

Ch1 - Python language

Introduction

1. What is Python
2. Why Python?
3. Python Uses
4. Python installation

Python Lesson – 1 (2-3) hours

1. Values and types
2. Variables
3. Python reserves keywords
4. Python Arithmetic Operators
5. Python Assignment Operators
6. Python Comparison Operators
7. Python Logical Operators
8. Python Identity Operators
9. Python Membership Operators

Python Lesson – 2 (2-3) hours

1. Statements
2. Order of operations
3. String operations
4. Asking the user for input
5. Comments
6. Conditional execution & Nested conditionals

Python Lesson – 3 (2-3) hours

1. try and except
2. Function calls
3. Adding new functions
4. Lists

Python Lesson – 4 (2-3) hours

1. Mutable and Immutable
2. Tuples
3. Dictionaries
4. Iterations
5. Class
6. Map
7. Lambda
8. zip
9. module

Ch2 - Some of Python libraries

Regular Expirations (1-2) hours

1. What is regular expiration?
2. Regular expirations keys
3. Use Regular expirations with txt files

Sqlite3 (4-5) hours

1. What is sqlite3
2. Open/Create database
3. Use sqlite3 command into python
 - a. Create tables
 - b. Insert data
 - c. Select data
 - d. Commit edits
 - e. Delete data
 - f. Join
 - g. Create view
 - h. Update data
4. Create an effective database

NumPy (4-5) hours

1. What is NumPy
2. Install NumPy
3. Arrays
 - a. Create array (np.array, np.arange, np.linspace)
 - b. Shape, reshape and resize
 - c. np.vstack and np.hstack
 - d. How to learn more and more
4. Operations
5. Math Functions
6. Indexing / Slicing
7. Copying Data
8. Iterating Over Arrays
9. random

Pandas (6-7) hours

1. What is Pandas?
2. Install Pandas
3. Series and DataFrames
4. Create a Series
5. Create a Dataframe
6. Indexing Series and DataFrames
7. Missing values
8. Merging DataFrames
9. Apply
10. Group by
11. Scales
12. Pivot Tables
13. Datetime
14. Distributions in Pandas

Data Science Project