You have almost certainly heard about this puzzle before. There is a farmer who wants to transform a fox, a goose, and a bag of beans from one side of a river to another using a boat which can only hold one item in addition to the farmer, subject to the constraints that the fox cannot be left alone with the goose, and the goose cannot be left alone with the beans. The goal is to discover if there is a solution, and additionally, find the minimum number of moves required to do so.

The goal of this lecture’s exercise is to practice our understanding of the symbolic reachability algorithm presented in this week’s lecture video and find a solution to this puzzle.