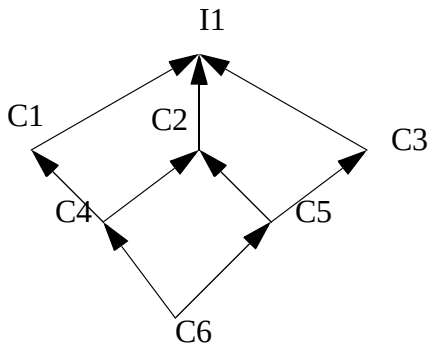
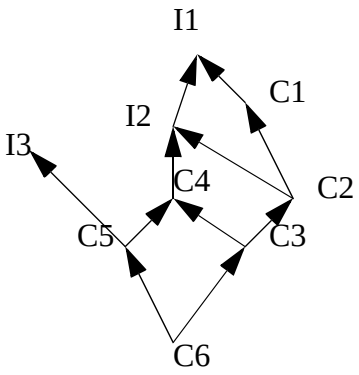
# Homework 4 (due 4/28/2009)

1. Show the object layout (according to standard multiple inheritance rules) for the most derived class of the following inheritance hierarchies (assume the leftmost superclass is the primary superclass in cases of inheritance from multiple classes). This part can be turned in either on paper or electronically.




2. Write a C++ program to discover what the memory layout of objects is under multiple inheritance. Is the layout implemented by your compiler the same as what we discussed in class? (If not, explain the difference.) Test how good a job the compiler does in merging dispatch tables (i.e., assigning non-conflicting offsets to methods). Can you think of a good way to find out how the compiler adjusts the “this” pointer for inherited and overridden methods? (Even if you do not manage to do this last part, explain what you tried.)

   You need to submit the source code you used, in addition to the answers.