COMP 610 Project: Correct or Fast
due May 21, 2007

You have been randomly assigned an NP-complete problem which has an optimization version (see below). You may trade problems with anyone willing to trade with you. You may ask to switch to another (unassigned) NP-complete problem. In general, this change will be accepted as long as no one else has a problem too similar.

You will write a program which accomplishes 2 goals. First it must solve instances of your problem exactly. This solution will very likely require exponential time. Second your program should find a "pretty good" feasible solution in polynomial time (use some reasonable heuristic).

Finally you will write a 5-10 page report which describes your problem in detail, describes how your program finds the exact solution, describes the heuristic behind your fast solution, and presents the results of testing your program on a variety of problem instances (and descibes how/why you generated the instances you tested). Your report should have at least two real references (Wikipedia/blogs/etc are not real references).

If you don't understand the project, can't find information on your problem, don't see how your problem has an optimization version ask after class or in office hours sometime in the next week or two. I will have no sympathy if you show up in mid May with major problems.

Problem	**Student**
3Colorability	Hickman
AchromaticNumber	Kalyan Landeck
Bandwidth	Levin
BinPacking	Vamos
BipartiteSubgraph	Carrasco
Clique	Raju
DominatingSet	Limaye
GraphColoring	Hermance
GraphPartition	Tran,V
HittingSet	Khamudis
IndependentSet	Yelloz
Knapsack	Nagle
LongestPath	Azadian
Max2Sat	Wickramaratne
MaxCut	Shahbaz
SubsetProduct	Kebede
MaxLeafSpanningTree	Tran,Q
Partition	Muljono
ShortestCommonSupersequence	Feldman
SteinerTree	Lee
SubsetSum	Tsega
TravelingSalesman	Gupta
VertexCover	Rogers
RuralPostman	Khanna