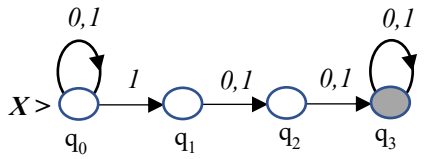
CS 302-HOMEWORK 1

Question 1:



*Consider the NFA **X** given above.*

***(a)** Write down a regular expression **E** corresponding to the language **L** accepted by **X** above.*

***(b)** Write down a regular expression **E'** corresponding to the language $\mathbf{L^c}$ (complement of **L**) accepted by **X** and sketch an ε-NFA **Y** that accepts the language $\mathbf{L^c}$.*

***(c)** After simplification sketch an NFA **Z** with no more than 7 states that accepts $\mathbf{L^c}$.*

*(Hint : Use **basic logic** to characterize **L** and $\mathbf{L^c}$)*

Questions from the main text :

2.2.5, 2.2.6 (b)

2.3.3, 2.3.4 (b) and (c)

2.5.2