

CS 141: Advanced Topics in Algorithms
Spring 2006
Homework John and Michael

John McCullough

Due: Thursday, April 20

1. [9.9 Points] **Prove the Sibling Property!**

In class we used the result that a code tree is a Huffman Tree if and only if it maintains the sibling property. If you recall, the sibling property is stated as:

A binary code tree has the sibling property if each node (except the root) has a sibling and if the nodes can be listed in order of non-increasing weight with each node being adjacent to its sibling in this ordering.

Because we are busy students, we would like you to prove this for us. Don't forget to show both directions!