22c:31 Project 3: Due 11/15/2013

For this assignment, you will solve the project selection problem using java. A project may bring profit or loss to a company. A project may also require other projects as prerequisite. Because of this, to implement a project with high profit, you may have to select some projects that will cost money. Suppose you are the CEO of a company and you want to sellect a subset of the projects presented to you so that the total profits from this subset is maximal.

In the code `Project.java`, a project is defined by three fields: label (i.e., name), profit (loss if it is negative), and a list of projects as prerequiste (called predecessors). In the code `ProjSelect.java`, you can create any number of projects, but no code is given on how to select a subset of projects with maximal profits. This is a hard computation problem if you have no clues.

Fortunately, this problem can be solved using the max-flow min-cut algorithm. The details are given here: How to convert Project Selection into max-flow min-cut problem. You need to study this material to find out how to convert a set of projects into a max-flow min-cut problem and then use the max-flow min-cut algorithm to solve the project selection problem.

By the way, the implementation of the max-flow min-cute algorithm is given here: FlowEdge.java, FlowNetwork.java, FoldFulkerson.java

Please submit all the codes along with a transcript of its execution for the number of projects equals to 20, 30, 50, 80, and 100, respectively. Submit everything in the ICON dropbox for Project3 before or on 11/15/2013.

Thank you!
