## Applied Algebra

Instructions Please write your name in the upper right-hand corner of the page. Use complete sentences, along with any necessary supporting calculations, to answer the following questions.

1. Determine the input sequences that the following four-state automaton accepts. Notice that both the initial state 0 and the state 2 are acceptance states.

2. Construct a four-state automaton that accepts the input sequences of letters $a$ and $b$ ending $a b b$ (and does not accept any other input sequences).
