

CS 122 Fall 2010 HW 8, Due Friday December 3 - extension until Monday Dec. 6

1. Do problems 1a, 2 on page 505.

You can assume that the problems of Node Cover, Independent Set, Satisfiability, 3-SAT, are all NP-complete.

2. Consider the Center Selection problem discussed in class and in section 11.2 of the book.

On p. 609 the book states “Next ... then its conclusion that no set can have covering radius at most r is indeed correct”. I believe that this sentence is missing some needed words, and is incorrect as written. Do you agree, and if so, what additional words are needed?

3. Given the limited time for this problem set, the next question is extra credit. However, a question similar to this may be on the final exam.

Problem 1b on page 505 asks if it is true that Independent Set \leq_P Interval Scheduling. I believe that it is not possible to answer that question without resolving the question of whether $P = NP$. Do you agree? Explain.