input memory	▢ •	■ •
000	001,∅	001,∅
001	010,∅	010,∅
010	011,∅	011,∅
011	100,W	000,∅
100		
101		
110		
111		

Figure 1: State machine at position 1

input memory				input memory				input memory		
000	001,N	001,∅		000	001,∅	001,∅		000	001,S	001,∅
001	010,N	010,∅		001	010,E	010,∅		001	010,S	010,∅
010	011,N	011,∅		010	011,E	011,∅		010	011,S	011,∅
011	000,N	000,∅		011	000,E	000,∅		011	000,S	000,∅
100	001,N	001,∅		100				100		
101	010,N	010,∅		101				101		
110	011,N	011,∅		110				110		
111	000,N	000,∅		111				111		

(a) Position 2   (b) Position 3   (c) Position 4
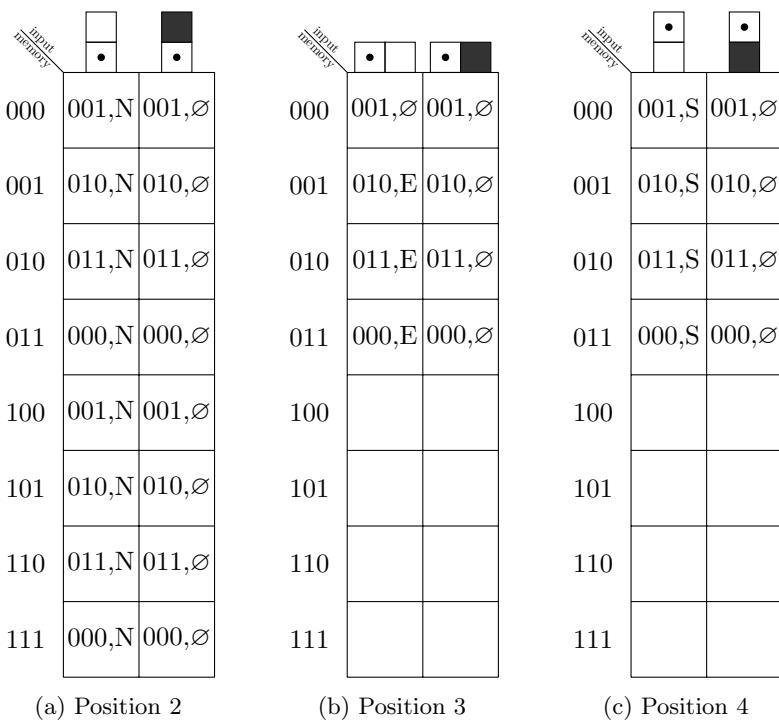
Figure 2: State machines (a) at position 2, (b) at position 3, (c) at position 4

input memory				
	(white/white·)	(white/black·)	(black/white·)	(black/black·)
000	001,∅	001,∅	101,∅	001,∅
001	010,∅	010,∅	010,∅	010,∅
010	011,∅	011,∅	011,∅	011,∅
011	100,W	100,W	000,∅	000,∅
100	101,N	101,∅	101,N	101,∅
101	110,∅	010,∅	110,∅	110,∅
110	111,∅	111,∅	111,∅	111,∅
111	100,∅	100,∅	100,∅	100,∅

Figure 3: State machine at position 5

input / memory		
000	001,N	001,∅
001	010,N	010,∅
010	011,N	011,∅
011	000,N	000,∅
100		
101		
110		
111		

(a) Position 6

input / memory		
000	001,∅	001,∅
001	010,E	010,∅
010	011,E	011,∅
011	000,E	000,∅
100	101,∅	101,∅
101	010,S	010,S
110	111,∅	111,∅
111	100,∅	100,∅

(b) Position 7

input / memory		
000	001,S	001,∅
001	010,S	010,∅
010	011,S	011,∅
011	000,S	000,∅
100		
101		
110		
111		
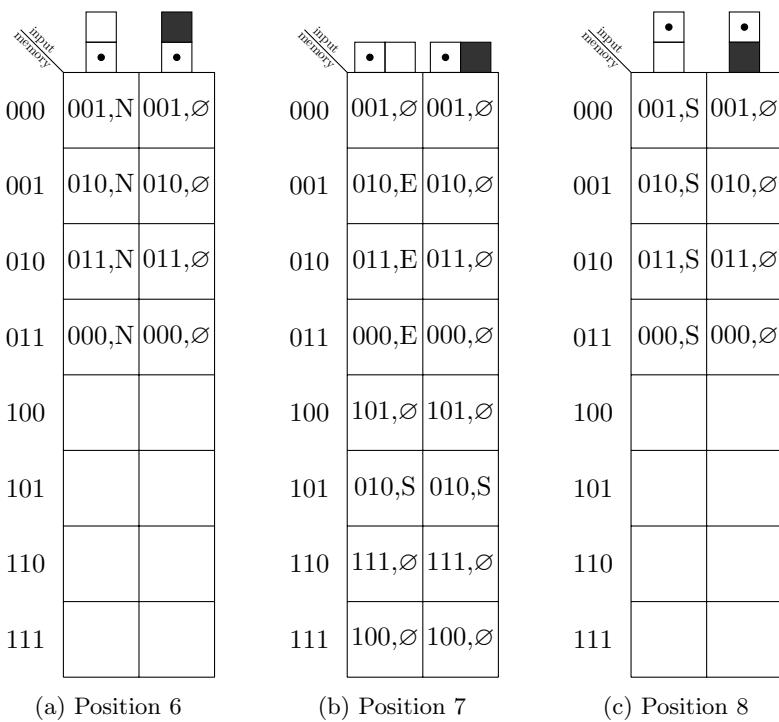
(c) Position 8

Figure 4: State machines (a) at position 6, (b) at position 7, (c) at position 8

4

input memory				
000	001,∅	101,∅	001,∅	001,∅
001	010,S	010,∅	010,S	010,∅
010	011,∅	011,∅	011,∅	011,∅
011	000,∅	000,∅	000,∅	000,∅
100	101,N	101,N	101,∅	101,∅
101	110,∅	110,∅	010,∅	110,∅
110	111,∅	111,∅	111,∅	111,∅
111	100,∅	100,∅	100,∅	100,∅

Figure 5: State machine at position 9