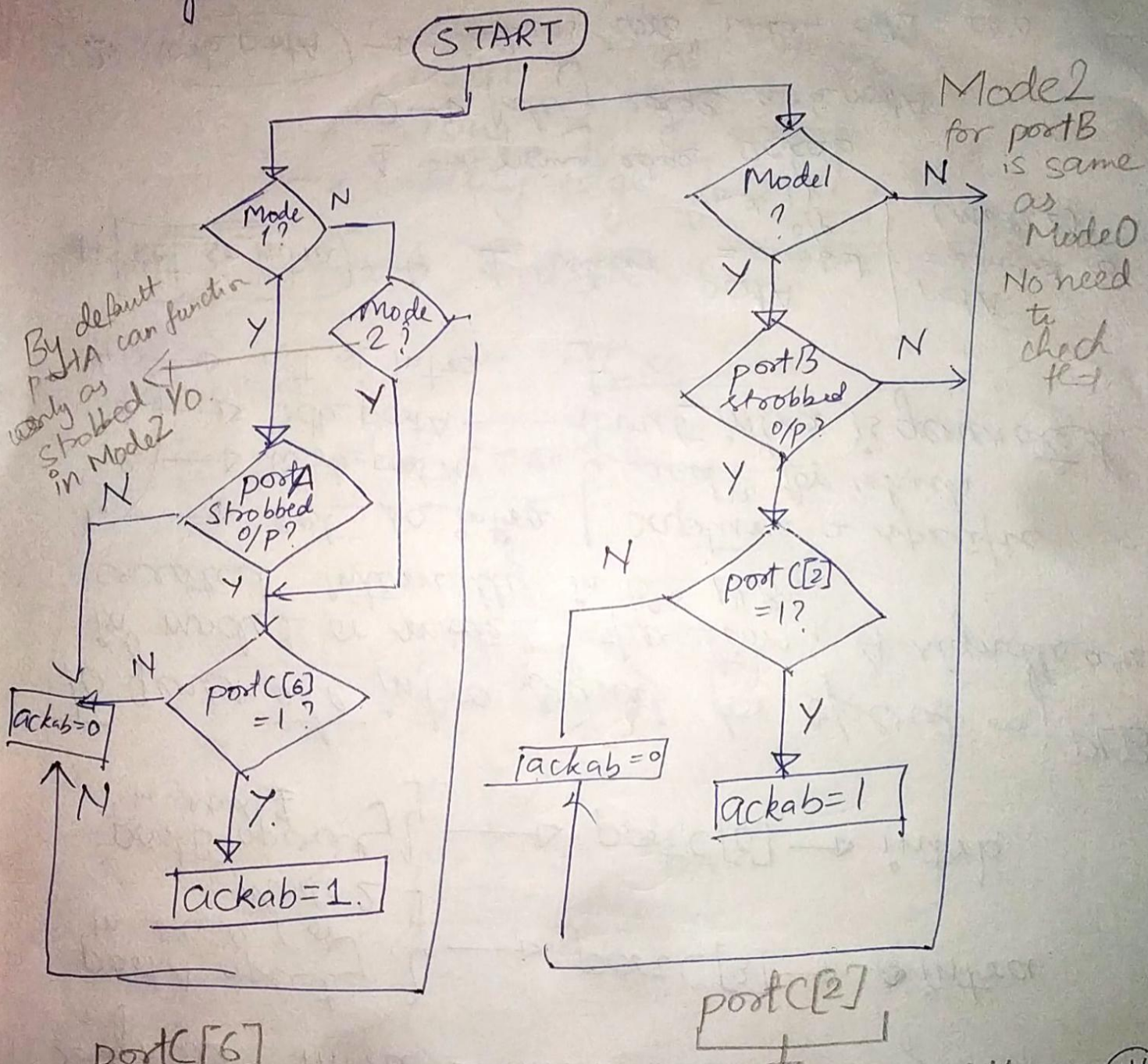
→ Flow diagram to generate ackab & ackbb signals for mode 1 & mode 2 ops.



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For op. of PLB in Mode 1 & Mode 2, the signals intra & intrb need to be generated.

portA operating in Mode 1 or Mode 2 } → portC[3] → intra.

portB operating in Mode 1 } → portC[0] → intrb

To generate intra signal for operation of PLB in mode 1 or mode 2 operation, 4 signals are created internally in the PLB.

1. → set_so_intra
2. → wrb_portA
3. → rdb_portA
4. → set_si_intra.

} capture a specific cond^n for which out_intra is generated.

1. set_so_intra → 1 when portA = strobed o/p (mode 1) | portA = strobed I/O (Mode 2).

1 → rising edge ackab
0 → falling edge wrb_portA

2. wrb_portA → follows "wrb" when add = 000 (i.e. portA access).

falling edge } wrb_portA refers to the
" " " wrb for portA access.

