CS 228, Finite State Machines With Output

Name:

Some questions are from **Discrete Mathematics and It's Applications 7e** by Kenneth Rosen.

- Draw the state diagram for the finite state machine with the following state table:

State	f Input 0	f Input 1	g Input 0	g Input 1
s_0	s_0	s_4	1	1
s_1	s_0	s_3	0	1
s_2	s_0	s_2	0	0
s_3	s_1	s_1	1	1
s_4	s_1	s_0	1	0

- Find the output generated from the input string 01110 for the finite state machine above.

- Construct a finite-state machine for a toll machine that opens a gate after 25 cents, in nickels dimes, or quarters has been deposited. No change is given and no credit is given to the next driver when more than 25 cents has been deposited. The possible outputs are "nothing" and "open".

- Construct a finite-state machine that delays an input string two bits, giving 00 as the first two bits of the output. HINT: Your machine should have four states, where each state represents one of the possibilities for the two previous input bits.

- Create an improved version of your two bit delay machine that always outputs '-' for the first two inputs.