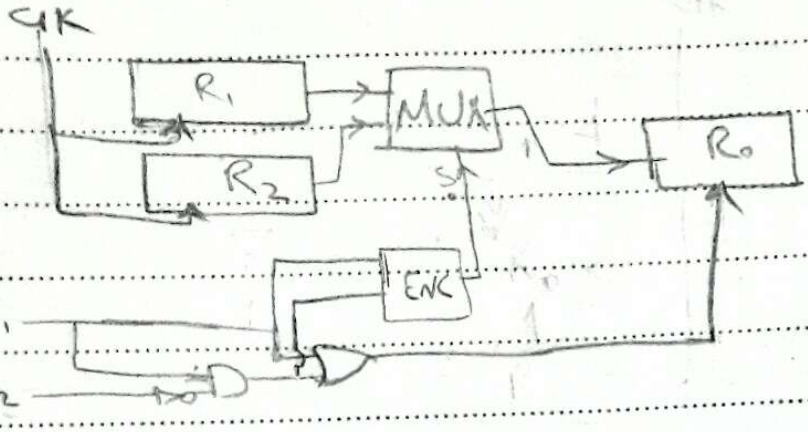
NUMBER:



①

5

②

Adder ⇒ $R_2 + \overline{R_1} + 1 = R_2 - R_1$

"1" : $R_0 \leftarrow R_2 - R_1$

$\overline{Count}$: $R_3 \leftarrow R_0$

10

NUMBER:

jam . Strt : $R_1 \leftarrow A$, $R_2 \leftarrow B$, $R_3 \leftarrow A+B$, jam $\leftarrow 1$, zrb $\leftarrow 1$ ③

jam . zrb . $OR(R_1)$: $R_1 \leftarrow R_1 - 1$, $R_4 \leftarrow R_4 + R_2$

jam . zrb . $\overline{OR(R_1)}$: zrb $\leftarrow 0$, $R_5 \leftarrow R_4$, $R_4 \leftarrow R_3$, tsm $\leftarrow 1$

jam . zrb . $\overline{OR(R_3)}$: jam $\leftarrow 0$, $R_3 \leftarrow 0$, zrb $\leftarrow 0$ / jam . $\overline{zrb}$. $\overline{tsm}$: jam $\leftarrow 0$

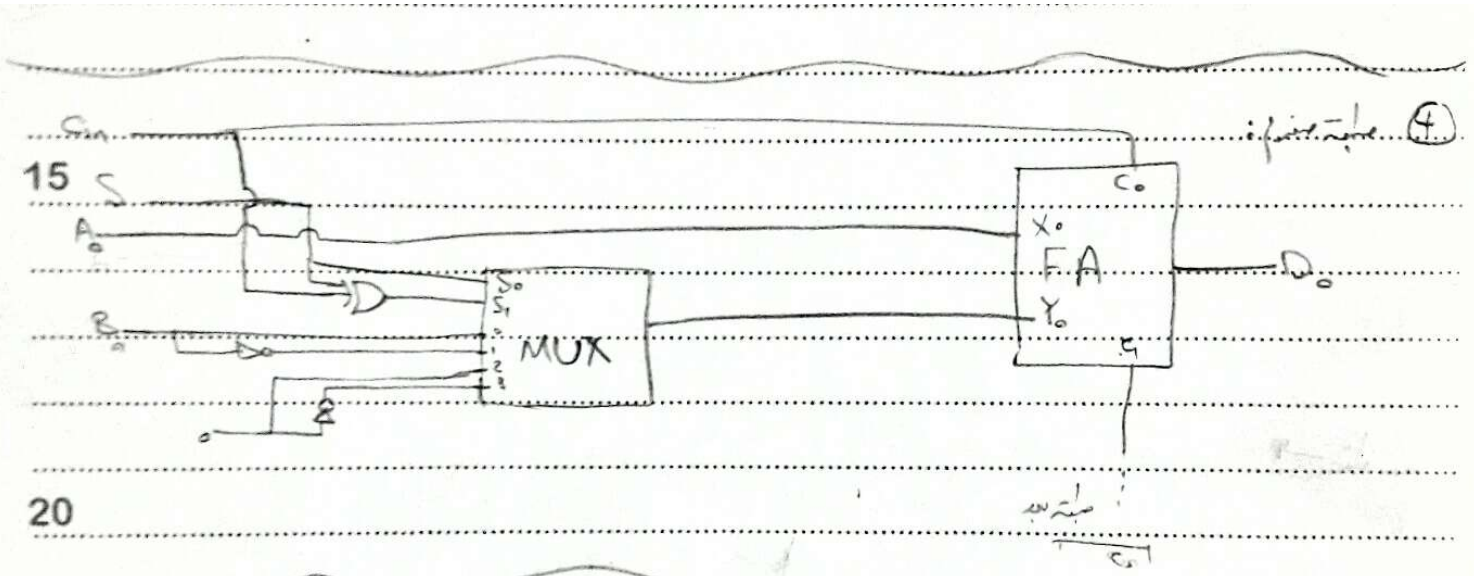
jam . tsm . $OR(R_5)$. $\overline{OR(R_4)}$: $R_6 \leftarrow R_6 + 1$, $R_7 \leftarrow R_5$, $R_4 \leftarrow R_3$

