CS-305
Tutorial - 3

1. Construct a Melay machine equivalent to the given Moore machine

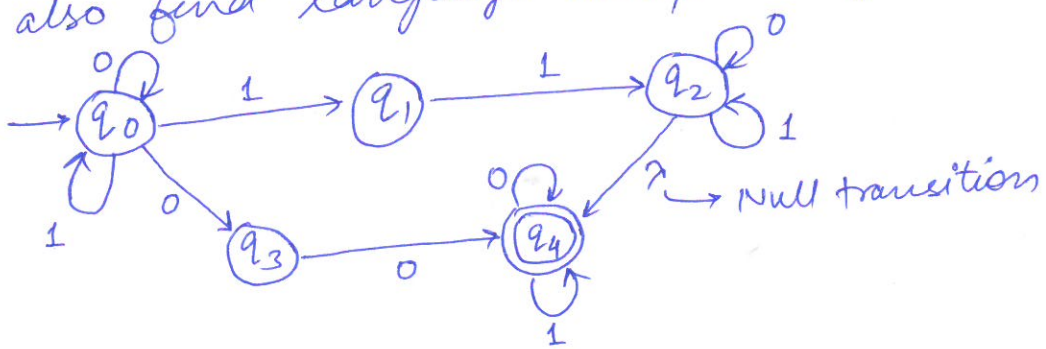
P.S.	N.S. a=0	N.S. a=1	Output
→ q_0	q_1	q_2	1
q_1	q_3	q_2	0
q_2	q_2	q_1	1
q_3	q_0	q_3	1

2. Construct a Moore machine equivalent to the given Melay machine

P.S.	N.S. a=0 state	a=0 o/p	N.S. a=1 state	a=1 o/p
→ q_1	q_1	1	q_2	0
q_2	q_4	1	q_4	1
q_3	q_2	1	q_3	1
q_4	q_3	0	q_1	1

3. Construct a Melay machine which can output EVEN, ODD according as the total number of 1's encountered is even or odd. The input symbols are 0 and 1.

4. Construct a DFA equivalent to NFA as given and also find language accepted by DFA & NFA.



5. The transition table of a NFA M is given below. Construct a DFA equivalent to M.

	Σ		
state	0	1	2
$\rightarrow q_0$	$q_1 q_4$	q_4	$q_2 q_3$
q_1		q_4	
q_2			$q_2 q_3$
(q_3)		q_4	
q_4			

6. Prove that every NFA can be converted to an equivalent one that has a single accept state. (NFA only)