CSE143 Lecture Questions for Wednesday, 6/2/21

Question	Answer
Why is the Huffman assignment worth 30 points instead of the regular 20?	It's a longer assignment and has two parts.
What class/classes do people typically do next after 143? Ah ok, thank you.	I'm going to discuss that in Friday's lecture.
Wouldn't the number of leaf nodes be related to 2^height of the tree instead of the number of nodes?	They're both related to 2^height, although off by 1 level. Think about it. If you have 3 levels, you have 1 + 2 + 4 nodes which is 7. 7 is just 1 below 2^3. Another level and you get 8 more nodes, total of 15, which is 1 less than 2^4. So the total number of nodes is always twice the number of leaves minus 1.
If recursion has a limit on binary trees, why do we use it instead of other methods to traverse binary trees? Isn't it riskier? Hm ok. Thanks.	We've seen that a lot of binary tree operations are nicely expressed recursively. If you have a balanced binary tree, you won't have any trouble.
Follow-up question: even if the tree is balanced, couldn't it still be deep if there is a lot of data? Would recursion still work in that case? Haha ok, I think I get it now. Thank you!	There is no way that the tree could be deep enough to cause a problem. Having a trillion values in the tree would lead to 40 levels. To get to 150 levels, you'd be talking about numbers so big that it exceeds the number of atoms on planet Earth.
Is what we're learning in lecture today/Friday things we should be using in HW8? Or is it more for our information? Thank you!	It is not something to use in homework 8. It's extra information.