Python Course

**Module 1**

* Introduction to Python
* Features of type and why to choose python
* Python Syntax and Keywords
* Variables and Data Types
* Scopes and Identifiers
* Python String
* Casting
* Operators
* **Assignment:**
  + String Methods and It’s operations
  + Operators
  + Casting operations

**Module 2**

* Data Structures
  + List
  + Tuple
  + Dictionaries
  + Sets
  + Frozensets
* Decision Making Statements
* Nested Statements
* For Loop
* While Loop
* Break, Continue and Pass Statements
* **Assignment:**
  + CRUD operations on Data Structures
  + Logical Based on conditions and Loops

**Module 3**

* Functions
* Function Arguments
* Types of Arguments
* Lambda
* Built-In Functions
  + Range, zip, sum, abs, sorted, **map, filter, reduce**.

**Module 4**

* What is Object Oriented Programming
* Classes, Objects and Constructors
* Inheritance
  + Single
  + MultiLevel
  + Multiple
  + MRO
* Duck-Typing
* Ploymorphism
* Encapsulation
* Properties
* Abstract Classes and Methods
* Stub file

**Module 5**

* Exception Handling
* Regular Expression
* Global Keyword
* GUI Programming
  + Introduction to tKinter
  + Widgets
    - Labels, buttons, entry, text, frame, etc.
  + Get User Input and more.
* Assignment:
  + Create their own regex pattern for example (phone number)
* GUI Projects In class
  + Temperature Converter
  + Building Text Editor

--------- IF EXTENDS TO MORE THAN 25 CLASSES --------

* File Operations
* List Comprehension
* Multithreading
* Multiprocessing
* Iterators
* Dunder methods
* Meta classes
* Decorators
* Generators
* Context manager
* Introduction to pyGames
* Basics of Game Programming
* PyGames Concepts
* Sprites
* Custom Events
* Sprite Images and more
* Snake Game - Project