**Python**

**Table of contents:**

* Introduction to the world programming and Python
* Installation
  1. On Windows
  2. On Linux
  3. On Mac
* Overview
  1. Python Interpreter
  2. Run as a source file
  3. White spaces and Indentation
  4. Comments
  5. Modules
* Using Anaconda
  1. Installation
  2. Using Jupyter/Spyder
* Variables and Data Types
  1. Data Types
  2. Keywords and Identifiers
  3. Variable Assignments
  4. Reading Input from the keyboard
  5. Multiple Assignments in a single line
  6. Formatting strings
* Operators and Expressions
  1. Operators
  2. Relational Operators
  3. Logical Operators
  4. Shorthand Operators
  5. Expressions
  6. Type conversion
  7. Examples and Practice Questions
* Conditional and Control statements
  1. If
  2. If Else
  3. Nested if
  4. For loop
  5. While loop
  6. Combination of conditional and control statements
  7. Examples and Practice questions
* Data Structures
  1. Lists
  2. Using lists as Stack and Queue
  3. List Comprehension
  4. Tuples
  5. Sets
  6. Dictionaries
  7. Examples and Practice Questions
* Strings
  1. Methods of String
  2. Manipulation of String
  3. Palindrome program
  4. Number of words in a sentence
  5. Iterating all the characters in the string
  6. Examples and Practice Questions
* Functions
  1. Defining Function
  2. Local and Global variables
  3. Default argument value
  4. Keyword arguments
  5. Higher-order function
  6. Map function
  7. Examples and Practice Questions
* File handling
  1. File opening
  2. Closing a file
  3. Reading a file
  4. Using With to open a file
  5. Writing in a file
  6. Examples and Practice Questions
* OOPS
  1. Class
  2. Working with \_\_init\_\_method
  3. Object
  4. Inheritance
  5. Multiple Inheritance
  6. Encapsulation
  7. Data abstraction
  8. Examples and Practice Questions
* Exception Handling
  1. How to Handle Exceptions
  2. Different Type of Exceptions
  3. Raising own Exceptions
  4. Try, Except and Finally
  5. Examples and Practice Questions
* Modules
  1. Introduction
  2. Importing Modules
  3. Sub modules
  4. Example for modules
  5. \_\_all\_\_in\_\_init\_\_.py
  6. Examples and Practice Questions
* Iterators, Generators and Decorators
  1. Iterators
  2. Generators
  3. Closures
  4. Decorators
  5. Examples and Practice Questions
* Packages for Machine Learning
  1. Pandas
  2. NumPy
  3. Scikit-learn
  4. Matplotlib
  5. TensorFlow
  6. Keras
  7. NLTK
  8. Spacy
  9. All additional Packages overview
* Testing in Python
  1. What we should test
  2. Unit testing
  3. Example program to test
  4. Assert statements
  5. Testing examples
  6. Test coverage and Example
* Project Structure
* Flask introduction and hello-world program