Advanced Perspective of Classes and Object-Oriented Programming in Python

Syllabus

OOP Foundations

Classes, instances, attributes, methods - introduction; working with class and instance data - instance variables.

OOP Advanced

Python core syntax; inheritance and polymorphism - inheritance as a pillar of OOP; extended function argument syntax; decorators; different faces of Python methods; abstract classes, encapsulation; composition vs inheritance - two ways to the same destination; inheriting properties from built-in classes.

Advanced Techniques of Creating and Serving Exceptions

Exceptions - introduction; named attributes of exception objects; chained exceptions; traceback objects of exceptions.

Object Persistence

Shallow and deep copy operations; serialization of Python objects using the pickle module' making Python objects persistent using the shelve module.

Metaprogramming

Metaprogramming and metaclasses - introduction; special attributes; type function.