Assignment #4. Due Thurs March 26

1. Translate the diagramatic representation of the Turing machine that computes $n + m$ (Figure 2 in Barker-Plummer's article "Turing Machines"*) into a sequence of transition rules in the form of 4-tuples $\langle$*initial state, initial symbol, final state, action*$\rangle$.

2. What is the Halting Problem? In what sense is it "unsolvable"?

3. In what sense is Turing's Thesis equivalent to Church's Thesis?

4. What is the decision problem for 1st-order arithmetic? In what sense is it "unsolvable"?

* David Barker-Plummer's article "Turing Machines" is the Fall 2018 version of this article and is located at
    https://plato.stanford.edu/archives/fall2018/entries/turing-machine/
    There is a newer version of the article by Liesbeth De Mol that's listed on the syllabus. Please use Barker-Plummer's article for this homework assignment.