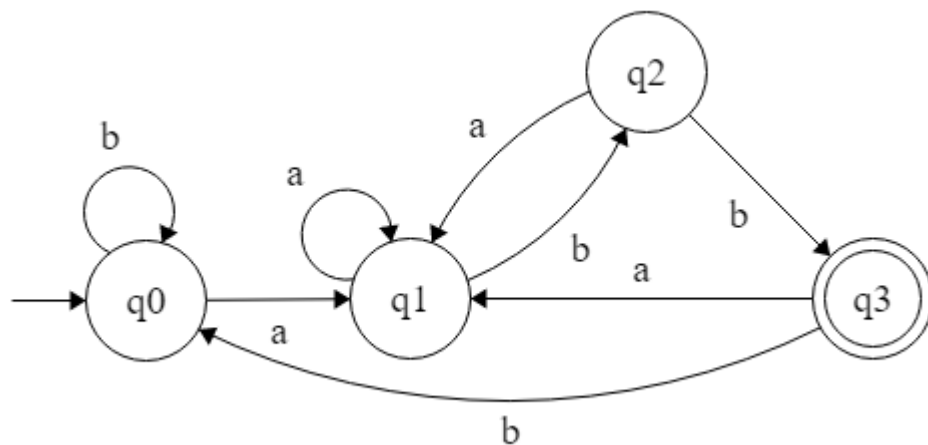On my honor, I have not given, nor received, nor witnessed any unauthorized assistance on this work.

Print name and sign: _____

Question:	1	2	3	4	Total
Points:	13	8	6	3	30
Score:					

1. Consider the DFA:

   (a) (4 points) Give two strings (including the shortest string) that this DFA accepts. Then give two strings which are **not** accepted by the DFA.

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   │   │
   └───┘

   (b) (4 points) Give the formal 5-tuple definition for this DFA.

   ┌───┐
   │   │
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   │   │
   │   │
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   └───┘

(c) (2 points) Informally describe the language this DFA recognizes.

(d) (3 points) Give a regular expression describing the language this DFA accepts.

2. Consider the alphabet $\Sigma = \{0, 1\}$ and the language, L, represented by the regular expression $0^*(01)^*1^*$. State whether or not each of the following strings is in L.

   (a) (2 points) ϵ _____

   (b) (2 points) 1 _____

   (c) (2 points) 01 _____

   (d) (2 points) 10 _____

3. (6 points) Consider the language of all strings that start with 0 and has odd length **or** start with 1 and has even length.

   Draw a DFA for this language

4. (3 points) List one similarity and one difference between the programmer version of "regular expressions" and the formal language description "regular expressions".