Introduction to programming using Python

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http://moodle.city.ac.uk/

Recommended reading

- Books:
  - How to Think Like a Computer Scientist by Allen B. Downey
  - Introduction to programming using Python by Daniel Liang
- Website:
  - The official python tutorial: https://docs.python.org/3/tutorial/
- See links for the websites and free Python e-books on Moodle.

Tools

- IDE: Pycharm
- Online tools: pythontutor.com

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Handouts

- No handouts will be given.

- You can find the handouts online on Moodle.

- Printing

- You can print handouts after you purchase credit from the computer shop (Room: E101 Drysdale Building) or by topping up online

- More info: https://intranet.city.ac.uk/students/it/it/print.html

Objectives

- Think like a programmer.
- Introduction to Python. Variables. Loops. Main method. Conditional structures. Data structure.
- Debugging in Python (using pdb, Pycharm). How to read a program.
- File manipulation: Reading and writing files.
- Object Oriented programming in Python: classes, objects, inheritance, polymorphism, encapsulation. How to build a modular python program.
- Introduction to the Python standard library.
- Testing in Python. Presentation of doctest and unittest.
- Error handling: exceptions.