ID: 18DCS007
NAME: RUDRA BARAD
SUB : TOC

20/02/21

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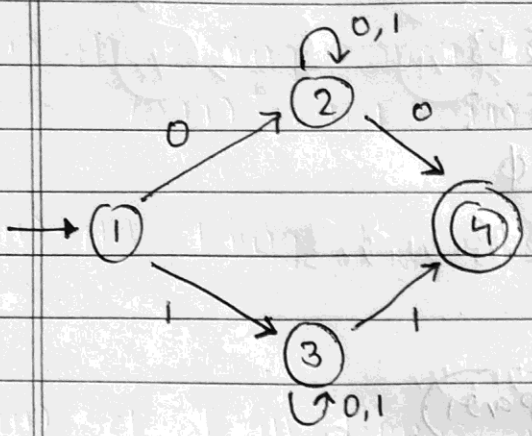
Q1.



TRANSITION TABLE OF NFA

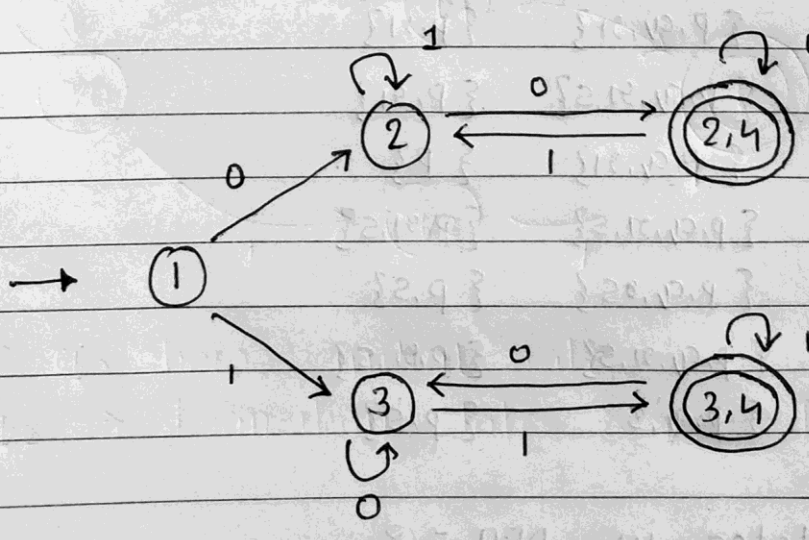
	δ	0	1
→	[1]	[2]	[3]
	[2]	[2,4]	[2]
	[3]	[3]	[3,4]
*	[4]	ϕ	ϕ

Starting from [1], constructing transition table for DFA acc to subset construction

TRANSITION TABLE OF DFA

	δ	0	1
→	[1]	[2]	[3]
	[2]	[2,4]	[2]
	[3]	[3]	[3,4]
*	[2,4]	[2,4]	[2]
*	[3,4]	[3]	[3,4]

DRAWING DFA



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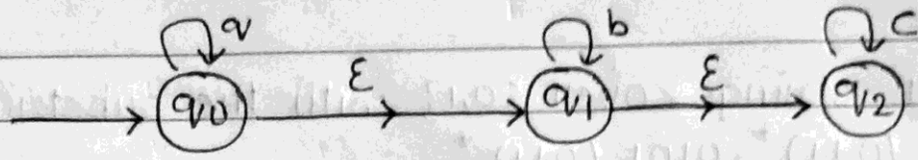
Q2.



ε-closure $(q_0) = \{q_0, q_1, q_2\}$

ε-closure $(q_1) = \{q_1, q_2\}$

ε-closure $(q_2) = \{q_2\}$

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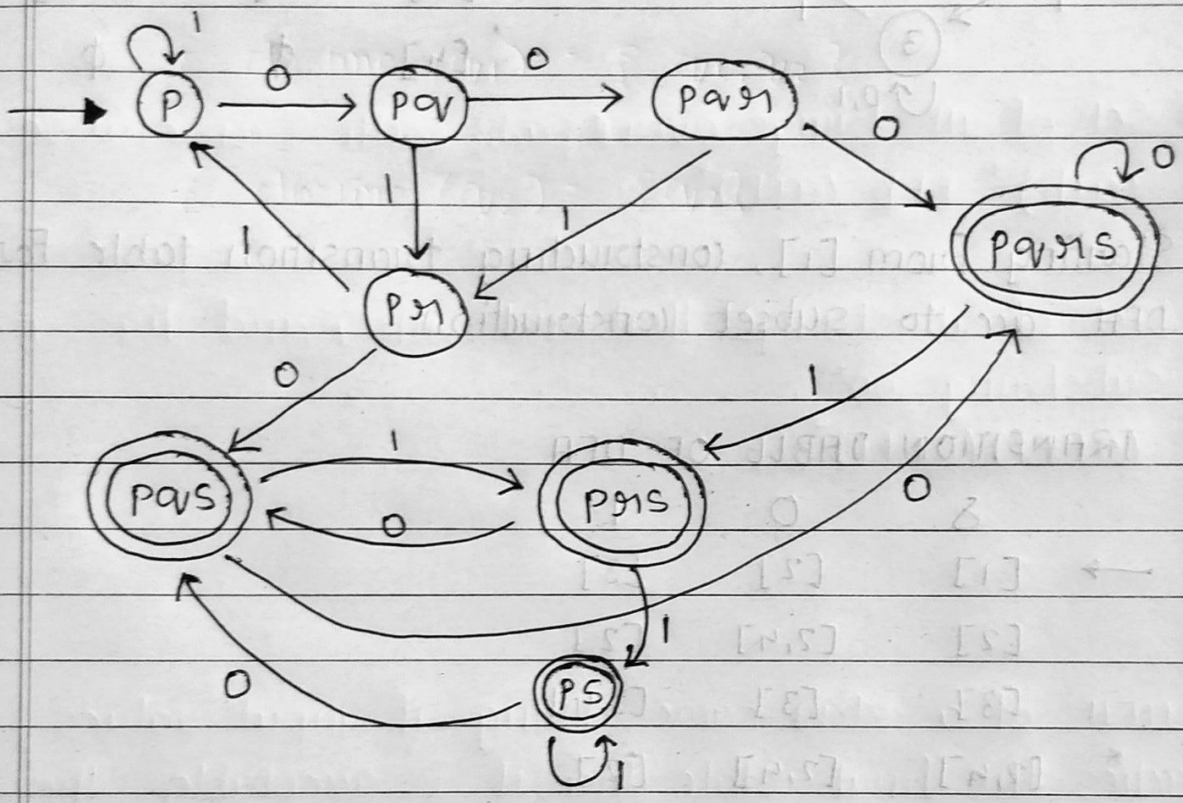
Q3.

NFA : →	0	1
P	{P, q}	{P}
q	{r}	{r}
r	{s}	ϕ
* s	{s}	{s}



→	0	1
P	{P, q}	{P}
{P, q}	{P, q, r}	{P, r}
{P, q, r}	{P, q, r, s}	{P, r}
{P, r}	{P, q, r}	{P}
* {P, q, r, s}	{P, q, r, s}	{P, r, s}
* {P, r, s}	{P, q, s}	{P, s}
* {P, q, s}	{P, q, r, s}	{P, r, s}
* {P, s}	{P, q, s}	{P, s}

∴ No. of states in DFA = 8