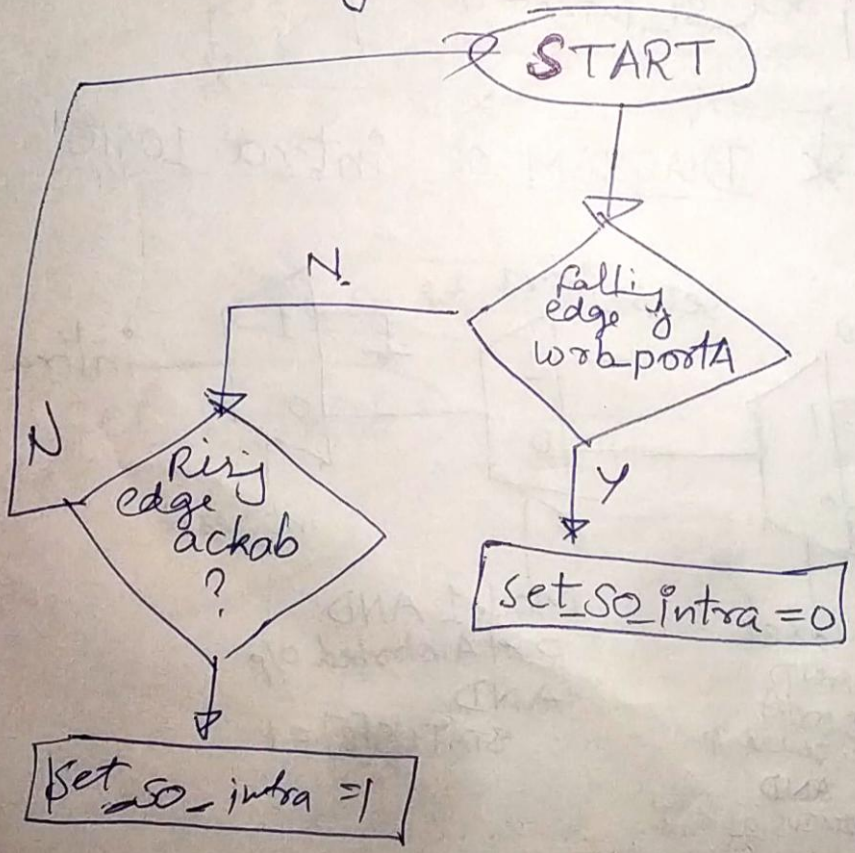
3. set_si_intra

1 → portA = strbed i/p (Mode1) OR portA = strbed i/o (Mode2).

1 → rising edge } strbab
0 → falling edge } rdb_portA

4. rdb_portA → follows rdb for portA access.

→ Flow diagram for set_so_intra.



