EEET2482/COSC2082 – Software Engineering Design, Advanced Programming Techniques

Week 3 - Exercises

1. Write a program to provide a menu for user to:
   1. Input a password (which is a string). Save it into a file namely "pwd.dat".
   2. Read the stored password from the file. Print it out to the console.

Example Run:

Password management program:

1. Save your password

2. Read your password

Your choice: 1

Enter the password: abc123

Saved to the file!

Additional: modify the program so that the password string may have spaces (e.g. “abc 123”).

1. Define a class namely student with attributes are *name* (string) and *score* (integer). Both of them are public.
   1. Write a constructor for the class to initialize attributes’ values.
   2. Create two student objects and initialize values for them using class constructor. Print out all information of the two students.
   3. Create an array of three students and initialize values for all of them using class constructor. Print out information of the student with highest score.

Additional: modify the program so that *score* is private, and make a method namely get\_score() to provide reading access to it.

1. From the student class in question 2, add another private attribute namely password. Write a method for the class namely change\_pwd() to allow people to change their password as below and test it in main function.
   1. If there is no existing password, allow them to provide value for the password. Save it into a file namely name.dat (whereas name is student name).
   2. If there is an existing password, ask them to enter their previous password to check. If it is matched, save the new password into their file.
2. Define a class namely Cat with public attributes are name (strin-g), age (int).

Define another class namely person with public attributes are cat (Cat class) and name (string).

Each class must have their own constructors.

1. Make an array of three persons, and initialize values for them.
2. Print out the information of the person who has the cat with the highest age (also print out information of that cat).
3. Write a C++ program that stores the following data into a binary file. The data from each array will be stored into three binary files using different methods: a) insertion operator b) put method c) write method.

Character array: 0x5A, 0x3F, 0x33, 0x3D, 0x40, 0x6B, 0x4C, 0x58, 0x72, 0x4E, 0x2F

Using a hex editor, analyse the data in each file and relate them to the above array data.