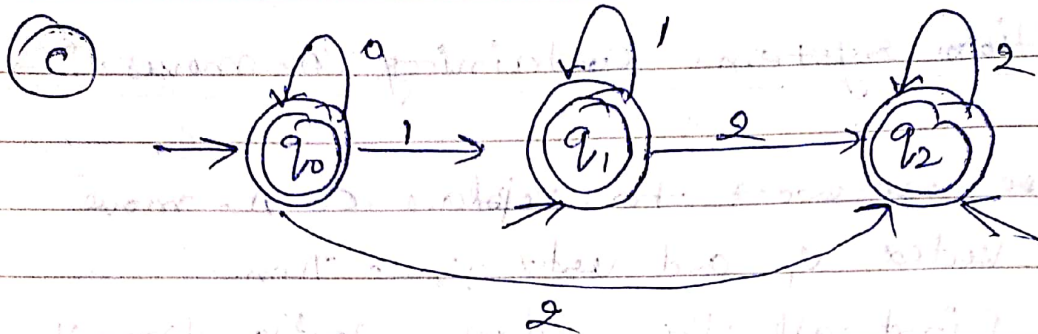
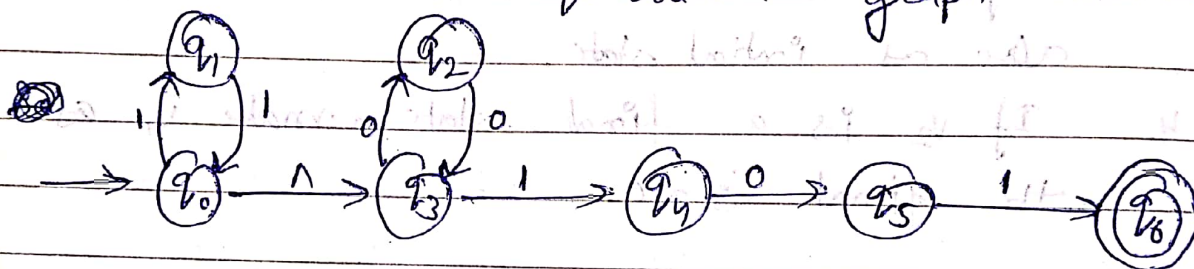
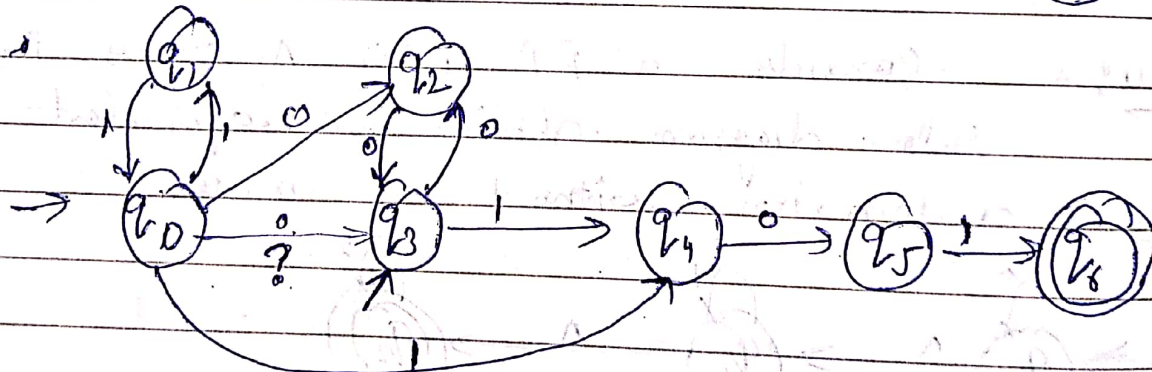




Que: → Consider a graph containing n -move-in-block obtain an equivalent graph without n -



Sol:



Conversion of NDFS to DFS.

The construction we are going to give is similar to the construction of DFA equivalent to an NFA and involves three steps.

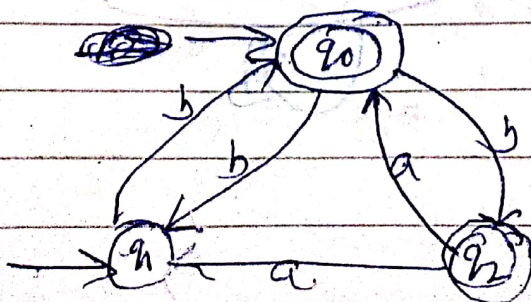
Step 1. Convert the given transition system into state transition table where each state corresponds to a row and each input symbol corresponds to a column.

Step 2. Construct the successor table which lists subsets of states reachable from the set of initial states.

Step 3. The transition graph given by the successor table is the required deterministic system. The final states contain some final state of NFA. If possible, reduce the number of states.

Note: The construction is similar to build ~~ext~~ except for the initial step. In the earlier method for automata, we started with $[q_0]$. Here we start with set of all initial states. The other steps are similar.

Ques: Obtain the DFA equivalent to the transition system



Soln: transition table of NFA is

state / Σ	a	b
$\rightarrow q_0$	q_1, q_2	q_0
q_1		
q_2	q_0, q_1	

transition table of DFA is

state / Σ	a	b
$[q_0, q_1]$	ϕ	$[q_0, q_1, q_2]$
$[q_0, q_1, q_2]$	$[q_0, q_1]$	$[q_0, q_1, q_2]$
ϕ	ϕ	ϕ

Diagram is.