→ Flow dia. of set_si_intra

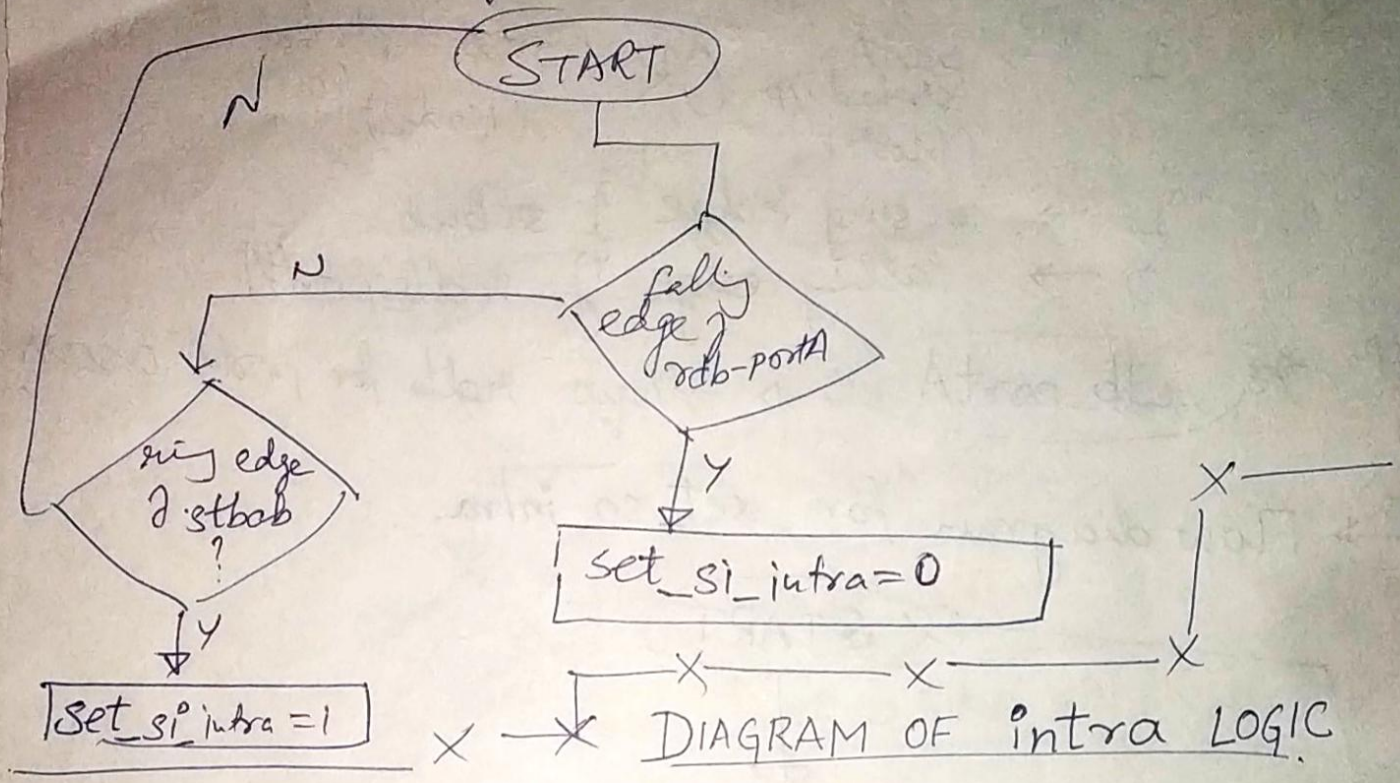
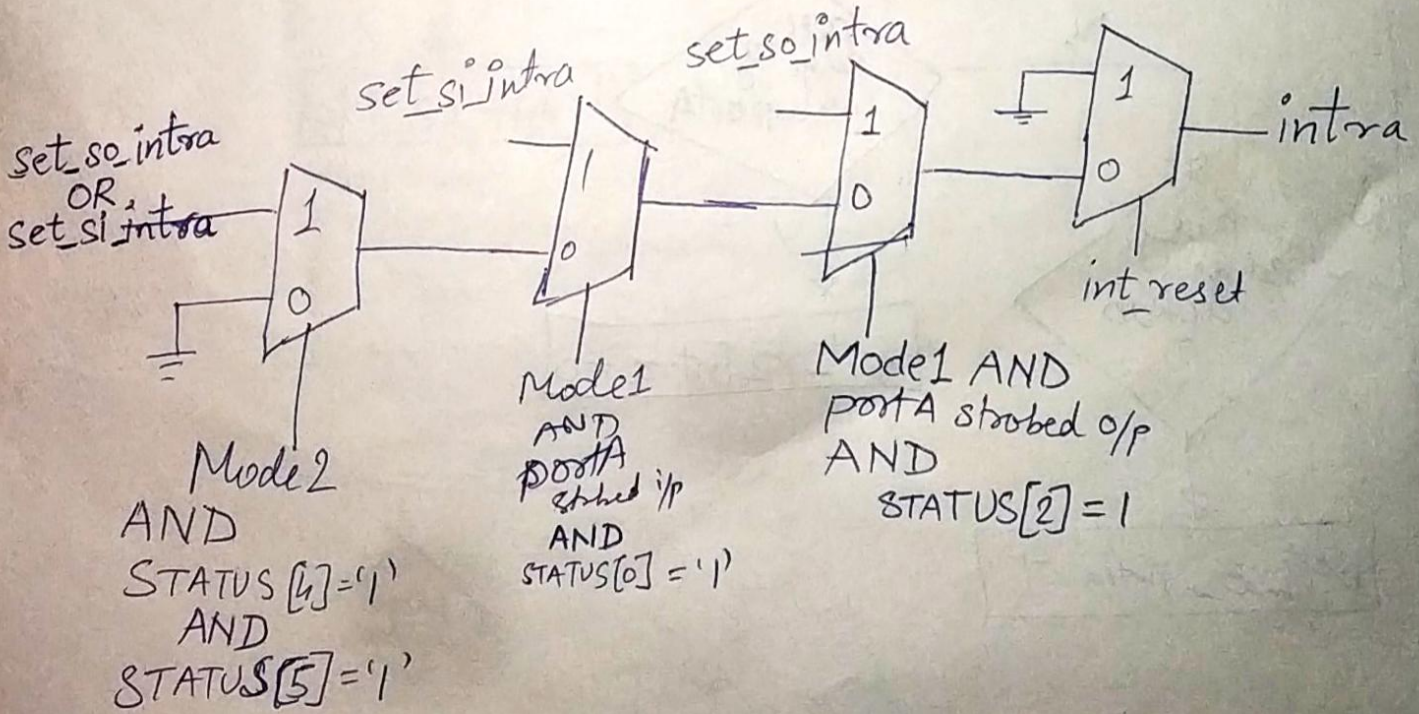


