HMK 3
KEY version 2
mux select is
Rom Output

YTIME — 1
YHOT — 0
A
MUX
Y

YEMPTY — 1
YFULL — 0
A
MUX Y

NSTRT — A3
A4
A5  A0
D8

ROM
A2
A1
A0

SVC — A2
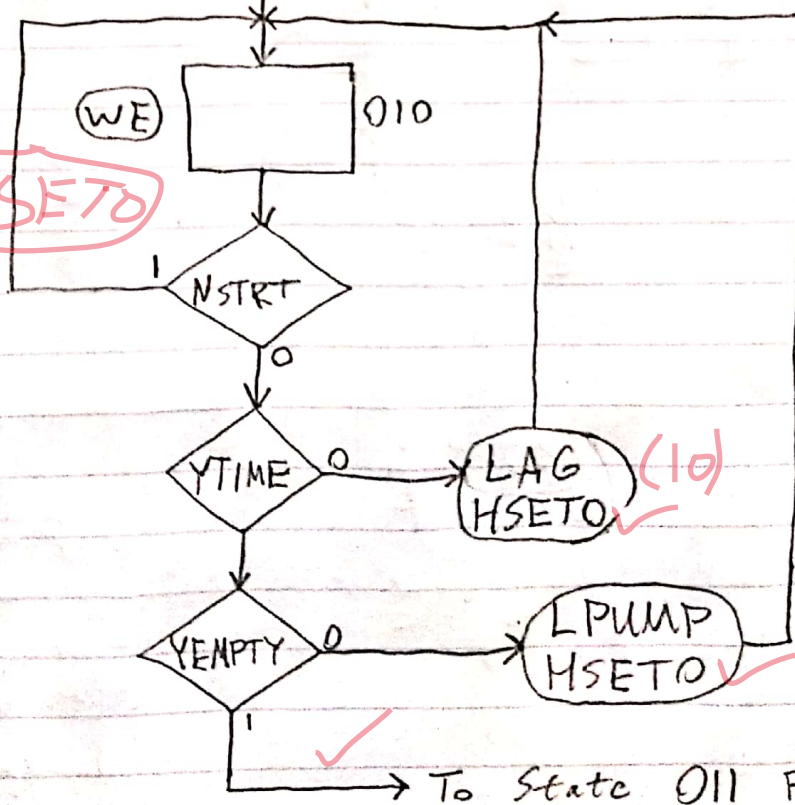SVB — A1
SVA — A0

D0 — HHOT
D1 — HFILL
D2
D3
D4
D5
D6
D7
D8

HRESET
HSETO

HSETOD
Q  D
FF
clk

SVC — Q2
SVB — Q1
SVA — Q0

Register
D0
D1
D2
D3 — C
D2 — B
D1 — A
D0 — clk

3  B  Decoder  3 — LSPIN
2 — LAG
A  1 — 1PUMP
D — OEN  0 — D
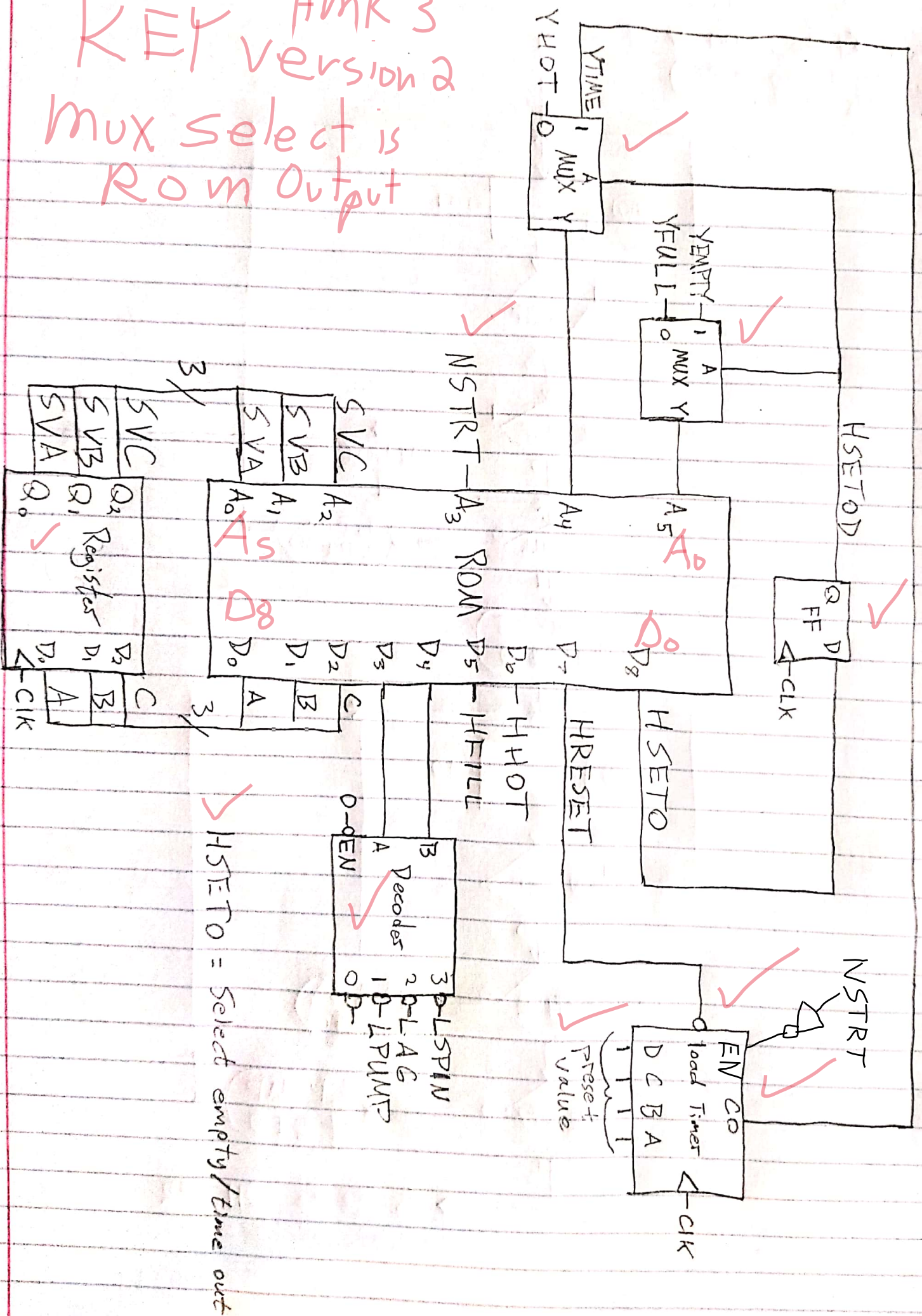
HSETO = Select empty/time out

