

Assignment: Designing algorithms and writing pseudocode

Your assignment for this week is to develop an algorithm – a procedure that spells out all the details for doing some task – and then write it into pseudocode. The problem that I want you to solve is something that you probably think is really easy, but tedious. I think that doing this exercise will show you that it is actually something fairly complicated, and that it is why it probably took you a few months or more to become good at it back in elementary school: the problem is doing out multiplication by hand. Assume that you are explaining to someone how to do this who understands how to do the following, and only the following:

1. Determine which of a pair of numbers is the larger one
2. Write down number
3. Figure out which digit is the ones digit, tens digit, etc.
4. Multiply together one-digit numbers
5. Add one-digit numbers and understand the meaning of carrying digits over

Everything else, you will have to spell out in your pseudocode.

This assignment will just be graded pass-fail. If you get it almost right, I will return it as a pass with some comments about what else you would have needed to do to get it completely correct.