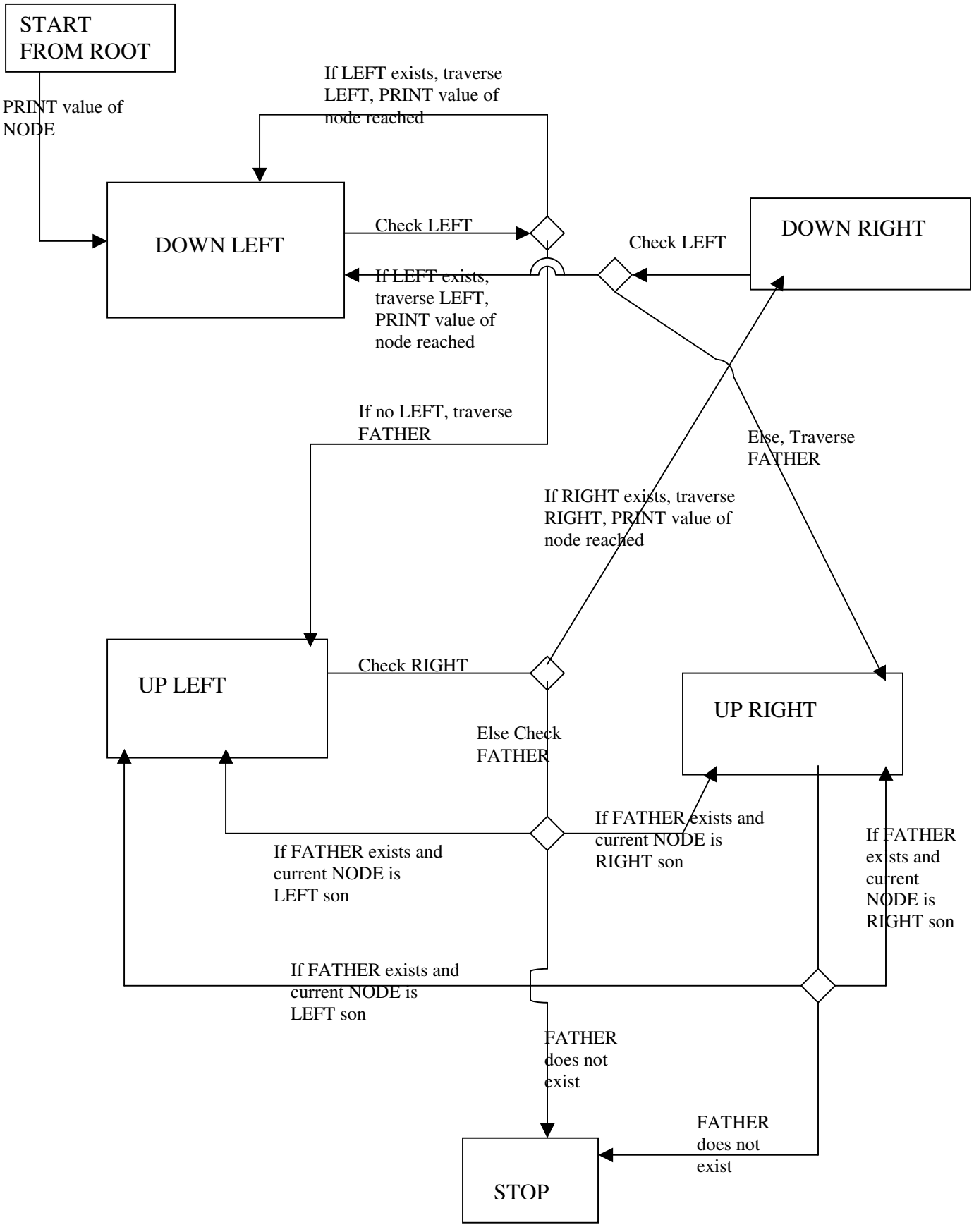Q-5). The solution can be modeled as a state machine having 4 states and a START and STOP state.