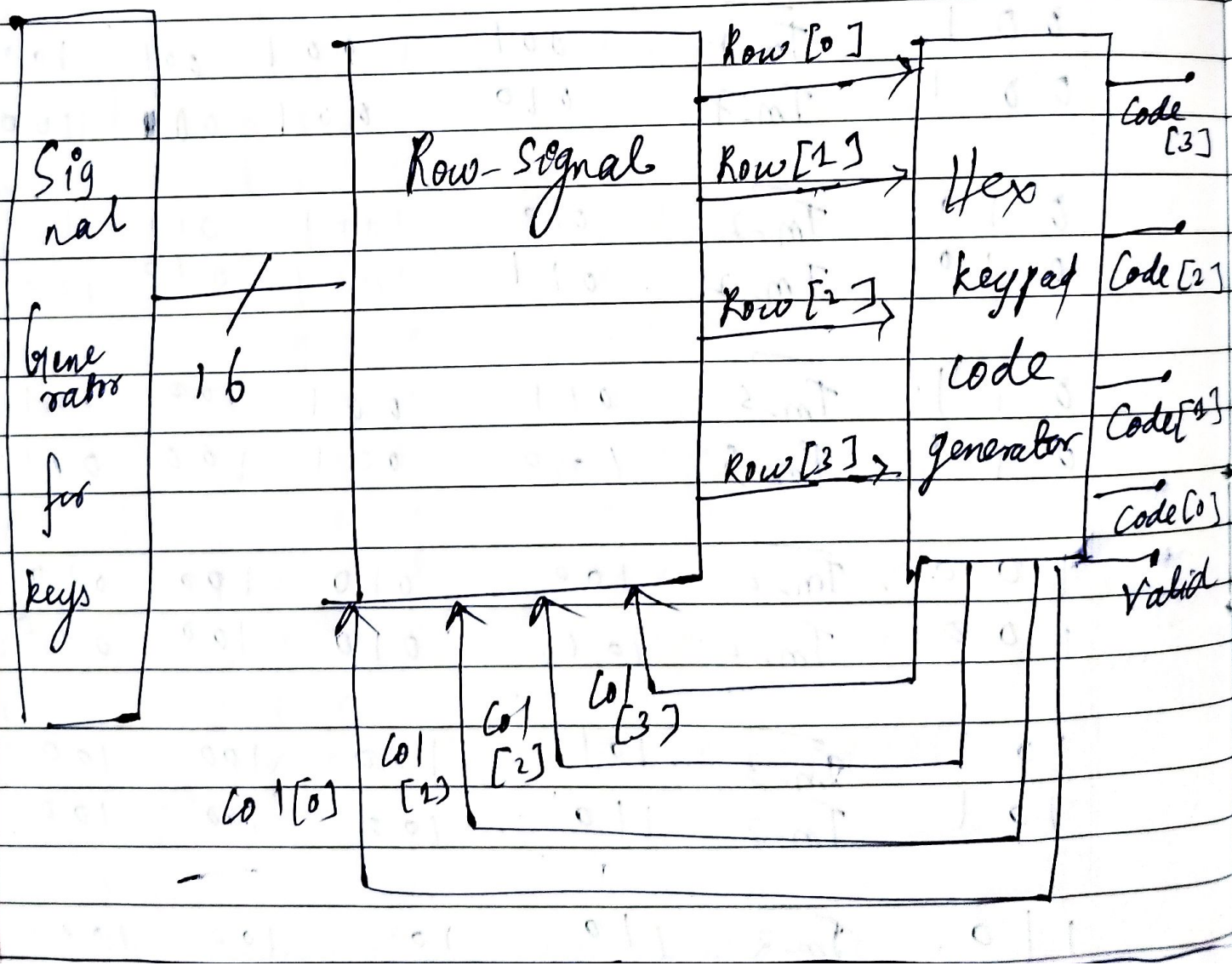
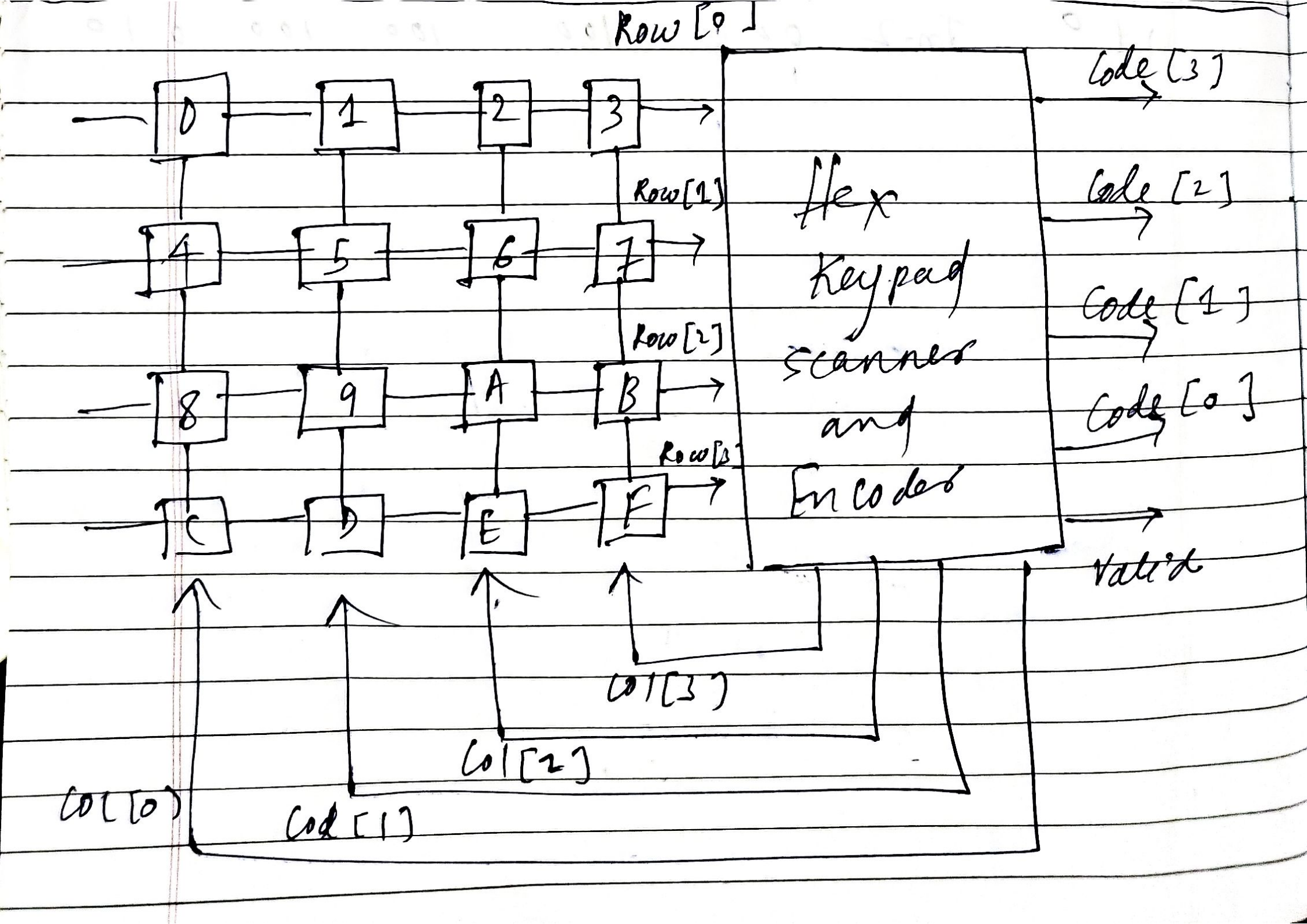
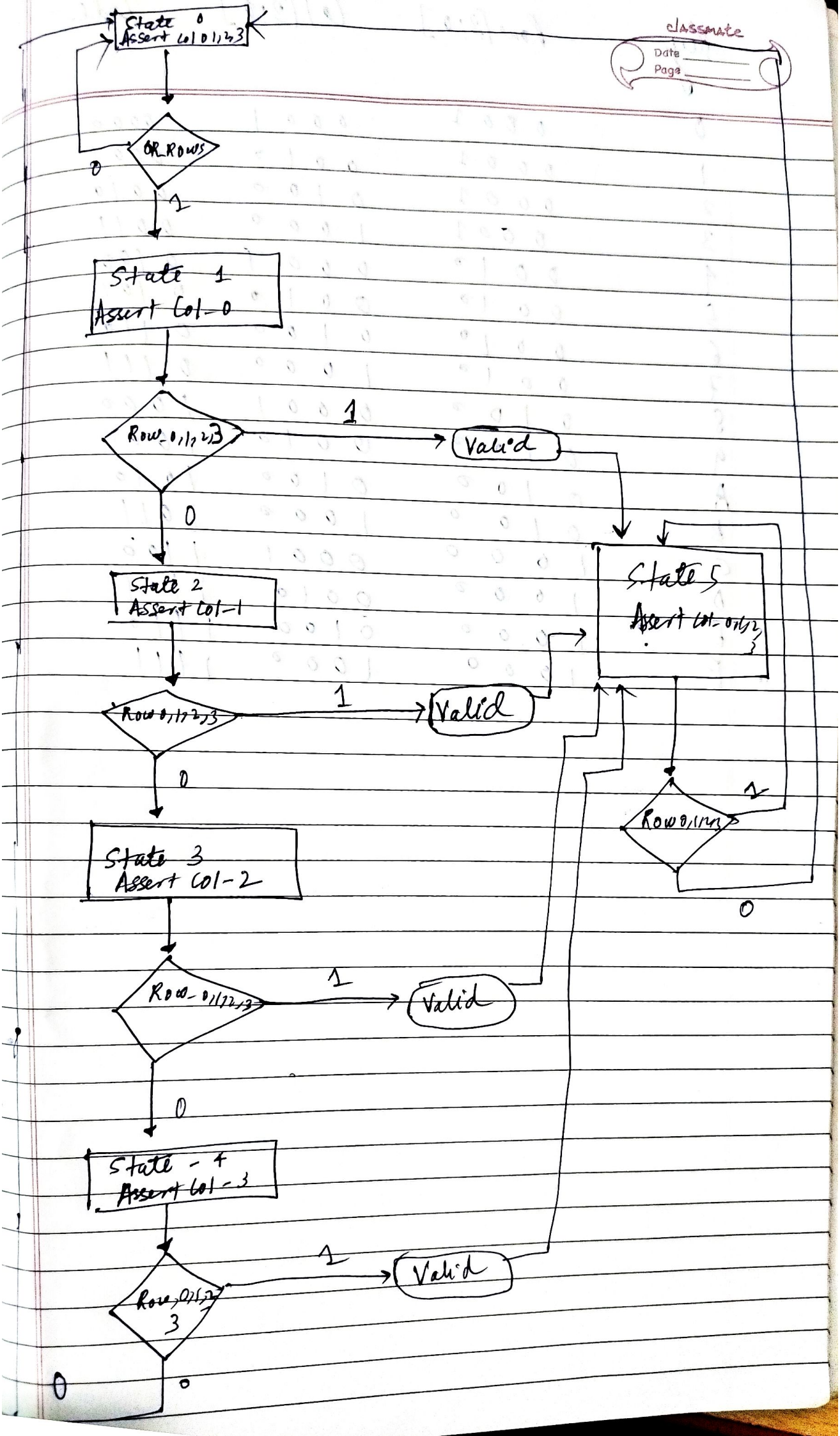

Sig
nal
Gene
rator
for
keys
16
Row-Signal
Row [0]
Row [1]
Row [2]
Row [3]
Hex
keypad
code
generator
Code
[3]
Code [2]
Code [1]
Code [0]
Valid
Col [0]
Col
[2]
Col
[1]
[2]
Col
[0]
[3]


Row[0]
0
1
2
3
Row[1]
4
5
6
7
Row[2]
8
9
A
B
Row[3]
C
D
E
F
Hex
Keypad
Scanner
and
Encoder
Code[3]
Code[2]
Code[1]
Code[0]
Valid
Col[3]
Col[2]
Col[0]
Col[1]


State 0
Assert Col 0,1,2,3
OR_ROWS
0
1
State 1
Assert Col-0
Row_0,1,2,3
1
Valid
0
State 2
Assert Col-1
Row 0,1,2,3
1
Valid
0
State 3
Assert Col-2
Row_0,1,2,3
1
Valid
0
State - 4
Assert Col-3
Row_0,1,2,3
1
Valid
0
State 5
Assert Col_0,1,2,3
Row 0,1,2,3
1
0

Key	Row [3:0]	Col [3:0]	Code
0	0001	0001	0000
1	0001	0010	0001
2	0001	0100	0010
3	0001	1000	0011
4	0010	0001	0100
5	0010	0010	0101
6	0010	0100	0110
7	0010	1000	0111
8	0100	0001	1000
9	0100	0010	1001
A	0100	0100	1010
B	0100	1000	1011
C	1000	0001	1100
D	1000	0010	1101
E	1000	0100	1110
F	1000	1000	1111