Homework 6
Due Date: Mar 23, 2000

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Note: The questions in this homework are designed to test basic understanding of material covered in lectures 13, 14, 15, 16 and 17. This homework can be done in groups of two.

Question 1: Pages 12-14 of lecture 13 (data flow analysis) showed fix-point computations for the reaching definitions analysis. As some students pointed out in class, there was an error in the computations. Show the correct computation.

Question 2: This refers to page 21, lecture 14 (Testing Metrics). Compute the quantities referred to in page 21. Show all the intermediate steps. Also show a two sets of paths in the program shown on page 20 that satisfies the *all-nodes* and *all-edges* criteria respectively.

Question 3 :
Take the simple configuration of the dining philosophers example, as seen in class

Part a: Enumerate all the proper concurrency histories.
Part b: Come up with a minimal set of concurrency histories that satisfy the All-cc-interactions criteria.

Question 4: This refers to lecture 17. On page 18 three problems in the existing implementation of the communication manager (CM) are identified. These problems are: blocking sends, failures, and monitoring. How were these problems addressed in the new implementation of the CM?

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