

| | | input memory | |
|-----|-------|--------------|---|
| | | X | X |
| | | • | • |
| 000 | 001,∅ | 001,∅ | |
| 001 | 010,∅ | 010,∅ | |
| 010 | 011,∅ | 011,∅ | |
| 011 | 000,N | 000,∅ | |
| 100 | 101,∅ | 101,∅ | |
| 101 | 110,∅ | 110,∅ | |
| 110 | 111,∅ | 111,∅ | |
| 111 | 000,∅ | 000,∅ | |

(a) Position 1

| | | input memory | |
|-----|-------|--------------|-------|
| | | • | • |
| | | • | • |
| 000 | 001,E | 001,N | 001,E |
| 001 | 010,∅ | 010,∅ | 010,∅ |
| 010 | 011,∅ | 011,∅ | 011,∅ |
| 011 | 000,∅ | 000,∅ | 000,∅ |
| 100 | 001,E | 001,∅ | 001,E |
| 101 | 110,∅ | 110,∅ | 110,∅ |
| 110 | 111,∅ | 111,∅ | 111,∅ |
| 111 | 100,∅ | 100,∅ | 100,∅ |

(b) Position 2

| | | input memory | |
|-----|-------|--------------|---|
| | | X | X |
| | | • | • |
| 000 | 001,∅ | 001,∅ | |
| 001 | 010,∅ | 010,∅ | |
| 010 | 111,∅ | 111,∅ | |
| 011 | 000,∅ | 000,∅ | |
| 100 | 101,∅ | 101,∅ | |
| 101 | 110,∅ | 110,∅ | |
| 110 | 111,S | 111,∅ | |
| 111 | 100,∅ | 100,∅ | |

(c) Position 4

Figure 1: State machine(s) (a) at position 1, (b) at position 2, (c) at position 4.

| 000 | 101,E | 101,E | 001, \emptyset | 001, \emptyset |
|-----|------------------|------------------|------------------|------------------|
| 001 | 110,E | 110,E | 110, \emptyset | 110, \emptyset |
| 010 | 011, \emptyset | 011, \emptyset | 011, \emptyset | 011, \emptyset |
| 011 | 000, \emptyset | 000, \emptyset | 000, \emptyset | 000, \emptyset |
| 100 | 101,E | 101,E | 101, \emptyset | 101, \emptyset |
| 101 | 110,E | 110,E | 110,S | 110, \emptyset |
| 110 | 111, \emptyset | 111, \emptyset | 111, \emptyset | 111, \emptyset |
| 111 | 100, \emptyset | 100, \emptyset | 100, \emptyset | 100, \emptyset |

(a) Position 3

| 000 | 001, \emptyset | 001, \emptyset | 001, \emptyset | 001, \emptyset |
|-----|------------------|------------------|------------------|------------------|
| 001 | 010, \emptyset | 010, \emptyset | 010, \emptyset | 010, \emptyset |
| 010 | 011, \emptyset | 011, \emptyset | 111, \emptyset | 111, \emptyset |
| 011 | 000,N | 000,N | 000, \emptyset | 000, \emptyset |
| 100 | 101, \emptyset | 101, \emptyset | 101, \emptyset | 101, \emptyset |
| 101 | 110, \emptyset | 110, \emptyset | 110, \emptyset | 110, \emptyset |
| 110 | 111,S | 111, \emptyset | 111,S | 111, \emptyset |
| 111 | 100, \emptyset | 000, \emptyset | 100, \emptyset | 000, \emptyset |

(b) Position 8

Figure 2: State machine(s) (a) at position 3, (b) at position 8.

| | 000 | 001 | 010 | 011 | 100 | 101 | 110 | 111 |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 000 | 001,E | 001,E | 001,N | 001,N | 001,E | 001,E | 001,∅ | 001,∅ |
| 001 | 010,E | 010,E | 010,∅ | 010,∅ | 010,E | 010,E | 110,∅ | 110,∅ |
| 010 | 011,∅ | 011,∅ | 011,∅ | 011,∅ | 011,∅ | 011,∅ | 011,∅ | 011,∅ |
| 011 | 000,∅ | 000,∅ | 000,∅ | 000,∅ | 000,∅ | 000,∅ | 000,∅ | 000,∅ |
| 100 | 101,E | 101,E | 101,∅ | 001,∅ | 101,E | 101,E | 101,∅ | 001,∅ |
| 101 | 110,E | 110,E | 110,S | 110,∅ | 110,E | 110,E | 110,S | 110,∅ |
| 110 | 111,∅ | 111,∅ | 111,∅ | 111,∅ | 111,∅ | 111,∅ | 111,∅ | 111,∅ |
| 111 | 100,∅ | 100,∅ | 100,∅ | 100,∅ | 100,∅ | 100,∅ | 100,∅ | 100,∅ |

(a) Position 6

Figure 3: State machine(s) (a) at position 6.