ASInt - MEEC
Lab 3

Design and implement a simple bibliographic database. This database should be accessed from remote clients. The final remotely accessible version will user Pyro, but beforehand a centralized version should be implemented.
The students should implement the following classes:

- book
- bookDB
- dbUI

Book class

The **book** class should contain the information of a single book:

- Author
- Title
- publication year
- Identifier

Students should define a class that will allow the creation of book objects.
Define a suitable identifier for a book.

bookDB

The **bookDB** class contains an array of books and should implement the following methods:

- Insert book
- Show book (using the book identifier)
- List all authors
- List books from a certain author
- List book publish in a certain year

Every time a book is inserted, the database should be serialized into a backup file using the **pickle** functions.

dbUI

The **dbUI** will allow the interaction with the **bookDB** from the keyboard.

The **dbUI** should be a class that reads commands from the keyboard and accesses the methods of the database class:

- NEW
- SHOW
- AUTHORS
- SEARCH_AUTH
- SEARCH_YEAR

Centralized app

The first version of the database should be centralized. There should only be one **main** on the **centralizedAPP.py** file).
The book storage should be an instance of **bookDB**. If a backup file exists, the bookDB should be

populated with the data in that file

Distributed App

Modify the previous code to allow the remote access to the database. In order to implement communication, use the Pyro middleware.
There should be two mains one on the **DbServer.py** file, the other of the **DBClient.py**.
Create these two file in different directories, to emulate the correct distributions of the execution of the server and client.

Students should use the Pyro4 middleware: http://pythonhosted.org/Pyro4/
To install it students should issues one of the following command:

- if you have root access
  - sudo pip install pyro4
- if you do not have root access
  - pip install --user pyro4

    or
  - user virtualenv

Pyro4 documentation can be accessed in:

- http://pythonhosted.org/Pyro4/clientcode.html
- http://pythonhosted.org/Pyro4/servercode.html

virtualenv documentation can be accessed in:

- https://docs.python.org/3/tutorial/venv.html
- https://packaging.python.org/guides/installing-using-pip-and-virtualenv/