Corso di Laboratorio di Programmazione

Esercitazione 1 – Classi
23/10/2019

Nota: i quesiti e gli esercizi seguenti sono tratti (ma non tradotti) dal libro di testo.

Discussione

A coppie, rispondete alle seguenti domande (Review, cap. 9, p. 338 sgg.):

1. What are the two parts of a class?
2. What is the difference between the interface and the implementation in a class?
3. Why is a constructor used for the Date type instead of an init_day() function?
4. What is an invariant? Give examples.
5. When should functions be put in the class definition, and when should they be defined outside the class? Why?

Esercizi (#2, 3, p. 339)

1. Design and implement a Name_pairs class class holding (name, age) pairs where name is a string and age is a double. Represent that as a vector<string> (called name) and a vector<double> (called age) member. Then,
   1. Provide an input operation read_names() that reads a series of names.
   2. Provide a read_ages() operation that prompts the user for an age for each name.
   3. Provide a print() operation that prints out the (name[i], age[i]) pairs (one per line) in the order determined by the name vector.
   4. Provide a sort() operation that sorts the name vector in alphabetical order and reorganizes the age vector to match.

Implement all "operations" as member functions. Test the class (of course: test early and often).

2. Replace Name_pairs::print with a (global) operator <<.

Per compilare: aprite una shell e navigate nella directory dove avete salvato il sorgente (usate il comando cd per entrare in una directory – cd .. per uscirne). Da lì, usate il comando:

g++ -o [nome eseguibile generato] [nome sorgente]

Per eseguire:
./[nome eseguibile]