

CSE 6331, Fall, 2012
Prof. T. K. Dey
Office : 483 Dreese Lab

CSE 6331 Homework 6
Due Thursday, October 11

1. Professor Dey claims that the height of an n -node Fibonacci heap is $O(\log n)$. Show that his claim is wrong by exhibiting, for any positive integer n , a sequence of Fibonacci-heap operations that creates a Fibonacci heap consisting of just one tree that is linear chain of n nodes.
2. Page 495, 23-1 (b) (1st edition), Page 558, 22-1 (b) (2nd edition), Page 621, 22-1 (b) (3rd edition)
3. An *articulation point* of a connected (undirected) graph G is a vertex whose removal disconnects G . Give an algorithm for reporting all articulation points of a connected graph G in $O(|V| + |E|)$ time. Argue for correctness of your algorithm.