s0 — idle state

Start — 0

box_num $\leftarrow$ 0

s1 — input-taking

count_c — not 8 → count_c++

count_c — 8

count_r — not 8 → count_c $\leftarrow$ 0, count_r++

count_r — 8

count_c $\leftarrow$ 0, count_r $\leftarrow$ 0

s2 — Remove a candidate as pencil marks of cells of row, if it is already present in that row

When reset is active,
state=s0,
count_r=0,
count_c=0,

S2

count_c++

count_c ← 0
count_r++

count_c
not 8

8

count_r
not 8

8

count_c ← 0
count_r ← 0

S3

in the columns

count_c
not 8

count_c++

count_c ← 0
count_r++

8

count_r
not 8

8

count_r ← 0
count_c ← 0

S4

in the box

count_c
not 8

count_c++

count_c ← 0
count_r++

not 8

count_r
not 8

8

count_c ← 0
count_r ← 0

S5 — single candidate are updated

count_c

count_r++

Count_C ← 0
Count_r ++

count_r 8

count_c ← 0
count_r ← 0

S2

update pencil 1

0

box_num 9

not 9

S7 output_gving

S6 candidate line

digit ← 1
box_num ++

digit not 9

digit ++

9

S?

Count_C++

not C

Count_C

Count_r++
Count_E ⇐ 0

8

not 8

Count_r

8

count_c ⇐ 0
count_r ⇐ 0

80

count_r