University of Washington
Department of Computer Science and Engineering
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CSE 521, Spring 2001

Homework 5, **Due Wednesday, May 2, 2001**

Problem 1. From the text:
CLR, Page 476, Exercise 23.2-6.

Problem 2. From the text:
CLR, Page 476, Exercise 23.2-7. (In this case, efficient means $O(n)$.)

Problem 3. From the text:
CLR, Page 477, Exercise 23.2-8.

Problem 4.:
Let $G = (V, E)$ be an undirected graph with $c(e) \in \{0, 1, 2\}$. Show that a MST of G can be computed in $O(n + m)$ time.

Problem 5. MST of a random graph:
Let $G = (V, E)$ be a complete graph on n vertices, with edges costs independently randomly chosen from $[0, 1)$. Argue that the expected weight of a minimum spanning tree is $O(1)$. (I was told that the expected weight is $\zeta(3)$ but haven't verified this.)