Fundamental Computing 1 - References

0. General References for Fundamental Computing

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  Accessible at: https://greenteapress.com/thinkpython2/thinkpython2.pdf
  - Chapter 1 – 3, 5 – 14

- **Cambridge International AS and A Level - Computer Science (9806)**
  - Chapter 11 – 14, 23 – 26

- **AQA Computing – AS Computing**
  - Unit 1.4, 2 – 4, 5.1 – 5.2

- **AQA Computing – A2 Computing**
  - Unit 2 – 3

- **Python.org Documentation**
  - https://docs.python.org/3/
  - https://docs.python.org/3/tutorial/index.html

1a. Data Types and Basic Operations

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 1 (General Introduction) – Focusing on 1.4 – 1.5
  - Chapter 2.5 – 2.6
  - Chapter 5.1 – 5.3

- **Python.org Documentation**
  - https://docs.python.org/3/tutorial/introduction.html#numbers
  - https://docs.python.org/3/tutorial/introduction.html#strings
  - https://docs.python.org/3/library/stdtypes.html#numeric-types-int-float-complex
  - https://docs.python.org/3/library/stdtypes.html#boolean-operations-and-or-not
  - https://docs.python.org/3/library/stdtypes.html#comparisons
  - https://docs.python.org/3/tutorial/datastructures.html#more-on-conditions
  - https://docs.python.org/3/tutorial/datastructures.html#comparing-sequences-and-other-types
  - https://docs.python.org/3/library/stdtypes.html#text-sequence-type-str
  - https://docs.python.org/3/library/string.html

1b. Expressions and Statements

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 2.3 – 2.4, 2.7

2. Variables and Assignment

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 2.1 – 2.3

3. Input, Output and Type-casting

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 1.1 – 1.3
  - Chapter 5.11
  - Chapter 3.1

- **Python.org Documentation**
  - https://docs.python.org/3/library/functions.html (i.e., **input**, **print**, **int**, **float**, **str**, **bool**)

4a. Control Structures (Sequence)

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 3.6

4b. Selection / Branching – IF Statement

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 5.4 – 5.7

- **Python.org Documentation**
  - https://docs.python.org/3/tutorial/controlflow.html#if-statements
  - https://docs.python.org/3/reference/compound_stmts.html#the-if-statement

4b. Repetition / Iteration – WHILE / FOR Loops

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 7
  - Chapter 8.1 – 8.3

- **Python.org Documentation**
  - https://docs.python.org/3/tutorial/controlflow.html#for-statements
  - https://docs.python.org/3/tutorial/controlflow.html#the-range-function
  - https://docs.python.org/3/tutorial/controlflow.html#break-and-continue-statements-and-else-clauses-on-loops
  - https://docs.python.org/3/tutorial/controlflow.html#pass-statements
  - https://docs.python.org/3/reference/compound_stmts.html#the-while-statement
  - https://docs.python.org/3/reference/compound_stmts.html#the-for-statement

5. Arrays and Dictionaries (and Strings Revisited)

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 8
  - Chapter 10
  - Chapter 11

- **Python.org Documentation**
  - https://docs.python.org/3/tutorial/introduction.html#lists
  - https://docs.python.org/3/tutorial/datastructures.html#more-on-lists
  - https://docs.python.org/3/library/stdtypes.html#sequence-types-list-tuple-range
  - https://docs.python.org/3/tutorial/datastructures.html#dictionaries
  - https://docs.python.org/3/library/stdtypes.html#mapping-types-dict

6. Functions and Recursion

- **Think Python: How to Think Like a Computer Scientist (Version 2.2.23)**
  - Chapter 3
  - Chapter 6
  - Chapter 5.8 – 5.10

- **Python.org Documentation**
  - https://docs.python.org/3/tutorial/controlflow.html#defining-functions
  - https://docs.python.org/3/tutorial/controlflow.html#more-on-defining-functions

Other Learning Resources

- **Data Camp Python Course**
  - https://www.datacamp.com/onboarding/learn?technology=python

- **Hacker Rank Python Content**
  - https://www.hackerrank.com/domains/python
  - https://www.hackerrank.com/challenges/30-data-types/problem

- **Tutorials Point Documentation**
  - https://www.tutorialspoint.com/python3/

- **Code Combat**
  - https://codecombat.com/play