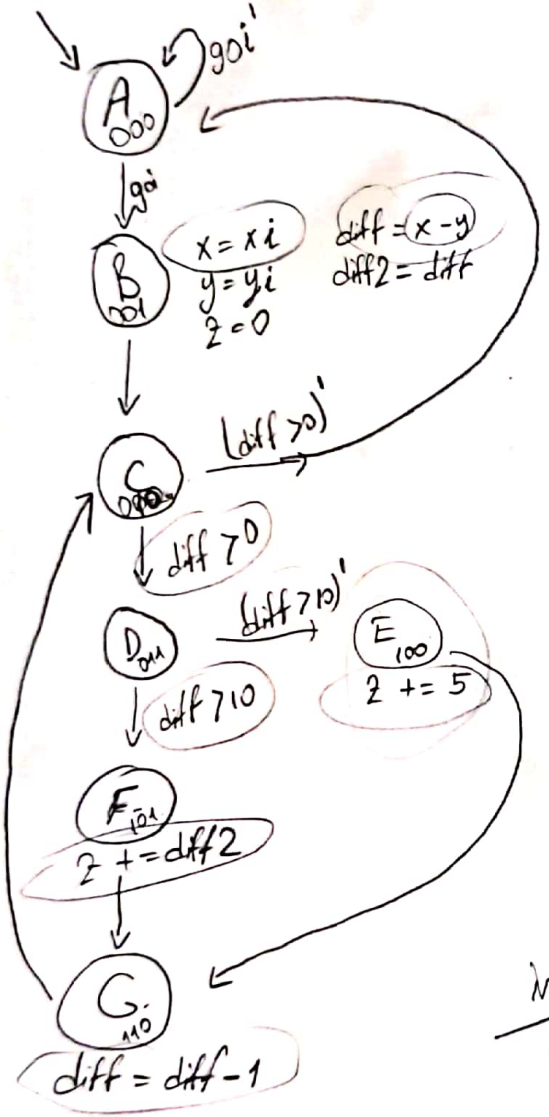
9) HSM



x-reg load (Reg 8 bit)

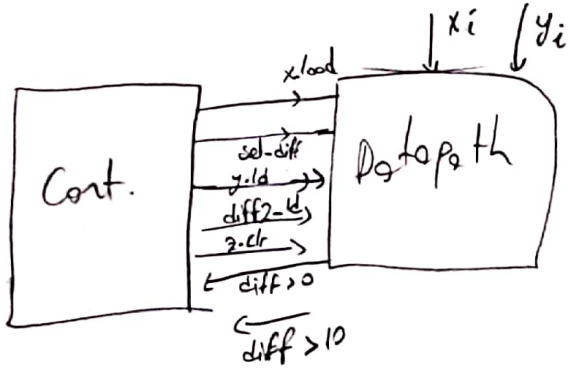
y-reg

z-reg

diff-reg

diff2-reg

sel x



z-incr-sel (0,1)

Inputs

- diff > 0
- diff > 10
- S0
- S1
- S2

Outputs

- x-ld
- sel-diff
- y-ld
- diff2-ld
- z-clr
- sel-z

Sel diff

x-y 0

diff-- 1

Sel-z

S2

z+=5 (0)

z+=diff2 (1)

Inputs			Outputs
S2	S1	S0	

$x\_ld = S_2' S_1' S_0$

$sel\_diff = S_2$

$y\_ld = S_2' S_1' S_0$

$diff_2\_ld = S_2' S_1' S_0$

$z\_clr = S_2' S_1' S_0$

$sel\_z = S_0$

$n_2 = S_2' S_1 S_0 + S_2 S_1'$

$n_1 = S_2' S_1' S_0 + S_2' S_1 S_0' \cdot (dif > 0) + S_2$

$n_0 = S_2' S_1' S_0' \cdot goi + S_2' S_1 (dif > 0 \text{ ~~or~~ } dif > 0)$

$ld\_z = S_2 \cdot S_1'$

S_2	S_1	S_0	goi	dif>0	dif>10	n_2	n_1	n_0
0	0	0				0	0	goi
0	0	1				0	1	0
0	1	0				0	dif>0	dif>0
0	1	1				1	0	dif>10
1	0	0				1	1	0
1	0	1				1	1	0
1	1	0				0	1	0
1	1	1						