

CS 466/666 Spring 2014  
Assignment 3  
Due Noon, June 2, 2013

You are on your honour to present your own work and acknowledge your sources.

1. [6 marks: Splay Trees] One feature of splaying versus the simple move to root heuristic is that in performing a splay operation (i.e. performing the appropriate splay operations to move a node to the root), no node has its depth increased by more than 2. Prove this.
2. [6 marks: splay trees versus static optimal] Give an example of an arbitrarily long sequence (much longer than  $n$ ) of search requests for  $n$  key values such that the cost in a splay tree is “much” (i.e. more than a constant factor) less than that of the static optimal. Give both costs.