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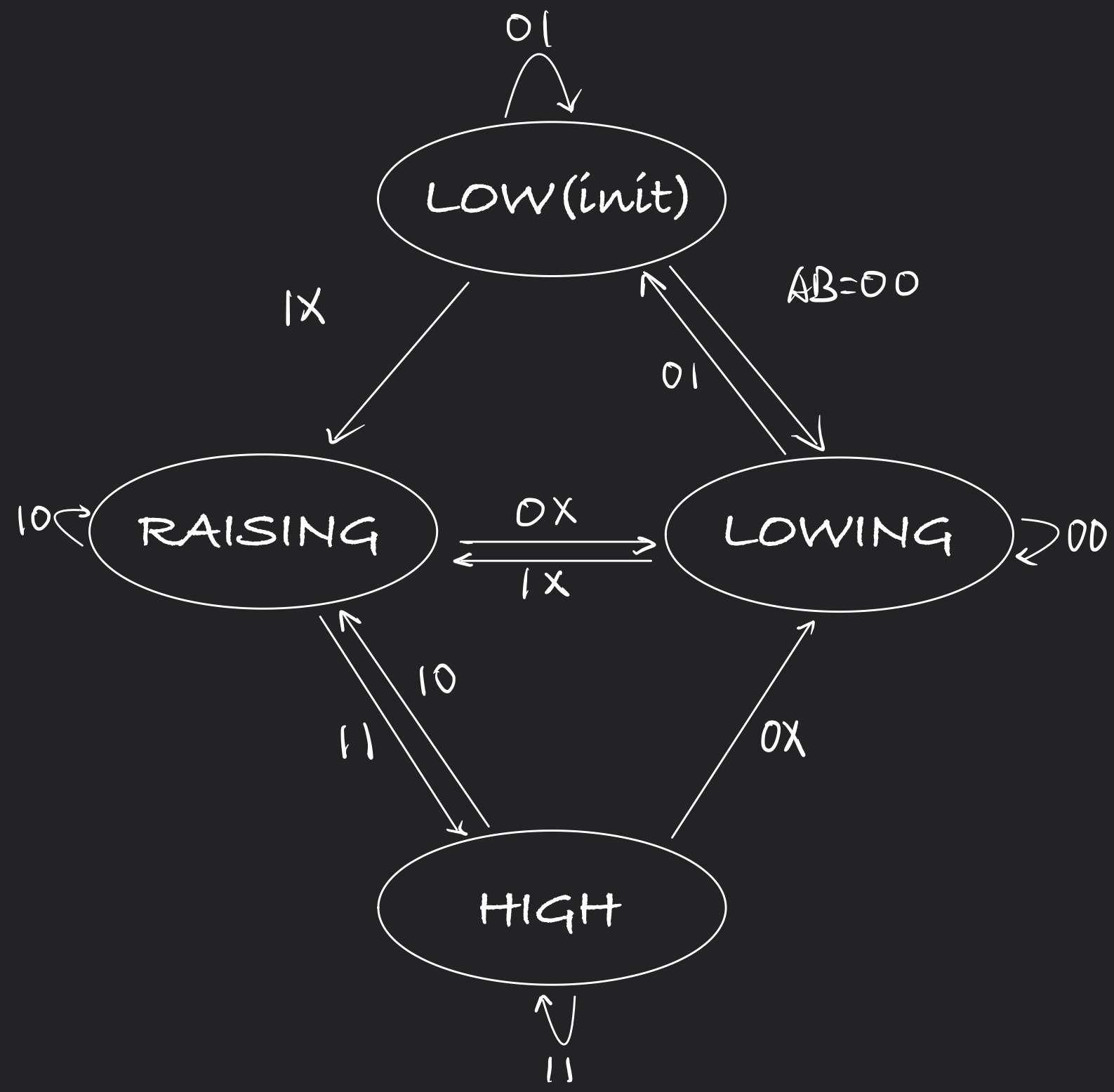

State Table(Part 1)

Present State	A	B	NEXT STATE
LOW	0	0	LOWING
LOW	0	1	LOW
LOW	1	0	RAISING
LOW	1	1	RAISING
RAISING	0	0	LOWING
RAISING	0	1	LOWING
RAISING	1	0	RAISING
RAISING	1	1	HIGH
HIGH	0	0	LOWING
HIGH	0	1	LOWING
HIGH	1	0	RAISING
HIGH	1	1	HIGH
LOWING	0	0	LOWING
LOWING	0	1	LOW
LOWING	1	0	RAISING
LOWING	1	1	RAISING

we need 2 filp-flop ($\lceil \log_2 4 \rceil = 2$)

LOW = 0 0

RAISING = 0 1

HIGH = 1 0

LOWING = 1 1

Truth Table(Part 1)

F2	F1	A	B	new F2	new F1
0	0	0	0	1	1
0	0	0	1	0	0
0	0	1	0	0	1
0	0	1	1	0	1
0	1	0	0	1	1
0	1	0	1	1	1
0	1	1	0	0	1
0	1	1	1	1	0
1	0	0	0	1	1
1	0	0	1	1	1
1	0	1	0	0	1
1	0	1	1	1	0
1	1	0	0	1	1
1	1	0	1	0	0
1	1	1	0	0	1
1	1	1	1	0	1

Full Output Truth Table(Part 2)

F2	F1	L	R
0	0	0	0
0	1	0	1
1	0	0	0
1	1	1	0