Let’s say you are an accomplished scientist working away in the laboratory, and you need to create 1.000 L of a buffer with a pH of 4.00. You would like this buffer to be able to withstand addition of at least 0.100 moles of either a strong acid or base. You have access to lots of 6.00 M HCl and 6.00 M NaOH, as well as a variety of 0.500 M weak acid solutions (acetic, phosphoric, carbonic, and formic).

Write yourself a procedure for creation of the desired buffer.