CSCI 301 HW 4

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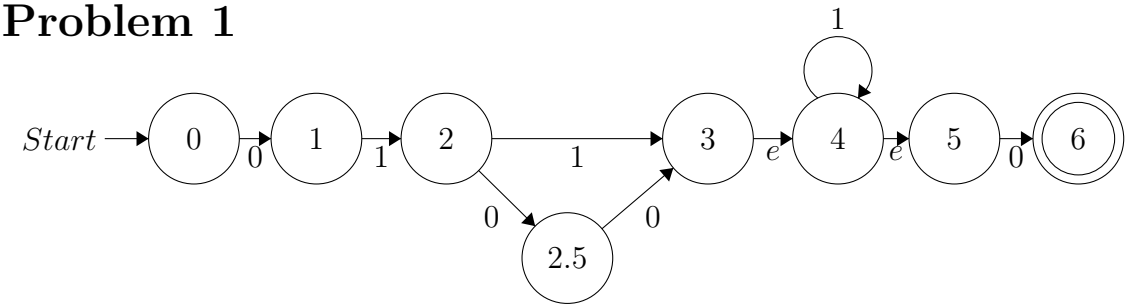
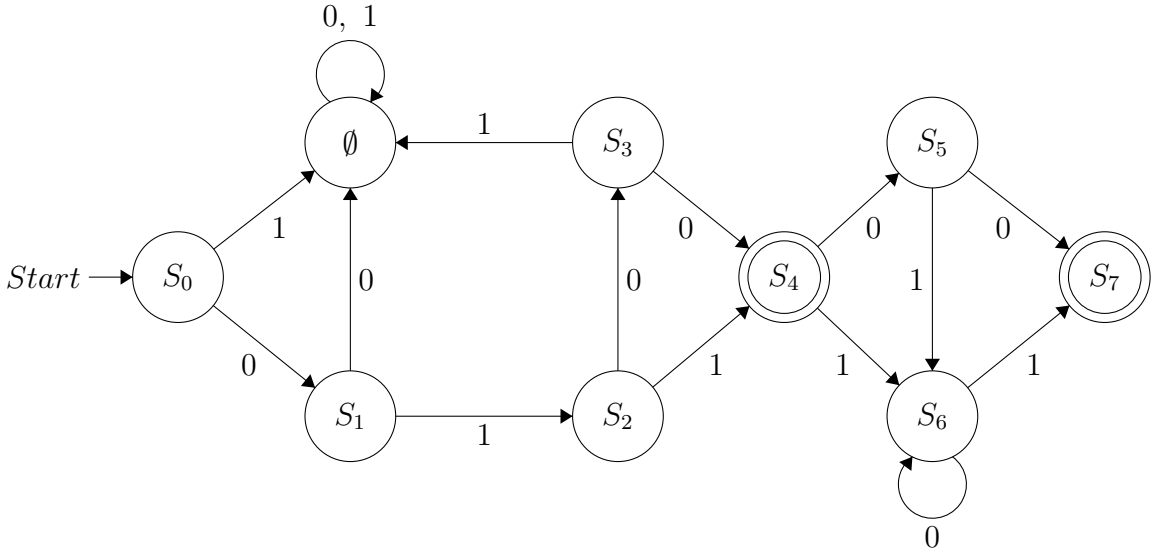
Problem 1



Start/Final	States	0	1
S	{0}	{1}	∅
	{1}	∅	{2}
	{2}	{2.5}	{3}
	{2.5}	{3}	∅
F	{3}	{4, 5, 6}	{4}
F	{4, 5, 6}	{6}	{4}
F	{4}	{4}	{6}

→

Start/Final	States	0	1
S	$\{S_0\}$	$\{S_1\}$	∅
	$\{S_1\}$	∅	$\{S_2\}$
	$\{S_2\}$	$\{S_3\}$	$\{S_4\}$
	$\{S_3\}$	$\{S_4\}$	∅
F	$\{S_4\}$	$\{S_5\}$	$\{S_6\}$
F	$\{S_5\}$	$\{S_7\}$	$\{S_6\}$
F	$\{S_6\}$	$\{S_6\}$	$\{S_7\}$
	∅	∅	∅

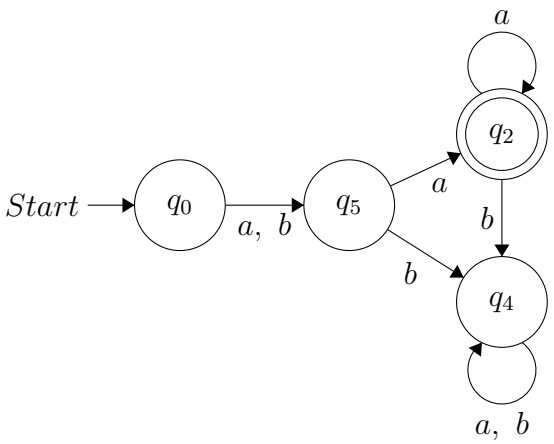


Problem 2

Original DFA Table

Start/Final	State	a	b
S	q_0	q_3	q_1
	q_1	q_2	q_4
F	q_2	q_2	q_4
	q_3	q_2	q_4
	q_4	q_4	q_4

Revised DFA Table

Start/Final	State	a	b
S	q_0	q_5	q_5
	q_5	q_2	q_4
F	q_2	q_2	q_4
	q_4	q_4	q_4

$$E_0 = \{\{q_2\}, \{q_0, q_1, q_3, q_4\}\}$$
$$E_1 = \{\{q_2\}, \{q_0\}, \{q_1, q_3, q_4\}\}$$
$$E_2 = \{\{q_2\}, \{q_0\}, \{q_1, q_3\}, \{q_4\}\}$$