# Lab 5: FSM design – Display a character string

(2+2 hours)

## Goal

To learn how to implement displaying a character string circularly by using FSM. .

## Procedure

1. Synthesize a FSM circuit (i.e., draw the complete FSM circuit) to display the character string

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in one 7-segment LED circularly at a rate of 0.5 Hz for each digital. Blank the display (i.e., turn off all the segments of the LED) for the spaces in the string. Assume that your main clock frequency is 100MHz. Write the Verilog code for your design.

1. Implement the above circuit in your Basys3 board.
2. Display the above character string in four 7-segment LED circularly at a rate of 0.5 Hz in your Basys3 board.