DIAGRAM OF intra LOGIC



→ Flow dia. of set_si_intra

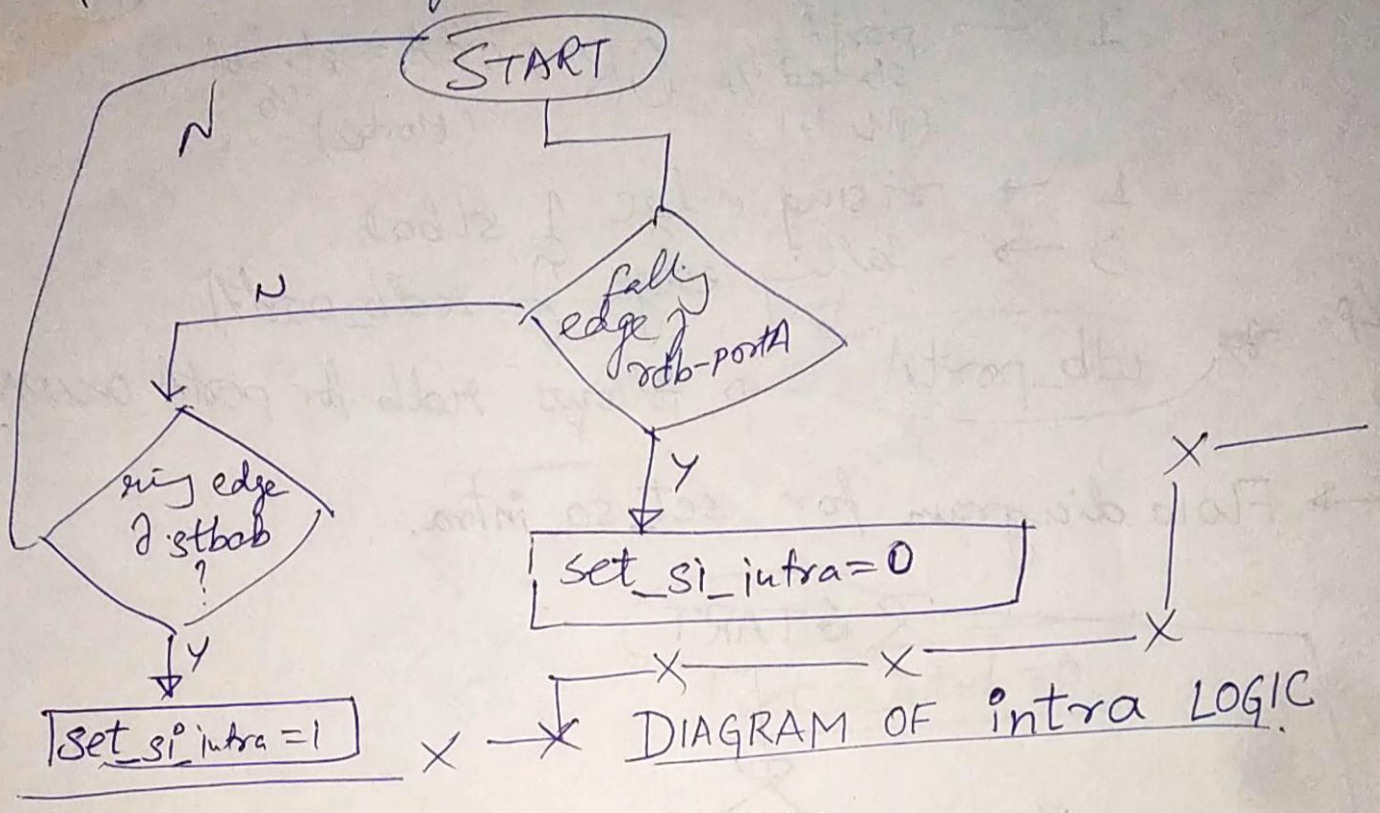
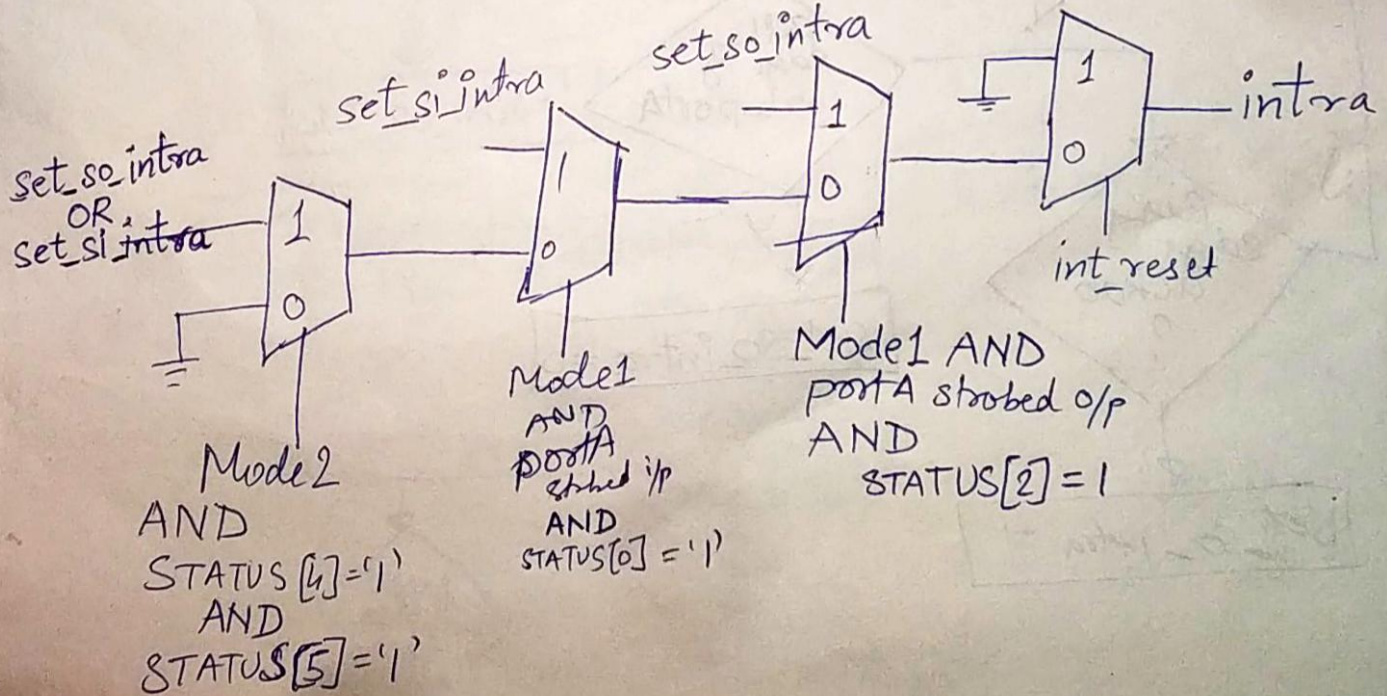


