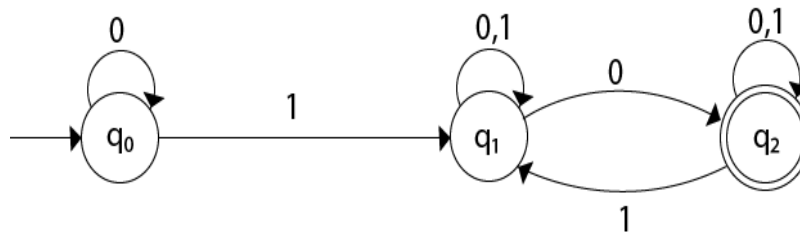


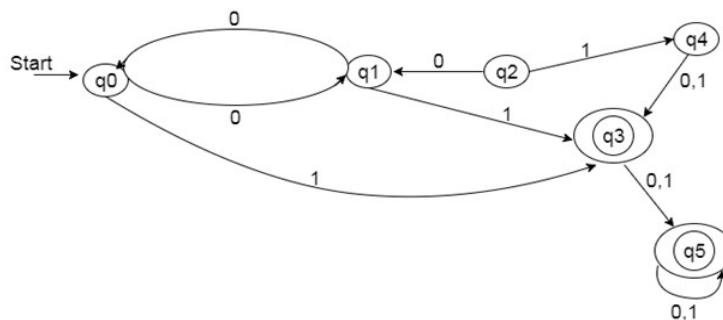
Department of CSE  
B.Tech., 4<sup>th</sup> Sem,  
Even Semester (2023-24)  
Assignment-2

Finite Automata and Formal Languages (TCS-402)

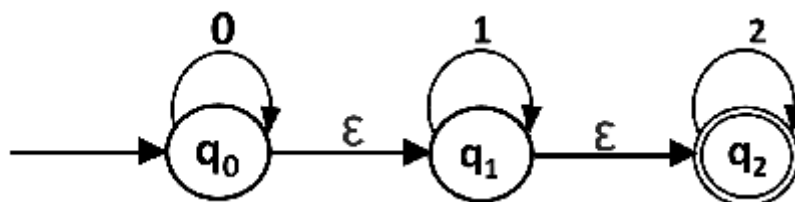
1 Convert given NFA to DFA



2 Minimize the following DFA

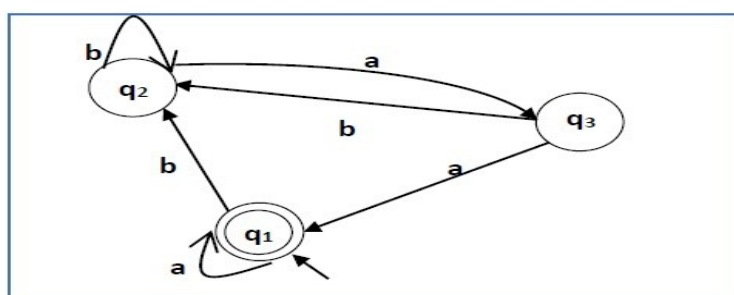


3 Convert following epsilon NFA into DFA.



4 Prove that Language  $L = 0^n 1^n \mid n > 0$  is not regular with the help of pumping lemma.

5 Convert given DFA into Regular Expression using Arden's Theorem



6	<p>Convert given mealy machine to moore machine.</p> <pre> graph LR     start(( )) --&gt; q1((q1))     q1 -- "a/1" --&gt; q1     q1 -- "b/0" --&gt; q2((q2))     q2 -- "a/1, b/1" --&gt; q4((q4))     q4 -- "a/0" --&gt; q3((q3))     q3 -- "b/1" --&gt; q3     q4 -- "a/1" --&gt; q2   </pre>
7	<p>Construct the FA for regular expression <math>0^*1 + 10</math>.</p>