Lecture 2 - Advanced Programming in Python

Object Oriented Programming
Brief introduction: 10.1-10.6

28/02/2025

Lecture 2 - Outline

- Introduction to PyTest

- Object Orientation (OO) - part 1

PyTest - Framework for Testing

- Tests - Process used to verify if your program has the expected outcome (or it is doing what is supposed to do)

- In this class, the tests are written using pytest.

- See - pytestExample project on BB

OO

- In Python everything is an object

- Object-based programming: create and use objects of existing classes

- To take maximum advantage of Python you must familiarize yourself with lots of preexisting classes

- Object-oriented programming: create your own classes

- Object-oriented programming makes it easier to design, implement, test, debug and update applications

OO by example

- A class combines <u>data</u> and <u>methods</u> operating on the data.

  - Ex: Bank account class

    - Data: name, account number, balance, …

    - Methods: deposit,…

- An instance of a class is an object

Overview
See corresponding Jupyter notebooks

- Account

- Timer

- Deck of cards

- Discussion of decorators