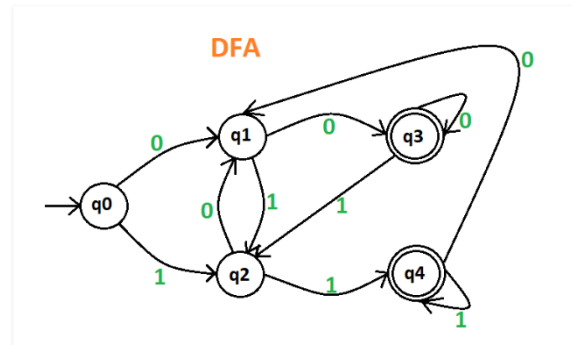


Name: _____

Homework 9: Finite State Machines**Due date: Friday 4/23/2021**Print and write work on this worksheet. Write clearly and show **all** work for full credit.

1. For the finite state machine displayed, provide the formal specification $\mathbf{M} = \{S, \Sigma, q_0, F, \delta\}$ (5 points)



2. Let $\Sigma = \{a, b\}$. Create a finite state machine that only accepts strings that are an even length and alternating. For example: *ababab* is accepted, *baba* is accepted, *aba* is not accepted, *bababb* is not accepted. Provide graphical form of the machine only. (8 points)

3. Create a machine, \mathbf{M} , that accepts the language, $\mathbf{L} = (ab)^+(cc)^+(ab)^*$. Provide the graphical form and formal specification $\mathbf{M} = \{S, \Sigma, q_0, F, \delta\}$. (12 points)