Questions from Lecture 2

One or few

How do you handle 60×60 and get a reasonable answer?

Trees

I don't think I can grow a tree by myself.

What if it's a DAG rather than a tree, i.e. multiple parents?

What is the point of making a tree? And how do we know how to combine branches?

How do you break down the problem (choose the branches), like for the capacity of the audio CD?

Other spacing methods

How would you subdivide the diffraction and laser methods?

Where did the numbers for the diffraction and laser methods come from?

Viscosity

$\nu_{air} = \pi_{air}/\rho_{air}$? What was the question and how did you solve it?

Where does the equation for viscosity come from?

General

Do some of the estimations work only because I have done them before and know how to get a good number? How do I know what choices to make?

When do you use a second-order approximation, like $\sin\theta = \theta - \theta^3/6$?

How can you estimate the 'confidence interval' of your approximation?

Too much time answering questions from last time.

Where did the factors of 2 come from in both $f_{\text{sample rate}}$ and $n_{\text{bits/sample}}$?

What are good ways to memorize or learn dimensions of quantities? For example, L^2T^{-1} is not intuitive like LT^{-1}?

Why do we estimate data/information using bits?

Let's do more problems!

This is a really awesome class. I'd like to see it added to the GIRs as they're changing. I've been looking for a class like this since I got here.