

Python Programming (CS0452)
Tutorial Exercises for Unit 5-6

Exercise for Python Tutorials

Unit 5:

Files - practice all the operations/functions on files

- I. Practise the file operations and related functions.
- II. Demonstrate the concept of 'pickling' .
- III. Demonstrate the use of string conversion and 'eval' in files.

Unit 6:

Classes and objects

- I. Practise class definition, creating objects, adding attributes.
- II. Show the difference between shallow copy and deep copy.
- III. Simulate a simple calculator. Define a class 'Calci' having two attributes 'x' and 'y'. The class has a constructor for initializing 'x' and 'y'. Let the program perform the operations:
add, sub, mul, pow and divmod on the two attributes (x and y) of the Calci class.
- IV(a). Write a program that identifies the age of a person. Define a class 'Person' with attributes name and date of birth. Use constructor to initialize the attributes of 'Person' object. Identify the object's 'age' according to the current date.
- IV(b). Rewrite the 'Person' class so that the Person's age is calculated for the first time when a new Person object is created, and recalculated (when it is requested) if the day has changed since the last time that it was calculated.
- V. Demonstrate working of Pure functions and Modifiers.
- VI. Demonstrate the following OOP concepts:
 - (a) Operator Overloading
 - (b) Polymorphism
 - (c) Inheritance