

CSC236 tutorial exercises, Week #3

Here are your tutorial sections:

Surname	Time	Room	TA
A-K	Friday 11	SS1088	Zhaowei
L-Tg	Friday 11	SS2105	Hamed
Th-Z	Friday 11	BA2175	Gal
A-L	Friday noon	AB114	Wen
M-Z	Friday noon	BF323	Lauren
A-K	Friday 1	BA1170	Ammar
L-Tg	Friday 1	AB107	Alex
Th-Z	Friday 1	AB114	Shems
A-K	Thursday 8	BA2139	Zach
L-Tg	Thursday 8	BA2185	Ekansh
Th-Z	Thursday 8	BA2195	Danniel

These exercises are intended to give you practice with complete induction.

1. Full binary trees are binary trees where all internal nodes have 2 children. Prove that any full binary tree with more than 1 node has no more than twice as many leaves as internal nodes. Use complete induction on the total number of nodes.
2. Use Complete Induction to show that postage of exactly n cents can be made using only 6-cent and 7-cent stamps, for every natural number n greater than k (you will have to discover the value of k).