PHY 201/181 Lab Instructor notes
Lab 9: Resonance and the Velocity of Sound
Fall 2003

- Setup:
  - Tubes (stored on top of the shelves).
  - Function generator, power cord, and BNC cable.
  - multimeter.
  - wooden block to support ruler, these are stored on the shelf with the weights.
- You should explain to the students using a rope demo or a slinky demo how one is to measure the wavelength. Explain nodes and why maxima are a half wavelength apart.
- The multimeters and signal generators are stored in the cabinets near the door of the lab (right side).
- At least for the first lab, the signal generators will have lots of settings wrong. Choose sine wave output; DUTY should be pushed in and turned to CAL. The output button should be pushed in. It should be set to output sine waves.
- The multimeters should be set to **AC** volts.
- The multimeters are battery driven and consume a steady diet of 9 V batteries. Also, they "go to sleep" after a while. Hit the "power" button to wake them up.
- The thermometer is hidden in the back of the room by the sink.
- Put the multimeters away at the end of the lab.

I am not convinced that things are set up for optimum signal: How was R chosen? Wouldn't phase lag be a better measure of peak position? *et cetera.*