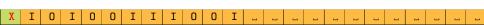
shift right	_	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$



shift right	_	I	0	Х
$ ightarrow q_0$	(q _{re} , _, L)	(q _{re} , _, L)	(q_{re}, L, \mathcal{L})	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

X	Ι	0	I	0	0	Ι	Ι	Ι	0	0	I	 ۔	 u	 	 	 	_	_

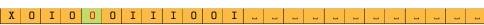
shift right		I	0	X
$ ightarrow q_0$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q 2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, \lrcorner, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

Х	0	0	Ι	0	0	Ι	Ι	Ι	0	0	I	 	J	L	 	J	 	 	

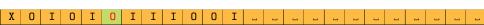
shift right	_	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})		$(q_1, \ \mathtt{I}, \ \mathcal{R})$	
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

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shift right	_	I	0	Х
$ ightarrow q_0$	(q _{re} , _, L)	$(q_{re}, _, \mathcal{L})$	(q _{re} , □, L)	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q 2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)



shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_3	(q_{re}, L, \mathcal{L})	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$



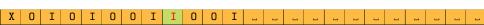
shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	(q_{re}, L, \mathcal{L})	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, , \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$

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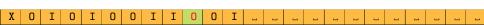
shift right	u	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q 2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

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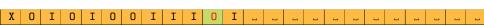
shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \llcorner, \mathcal{L})$
q 2		(q_2, I, \mathcal{R})		
q_3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)



shift right		I	0	Х
$ ightarrow q_0$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q 2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, \lrcorner, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)



shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)



shift right	u	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

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$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q 2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, \lrcorner, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

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shift right	_	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, _, \mathcal{L})$
q ₃	$(q_{re}, _, \mathcal{L})$			(q_{acc}, X, R)

shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q 3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

shift right		I	0	Х
$ ightarrow q_0$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q ₃	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

X	0	Ι	0	Ι	0	0	Ι	Ι	Ι	0	0	Ι	 - 1	 	 	 	_	

shift right		I	0	Х
$ ightarrow q_0$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, , \mathcal{L})$
q ₃	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

X	0	Ι	0	Ι	0	0	Ι	Ι	Ι	0	0	I	 	u	 	 	 	_	_

shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_3	(q_{re}, L, \mathcal{L})	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$

X	0	Ι	0	Ι	0	0	Ι	Ι	I	0	0	Ι	 J	 	 	 	 	

shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q 3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

shift right	_	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q ₃	(q_{re}, L, \mathcal{L})	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$

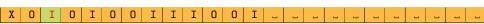
X	0	Ι	0	Ι	0	0	Ι	Ι	Ι	0	0	Ι	 J	u	 	 	 u	 ت ۔

shift right		I	0	Х
$ ightarrow q_0$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, \Box, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, , \mathcal{L})$
q ₃	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

X	0	Ι	0	Ι	0	0	Ι	Ι	I	0	0	I	 	 	 	 	 _	_

shift right	_	I	0	Х
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q 3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

shift right	_	I	0	Х
$ ightarrow q_0$	(q _{re} , _, L)	$(q_{re}, \Box, \mathcal{L})$	(q _{re} , □, L)	(q_1, X, \mathcal{R})
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, , \mathcal{L})$
q ₃	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)



shift right	_	I	0	Х
$ ightarrow q_0$	(q _{re} , _, L)	$(q_{re}, \Box, \mathcal{L})$	(q_{re}, L, \mathcal{L})	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	$(q_1, \ \mathtt{I}, \ \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q 3	$(q_{re}, _, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$

X	0	Ι	0	Ι	0	0	Ι	Ι	Ι	0	0	I	 	 	 	 	 _	

shift right	u	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	(q_{re}, L, \mathcal{L})	$(q_{re}, _, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, \ 0, \ \mathcal{R})$	$(q_{re}, _, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, \Box, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	(q_{acc}, X, R)

X	0	Ι	0	Ι	0	0	Ι	Ι	Ι	0	0	Ι	 J	 	 	 J	 	

Halted (accepted) (Accept: q_{acc} , Reject: q_{re})

shift right	_	I	0	X
$ ightarrow q_0$	$(q_{re}, _, \mathcal{L})$	$(q_{re}, \lrcorner, \mathcal{L})$	$(q_{re}, _, \mathcal{L})$	(q_1, X, R)
q_1	$(q_3, 0, \mathcal{L})$	$(q_2, 0, \mathcal{R})$	$(q_1, 0, \mathcal{R})$	$(q_{re}, \lrcorner, \mathcal{L})$
q_2	(q_3, I, \mathcal{L})	(q_2, I, \mathcal{R})	(q_1, I, \mathcal{R})	$(q_{re}, _, \mathcal{L})$
q_3	$(q_{re}, \Box, \mathcal{L})$	(q_3, I, \mathcal{L})	$(q_3, 0, \mathcal{L})$	$(q_{acc}, X, \mathcal{R})$

