California Institute of Technology
Department of Computer Science
Computer Architecture

CS184b, Spring 2003 Assignment 3: ILP Monday, April 14

Due: Monday, April 21, 9:00AM

Part A:

1. HP 3.1
2. HP 3.6

Part B: For the `bzip2` you have been using in the previous assignments:

1. Using default sizes (and default machine configuration), compare the performance of the three branch history options given (bimodal, 2-level, combining). How well does branch prediction accuracy correlate with performance?
2. Balance the resources in the sim-outorder pipeline, starting from the default sim-outorder machine. Keep fetch queue at 4, and try to make everything else in the pipeline just large enough to not be the limiting factor on performance, but not larger. (maybe target a goal of performance within 10% of case where only fetch is at 4 and everything else is "ideal"). You probably want to do a sensitivity analysis for each resource to determine what's limiting and how to change.
3. With the same resource set above, perform an in-order simulation (same simulator, just use the `-issue:inorder` option) and compare the runtime.