Project

Suppose you want to build a pipe organ, a type of a musical instrument. All the organ’s pipes produce mostly their fundamental frequency. Note: this is not necessarily the way any real organ works.

None of the questions below have exact answers. Try to do your best, though.

(1) What frequency range would you consider for your design?
(2) What are the pipe lengths for the lowest and the highest frequency pipes? Consider the pipes open or closed at both ends, and the pipes closed at one end only.
(3) Consider possible space constraints. What pipe design (open ends, closed, etc) would you choose for the low-frequency pipes? Explain your answer.
(4) For the highest-frequency pipes, is the design described here realistic? Explain.