

- 3.27 A wristwatch display can show one of four items: the time, the alarm, the stopwatch, or the date, controlled by two signals $s1$ and $s0$ (00 displays the time, 01 the alarm, 10 the stopwatch, and 11 the date -- assume $s1s0$ control an N-bit-wide mux that passes through the appropriate register). Pressing a button B (which sets $B=1$) sequences the display to the next item (if the presently displayed item is the date, the next item is the current time). Create a state diagram for an FSM describing this sequencing behavior, having an input bit B , and two output bits $s1$ and $s0$. Be sure to only sequence forward by one item each time the button is pressed, regardless of how long the button is pressed -- in other words, be sure to wait for the button to be released after sequencing forward one item. Use short but descriptive names for each state. Make displaying the time the initial state.

