

Multi-Way Tag Systems in Coordinated Ruled Space

Look at all binary numbers and remove the first digit for the initial conditions.

Some good tag system rules are

①

$$(0,0) \rightarrow (0,0,1)$$

$$(1,0) \rightarrow \cancel{(0,0,0)} (0,0,1)$$

$$(0,1) \rightarrow (0,0,1)$$

$$(1,1) \rightarrow (0,0,1)$$

$$(1,0,0)$$

②

$$(0,0) \rightarrow (1,0,0)$$

$$(1,0) \rightarrow (0,1)$$

$$(0,1) \rightarrow (1,1,0)$$

$$(1,1) \rightarrow (0,1)$$

$$(1,1)$$

③

$$(0,0) \rightarrow (0,0,0)$$

$$(1,0) \rightarrow (0,1,0)$$

$$(0,1) \rightarrow (1,0)$$

$$(1,1) \rightarrow (1,1,1)$$

$$(1,0,1)$$

④

$$(0,0) \rightarrow (1,0,0)$$

$$(1,0) \rightarrow (1,0)$$

$$(0,1) \rightarrow (0,0,0)$$

$$(1,1) \rightarrow (0,0)$$

$$(0,0,0)$$

⑤

$$(0,0) \rightarrow (1,0,0)$$

$$(1,0) \rightarrow (0,1,1)$$

$$(0,1) \rightarrow (1,0,1)$$

$$(1,1) \rightarrow (1,1,1)$$

$$(1,1,0)$$

⑥ $(0,0) \rightarrow (0,1)$

$$(1,0) \rightarrow (0,1,0)$$

$$(0,1) \rightarrow (1,0)$$

$$(1,1) \rightarrow (0,0,0)$$

$$(0,1,1)$$

⑦

$$(0,0) \rightarrow (0,0,1)$$

$$(1,0) \rightarrow (0,1,1)$$

$$(0,1) \rightarrow (0,1,1)$$

$$(1,1) \rightarrow (0,1,1)$$

$$(0,1,0)$$

⑧

$$(0,0) \rightarrow (1,0)$$

$$(1,0) \rightarrow (0,1,1)$$

$$(0,1) \rightarrow (1,1)$$

$$(1,1) \rightarrow (0,0,0)$$

$$(1,1,1)$$