DIAGRAM OF intra LOGIC



To generate intrb, we need the usual stuff

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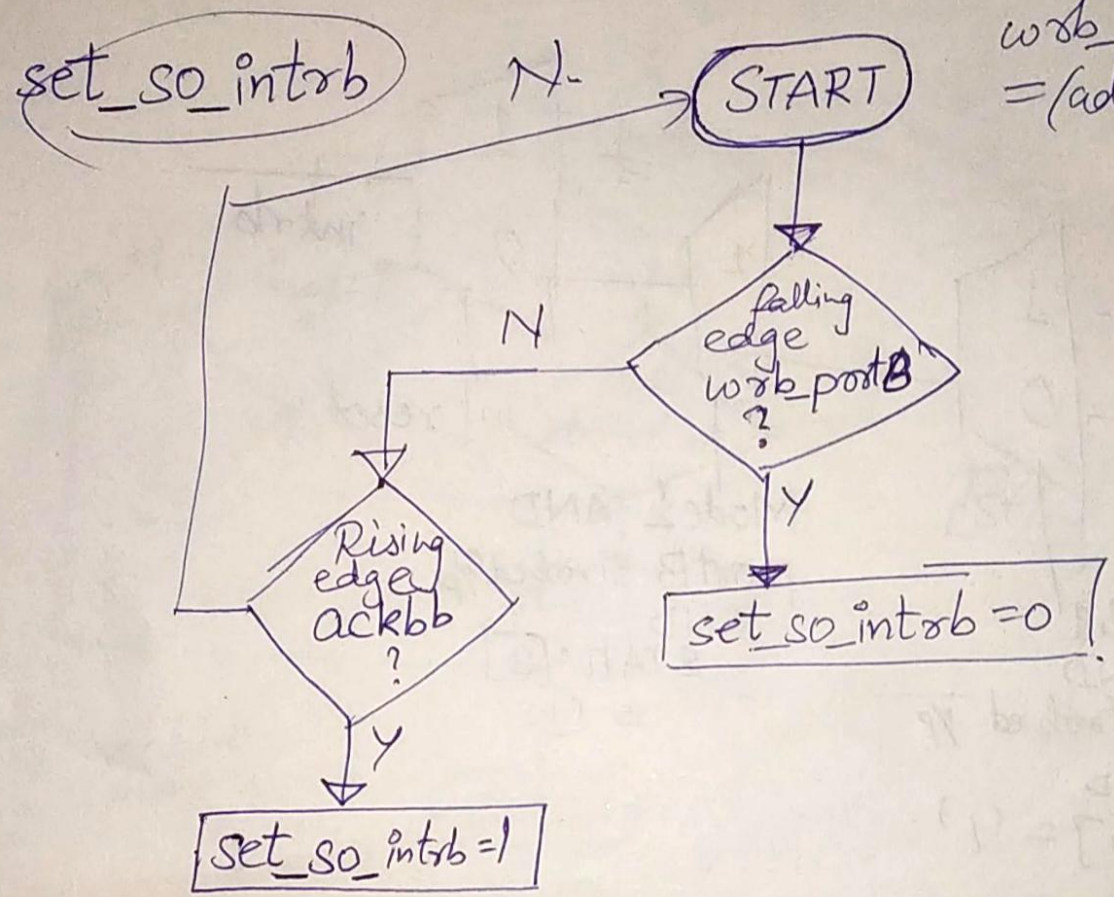
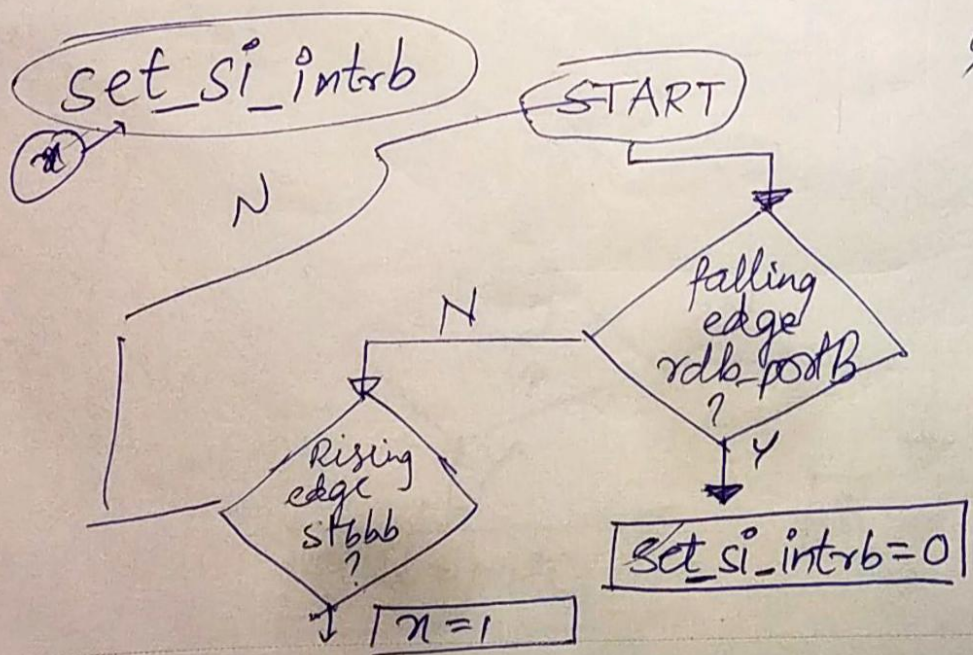
