

Problem 1 (M.1)

a)

Q =

{

}

I =

{

}

A =

{

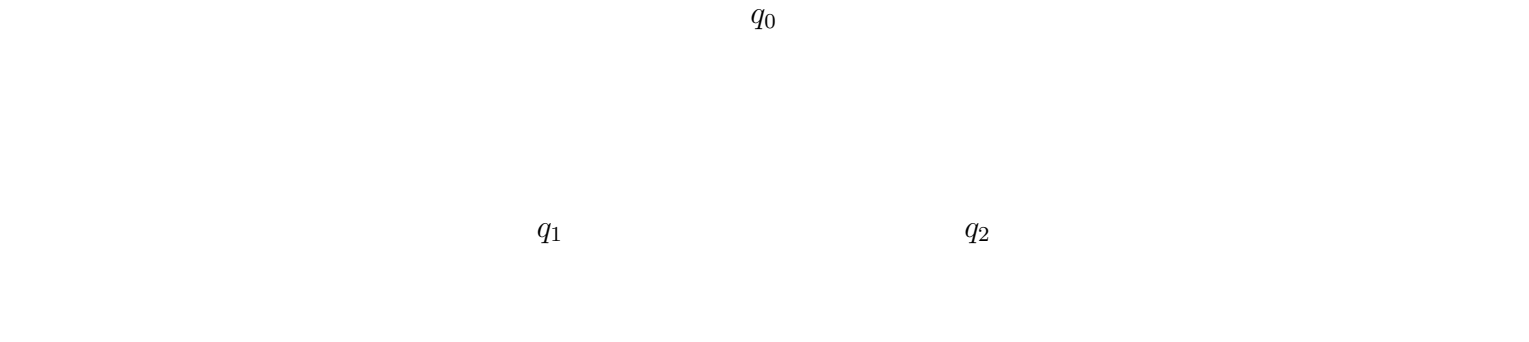
}

$\delta$ :

	$q_1$	$q_2$	$q_3$	$q_4$	$q_5$
1					
0					

Explanation:

b)  
Note: Remember to label your start state and double circle your accepting states.

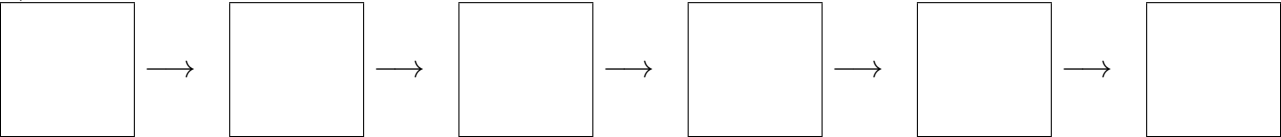


Explanation:

**Problem 2.1 (M.2)**

a)

b) Label the states of in step in the boxes in the order the FSA goes through them.



c)

☐ Accept   ☐ Reject

# Problem 2.2 (M.2)

For a sample input of 1100 the Turing Machine tape will start out looking like:

1	1	0	0	*	*	...
---	---	---	---	---	---	-----

↑  
head

And after 2 steps will look like:

a	1	0	1	*	*	...
---	---	---	---	---	---	-----

↑  
head

For your answers fill out the tape in the same format given in the sample input.

a)

						...
--	--	--	--	--	--	-----

b)

☐ Accept   ☐ Reject

						...
--	--	--	--	--	--	-----

# Problem 3.1 (M.3)

a)

Note: Remember to label your start state and double circle your accepting states.

$q_1$

$q_2$

$q_3$

$q_4$

Documentation:

$q_1$ :

$q_2$ :

$q_3$ :

$q_4$ :

Problem 3.2 (M.2)

$Q =$

$\Sigma = \{a, b\}$

$\Gamma =$

$\delta$ :

	$q_{start}$	$q_{ra}$	$q_{rb}$		
$a$	( , $\alpha$ , L)	( $q_{ra}$ , $a$ , L)	( $q_{rb}$ , $a$ , L)	( , , )	( , , )
$b$	( , $\beta$ , L)	( $q_{ra}$ , $b$ , L)	( $q_{rb}$ , $b$ , L)	( , , )	( , , )
$x$	( $q_{rej}$ , x, L)	( $q_{ra}$ , $x$ , L)	( $q_{rb}$ , $x$ , L)	( , , )	( , , )
$\alpha$	( $q_{rej}$ , $\alpha$ , L)	( , $\alpha$ , L)	( , $\alpha$ , L)	( , , )	( , , )
$\beta$	( $q_{rej}$ , $\beta$ , L)	( , $\beta$ , L)	( , $\beta$ , L)	( , , )	( , , )
$\gamma$	( $q_{rej}$ , $\gamma$ , L)	( , $\gamma$ , L)	( , $\gamma$ , L)	( , , )	( , , )
$*$	( $q_{rej}$ , *, L)	( , *, L)	( , *, L)	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )

Documentation for states on this page (no need to document states that were provided):

Use this page if you have more than 5 states in your Turing Machine for 3.2.

$a$	( , , )	( , , )	( , , )	( , , )	( , , )
$b$	( , , )	( , , )	( , , )	( , , )	( , , )
$x$	( , , )	( , , )	( , , )	( , , )	( , , )
$\alpha$	( , , )	( , , )	( , , )	( , , )	( , , )
$\beta$	( , , )	( , , )	( , , )	( , , )	( , , )
$\gamma$	( , , )	( , , )	( , , )	( , , )	( , , )
$*$	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )
	( , , )	( , , )	( , , )	( , , )	( , , )

Documentation for states on this page:

# Problem 3.3 (M.3)

Description:

Explanation: