1-7 A washing machine controller is to be constructed. The controller has the following inputs:

*YHOT.* 1 if hot/cold switch specifies hot water wash
*NSTRT.* 0 to start washing; 1 to stop, even in midcycle
*YFULL.* 1 if water filled to top
*YEMPTY.* 1 if water completely empty
*YTIME.* 1 if timer indicates done

The controller must operate the following outputs:

*HHOT.* 1 to select hot water
0 to select cold water

*LPUMP.* 0 to turn on water pump
*HFILL.* 1 to direct water into washer
0 to direct water out of washer
*LAG.* 0 to agitate wash and start timer, set *YTIME* to 0
*LSPIN.* 0 to spin wash and start timer, set *YTIME* to 0

HRESET - set YTIME to 0

When the controller receives a start signal, it fills the washer with the correct temperature of water and agitates until the timer indicates it is done. It empties the soapy water and fills the washer with cold rinse water and agitates again until the timer indicates it is done. Finally, it spins the clothes dry after emptying the rinse water. Draw the ASM chart for this controller. Use conditional outputs.