

OOP Principles Tutorial Nine – Persistence Using Files Part One

Objective:

The objectives of this tutorial are to allow students to be able to:

- Practice using sequential file streams
- Open, store and read data from a sequential file
- Achieve object persistence using a sequential file

Class Exercise

Requirements

We are required to design a system that stores and retrieves users to and from a file called “users.txt”. The user information can also be displayed. Each user has a user name, user id, and a password. The information is to be stored in plain text (that is, it is not encrypted). Store will simply store the data from the user in the file, while retrieve will prompt the user to enter the user name then retrieve the user from the file. If the user is not found, the message “user not found” will be displayed

UML

User
- UserName : string - UserId : int - Password : string
+ User() + User(string, int, string) + Store() + Retrieve() + Display()

Exercise One:

- 1) Implement the User class depicted above.
- 2) Write a driver file for the User class. In the driver:

Create four objects with information for user name, user id and password as follows:

"Jane", 109, "Janey100"

"Dave", 110, "DvTheMan"

"Sue", 111, "Suzy"

"Mark", 112, "Marcus123")

Invoke an appropriate method to store the information from each object in the "Users.txt" file.

Invoke an appropriate method to retrieve the information for a user and display the results. Test that the system works entering "Sue" and then "Larry". The system should find and display the information for "Sue" but display "User not found" for "Larry".

See the solution in the lab exercise.