

	N	E	S	W
0	2, N			0, W
1				
2				
3	3, ∅			3, ∅

	N	E	S	W
0	0, N	1, ∅		
1	3, N	2, ∅		
2	3, N	3, E		
3	3, ∅			

	N	E	S	W
0		1, ∅	1, ∅	
1		2, ∅	3, S	
2		3, E	3, S	
3			3, ∅	

(a) State Machine of agent at state 1 (b) State Machine of agent at state 2 (c) State Machine of agent at state 3

	N	E	S	W
0			2, ∅	0, ∅
1				
2			3, S	
3				3, ∅

	N	E	S	W
0	0, N	1, ∅		0, W
1	3, N	2, ∅		
2	3, N	3, E		
3	3, ∅			3, ∅

	N	E	S	W
0	0, N	2, ∅	0, ∅	
1				
2	3, N	2, ∅	3, S	
3	3, ∅		3, ∅	

(d) State Machine of agent at state 4 (e) State Machine of agent at state 5 (f) State Machine of agent at state 6

	N	E	S	W
0		1, ∅	1, ∅	0, ∅
1		2, ∅	3, S	
2		3, E	3, S	
3			3, ∅	3, ∅

	N	E	S	W
0	0, N		2, ∅	0, ∅
1				
2			3, S	
3	3, ∅			3, ∅

	N	E	S	W
0	0, N	2, ∅	0, ∅	0, ∅
1				
2	3, N	2, ∅	3, S	
3	3, ∅		3, ∅	3, ∅

(g) State Machine of agent at state 7 (h) State Machine of agent at state 8 (i) State Machine of agent at state 9

Figure 1: Agent state machines at different positions on the patch, a tuple designates next memory state and a picked movement direction, or *do nothing* otherwise. Empty hatched cells should be treated as erroneous states. Input direction is a position of empty cell at the beginning of time tick. In the absence of neighboring empty cell agents *do nothing* (not shown).