

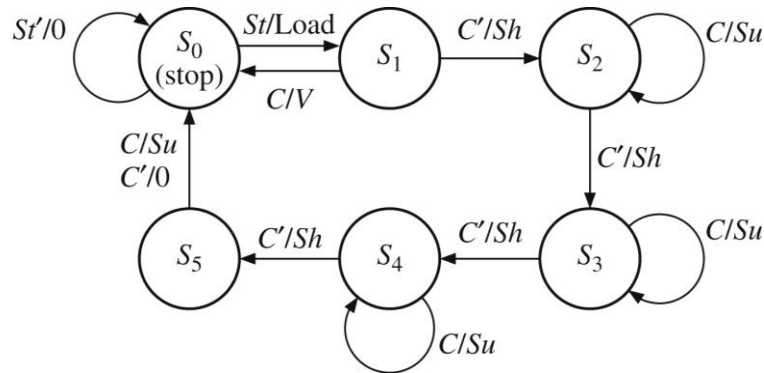
ELEC 418 Test 2 Review

Practice Questions:

1. Perform the following multiplication using the 4-bit two's complement floating-point format. Normalize the result and verify your answer in base 10.

$$(-5/8 \times 2^{-3}) \times (-1/4 \times 2^4) = ?$$

2. Given the SM Chart from Problem 5.21 on page 306:
 - a. Convert the SM Chart to the proper format for a microprogram.
 - b. Write the microprogram using the two-address structure shown in Figure 5-29.
3. Given the state diagram for an unsigned binary divider, draw an SM Chart for the controller.



4. Write a structural VHDL model for the N-bit Iterative Comparator circuit shown below. Assume that the component CMP for a 1-bit compare is available. Hint: use a generic and a generate statement.