EN  CO
load Timer
D C B A
clk

NSTRT

Preset
Value

From State 000 Wait
(where HSETO is not)
asserted.

FW ☐ 001

1 | NSTRT
0

YHOT 1 → H HOT
0
→ H
YFULL 0 → L FILL / L PUMP
1
HRESET HSETO ✓

(01)
show decoder
outputs

WE ☐ 010

−2X ⟨HSETO⟩

1 | NSTRT
0

YTIME 0 → LAG HSETO (10)

YEMPTY 0 → LPUMP HSETO (01)
1 ✓
→ To State 011 FR

HSETOD=1 (YEMPTY)
HSETOD=0 (YFULL)
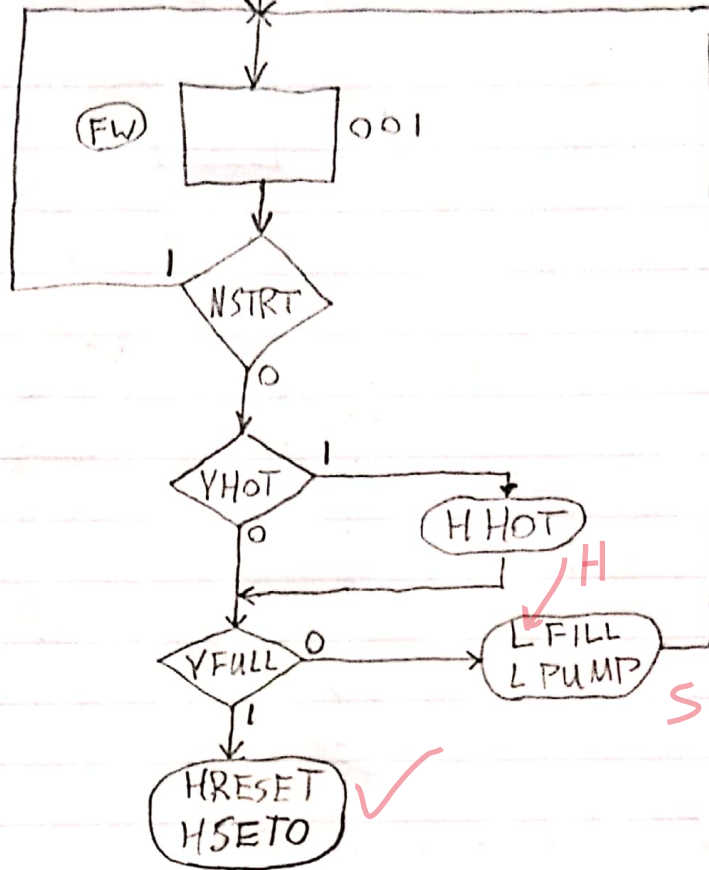
HSETOD=1 (YTIME)
HSETOD=0 (YHOT)

| A5 | A4 | A3 | A2A1A0 | D8 | D7 | D6 | D5 | D4 | D3 | D2D1D0 |
|----|----|----|--------|----|----|----|----|----|----|--------|
| | | | Current State | | | HSETO | HRES | YHOT | HFILL | Next State |

Dec=00 (none)
Dec=01 (PUMP)
Dec=10 (LAG)
Dec=11 (LSPIN)