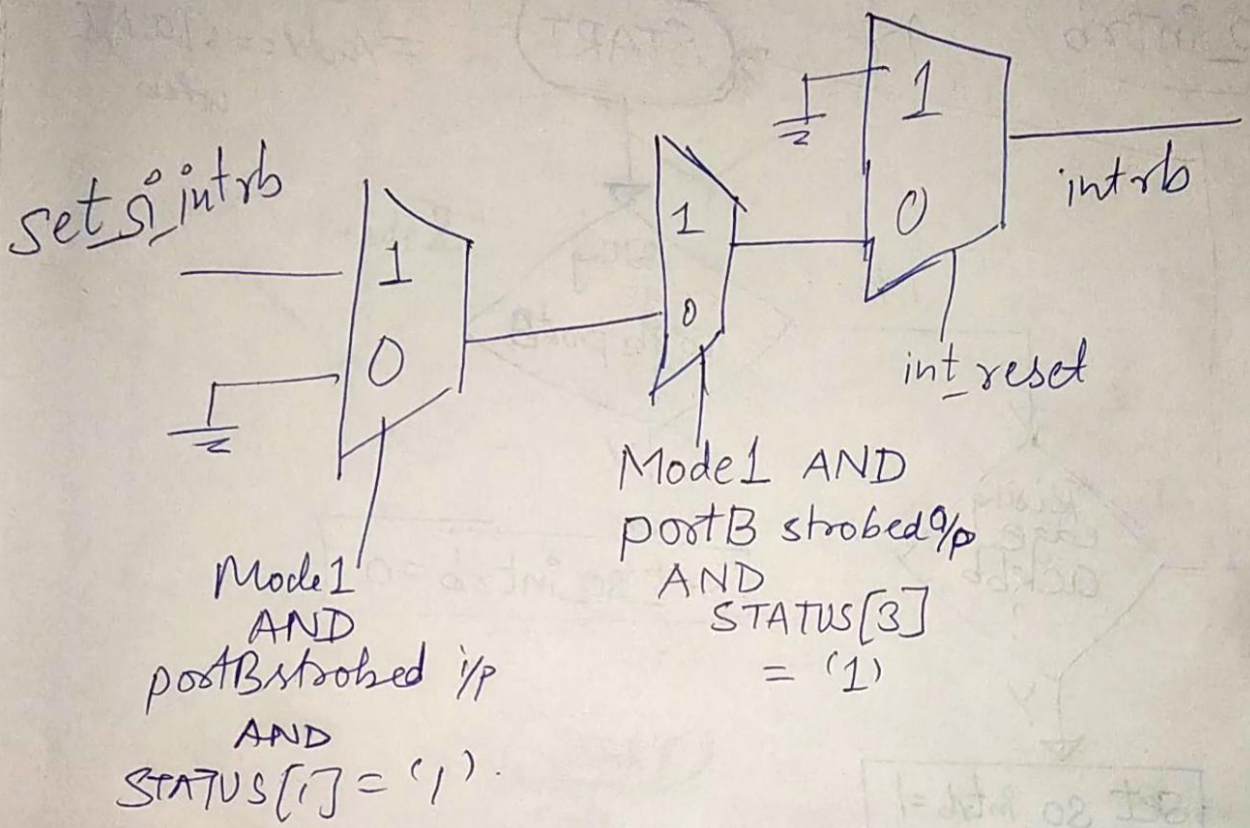
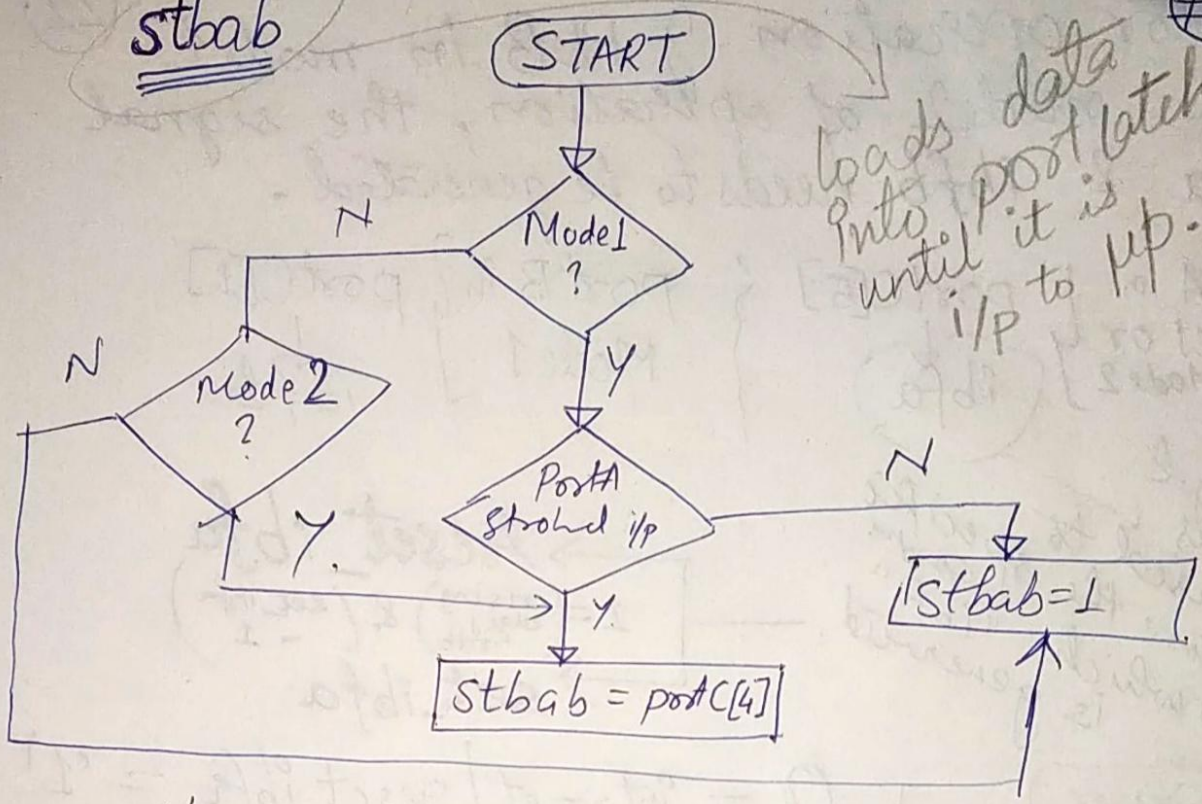




