

Homework 4

CS 540
Spring 1993
Craig A. Rich

Prepare a coherent and concise set of notes summarizing the following subsections of sections 10.4 and 10.9 in Aho, Sethi, and Ullman:

- 10.4—Reducible Flow Graphs
- 10.9—Intervals
- 10.9—Interval Partitions
- 10.9—Interval Graphs

The notes should include the following definitions pertaining to flow graphs $G = (V, E)$ which satisfy the reachability assumption:

- Reducible flow graph G
- Interval with header $n \in V$
- Interval graph $I(G)$
- Limit flow graph of G

The goal is to present the essential facts about these concepts. Avoid intuitive discussions (such as those in Aho, Sethi, and Ullman) in favor of simple and precise mathematical definitions. Do not include any theorems involving these definitions, except the theorem stating the relationship between reducible flow graphs and limit flow graphs. Do not prove this theorem. Examples are optional, but they should not replace or precede the definitions which they illustrate.

The notes should not exceed four pages and may be typed or handwritten; however, poor handwriting can adversely affect the overall appearance. The notes will be graded holistically for each of the following qualities:

- Mathematical precision and completeness
- Complete and grammatically correct sentences without misspellings
- Conciseness
- Overall Appearance