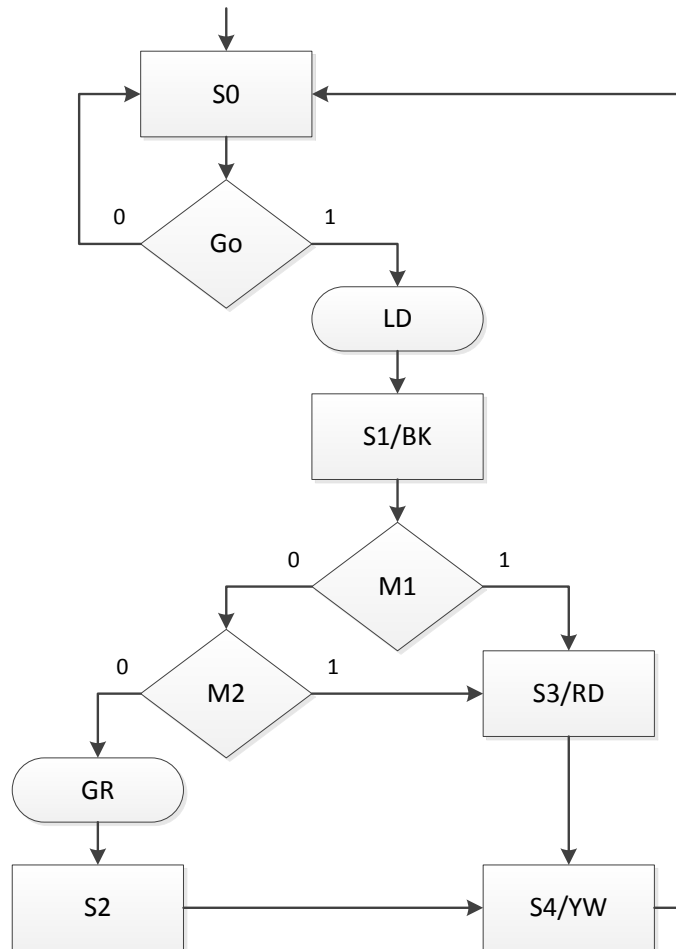


Given the following SM Chart:



1. Write a complete VHDL model (entity and behavioral architecture) for the controller. Use two processes for the combinational and sequential parts of the circuit.
2. Realize the controller using a two-address microprogram.
 - a) Convert the SM chart to proper form by adding a minimum number of states.
 - b) Write the microprogram required to implement the circuit.