Object oriented and functional programming in Python

Course Description

This course builds upon basic knowledge of Python programming (Introduction to Programming with Python, DLBDSIPWP) and is concerned with the exposition of advanced Python programming concepts. To this end, important notions of object-oriented programming, such as classes and objects, and those pertaining to design principles are outlined. Starting from an in-depth discussion of advanced features of Python functions, functional programming concepts and their implementation in Python are conveyed.

Contents

▪ This course provides students with a thorough introduction to important notions and

concepts from the domain of object-oriented programming such as classes, objects, abstraction, encapsulation, inheritance, polymorphism, composition, and delegation. Additionally, the functional programming paradigm and concepts such as functions as first-class objects, decorators, pure functions, immutability, and higher-order functions are conveyed. Pursuant to the portfolio course type, the aforementioned concepts and ideas are explored by hands-on programming projects.