

CS 6241 : Project Phase I

Total points : 100

Due : Friday, March 13th , 11:59 pm 2009

Important Policies:

1. **Work in teams, please direct questions regarding clarifications to the TA**
2. **Although some project problems may have solutions available in books, internet sources etc. you are supposed to solve them on your own without looking up such solutions. This rule will be STRICTLY enforced and any act of such lookup will be considered an act of plagiarism and will result in the strict penalty as per Georgia Tech honor code.**
3. **Document your solution making suitable reasonable assumptions and clearly stating them..**

Problem : Reaching definition analysis suffers from the problem of infeasible paths. In other words, all paths are considered likely or feasible by the analysis. As discussed in class, use the concept of co-related predicates and feasible paths in changing the analysis. You are free to devise any solution you want here to discover infeasibility condition and use it to sharpen the reaching definition analysis. First, devise a solution and then implement the necessary underlying analysis and generate results. You should show through kernels and large benchmarks, the precision gains you have over the standard reaching definition analysis.

Hint : You may want to use profiling to first see the “gap” that would exist between a path sensitive analysis as above and standard reaching definitions. In short, try working with frequent paths and frequent reaching definitions to gain a “quantitative” understanding of the problem before devising the solution.