intrb logic

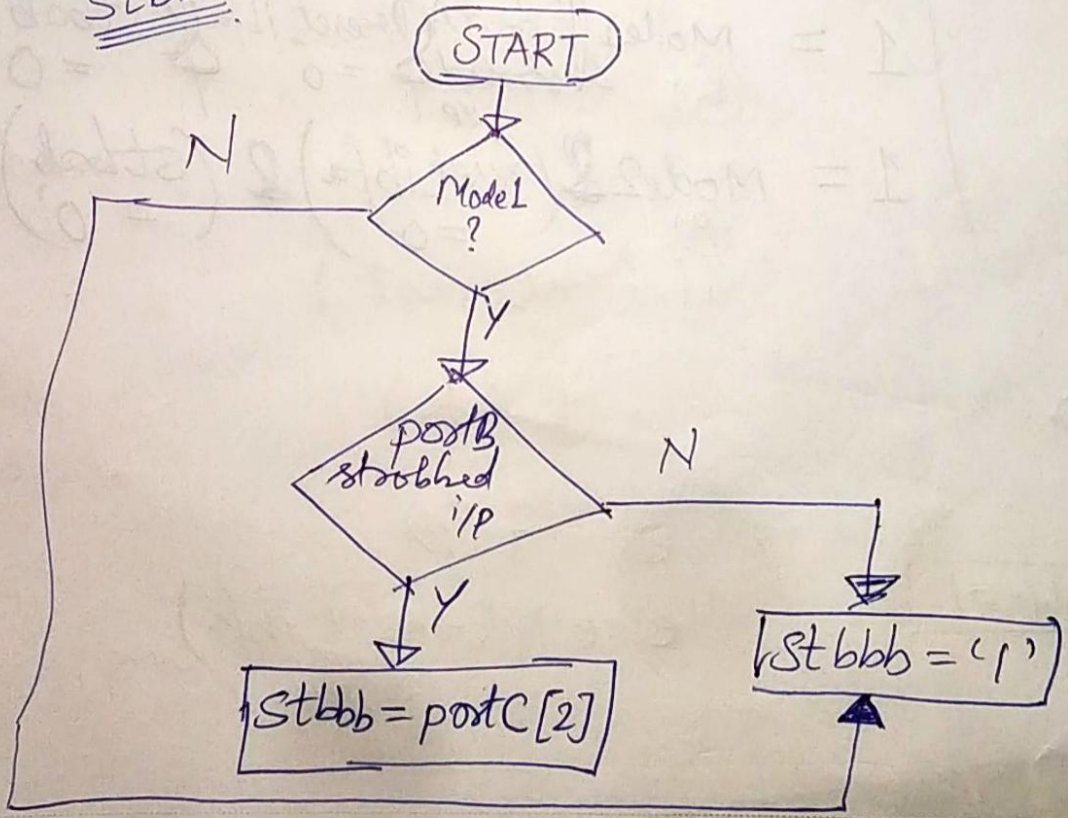

set_si_intrb
1
0
1
0
1
0
intrb
int_reset
Mode1 AND portB strobed i/p AND STATUS[3] = '1'
Mode1 AND portBstrobed i/p AND STATUS[1] = '1'.

stbab



loads data into port latch until it is i/p to µp.

stbbb



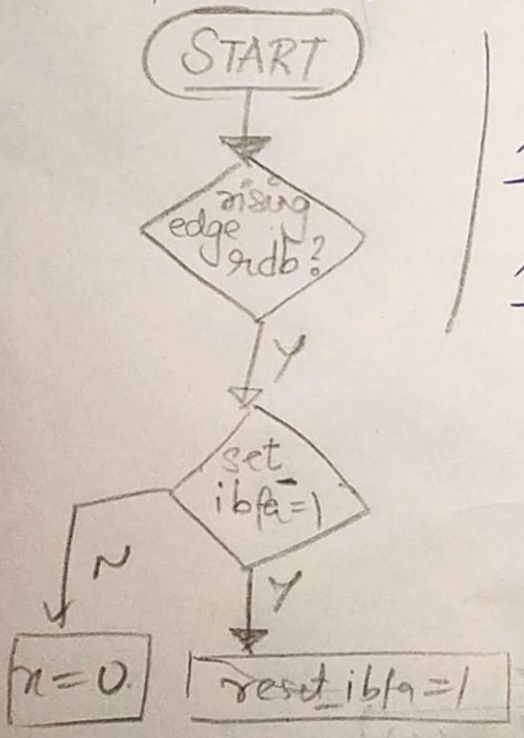
→ For operation of PLB in mode1 and mode2 of operation, the signal ibfa & ibfb needs to be generated.

PortA in Mode1 or Mode2 → portC[5] → ibfa

portB in Mode1 → portC[1] → ibfb.

2 internal signals are used to capture the specific condition for which "ibfa" is generated.

→ reset_ibfa
1 = (rising edge rdb) & (set_ibfa = 1)
→ set_ibfa



0 = int_reset / reset_ibfa = '1'

1 = Mode1 & portA & reset_ibfa & stbab
(k) & strobed & =0 & =0
i/p

1 = Mode2 & (reset_ibfa =0) & (stbab = '0')
(P)

if (int_rest)

else if (k)

else if (P)

else if (reset_ibfa)