Corso di Laboratorio di Programmazione

Esercitazione 4 – Array, IDE
4/12/2019

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. 18, p. 664):

1. What is the default meaning of copying for class objects?
2. When is the default meaning of copying of class object appropriate?
3. When is it inappropriate?
4. What is a copy constructor?
5. What is a copy assignment?
6. What is the difference between copy assignment and copy initialization?
7. What is shallow copy? What is deep copy?
8. What is an explicit constructor? Where would you prefer one over the (default) alternative?
9. How do you copy an array?
10. What is a C-style string?

Esercizi (da svolgere usando l'IDE)

1. In main():
    1. Define (in this order): an int named i, an array of 10 int and an int named j. Initialize those variables at definition. Then, get the addresses of the variables i and j and modify them using the array, subscripted with an out-of-bound index. Verify that the variables hold a different value using the watch or the local window.
2. Define a global vector<int> gv; initialize it with ten ints, 1, 2, 4, 8, 16, etc.
3. Define a function f() taking a vector<int> argument.
4. Define a function f() taking an int array argument and an int argument indicating the number of elements in the array. In f():
    1. Define a local int array la of ten ints;
    2. Copy the values from ga into la;
    3. Print out the elements of la;
    4. Define a pointer p to int and initialize it with an array allocated on the free store with the same number of elements as the argument array;
    5. Deallocate the free-store array.
5. In main():
    1. Call f() with ga as its argument;
    2. Define an array aa with ten elements, and initialize it with the first ten factorial values (1, 2*1, 3*2*1, 4*3*2*1, etc.);
    3. Call f() with aa as its argument.