Unpacking Argument Lists
        - 2.7.6. Lambda Expressions
        - 2.7.7. Documentation Strings
        - 2.7.8. Function Annotations

7.3 Stacks

7.4 Que

- Python Projects
    - Number Guessing
    - Hangman
    - Python Story Generator
    - Calculator
    - Tic-Tac-Toe
    - Plagiarism Checker

8. Python pandas
    - 8.1. Python Pandas – Series
    - 8.2. Python Pandas – DataFrame
    - 8.3. Python Pandas – Panel
    - 8.4. Python Pandas – Basic Functionality
    - 8.5. Descriptive Statistics
    - 8.6. Function Application
    - 8.7. Python Pandas – Reindexing
    - 8.8. Python Pandas – Iteration
    - 8.9. Python Pandas – Sorting
    - 8.10. Working with Text Data
    - 8.11. Options & Customization
    - 8.12. Indexing & Selecting Data
    - 8.13. Statistical Functions
    - 8.14. Python Pandas – Window Functions
    - 8.15. Python Pandas – Date Functionality
    - 8.16. Python Pandas – Timedelta
    - 8.17. Python Pandas – Categorical Data
    - 8.18. Python Pandas – Visualization
    - 8.19. Python Pandas – IO Tools'

9. Python Numpy
    - 9.1. NumPy – Ndarray Object
    - 9.2. NumPy – Data Types
    - 9.3. NumPy – Array Attributes
    - 9.4. NumPy – Array Creation Routines
    - 9.5. NumPy – Array from Existing Data
    - 9.6. Array From Numerical Ranges
    - 9.7. NumPy – Indexing & Slicing
    - 9.8. NumPy – Advanced Indexing

9.9. NumPy – Broadcasting
9.10. NumPy – Iterating Over Array
9.11. NumPy – Array Manipulation
9.12. NumPy – Binary Operators
9.13. NumPy – String Functions
9.14. NumPy – Mathematical Functions
9.15. NumPy – Arithmetic Operations
9.16. NumPy – Statistical Functions
9.17. Sort, Search & Counting Functions
9.18. NumPy – Byte Swapping
9.19. NumPy – Copies & Views
9.20. NumPy – Matrix Library
9.21. NumPy – Linear Algebra

10. Visualization
    10.1. Matplotlib

- Data Science Projects
    - Handling MIssing data
    - Manipulation of the data
    - Creating the data with numpy
    - Visualizing the data by using different libraries