5 jam . tsm . $OR(R_5)$. $OR(R_4)$: $R_5 \leftarrow R_5 - 1$, $R_4 \leftarrow R_4 - 1$

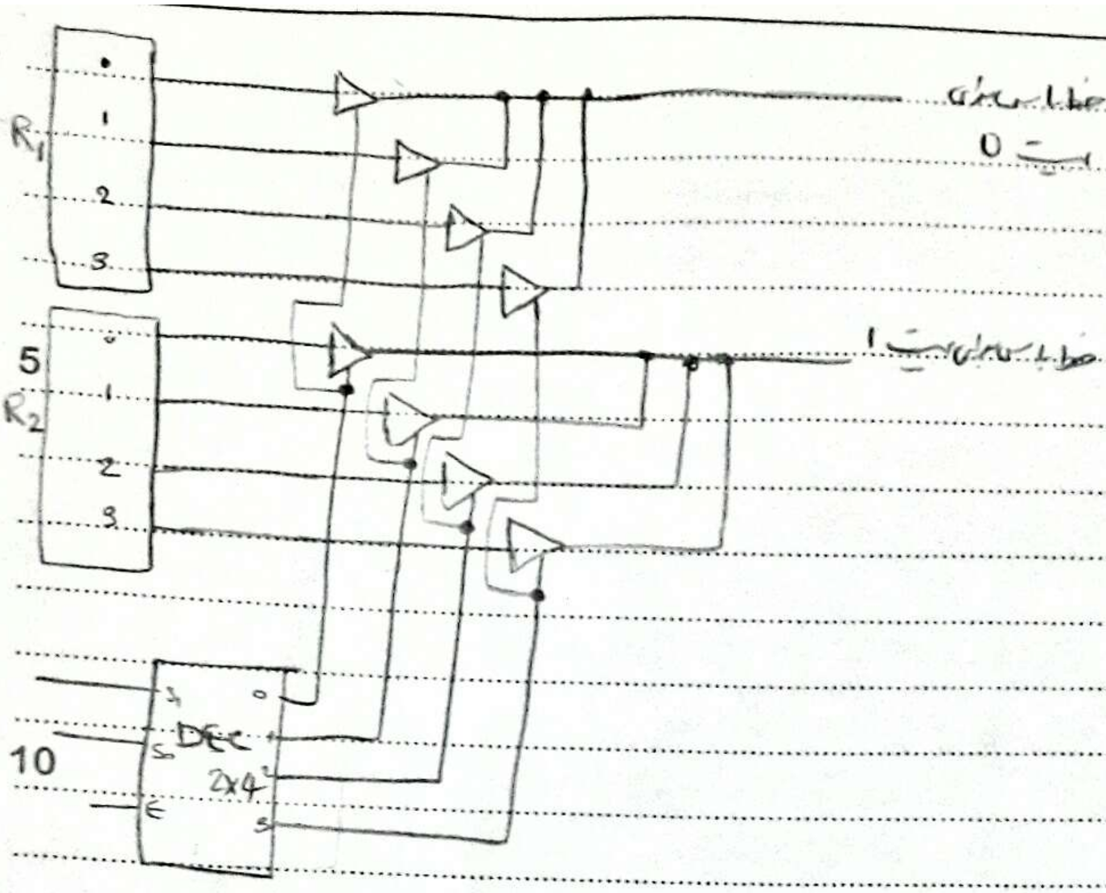
jam . tsm . $\overline{OR(R_5)}$: $R_8 \leftarrow R_6$, $R_4 \leftarrow 0$, $R_6 \leftarrow 0$, tsm $\leftarrow 0$

R_6 : [illegible] / R_5 : [illegible] / R_3 : [illegible]

R_7 : [illegible]


Cin
S
A0
B0
MUX
S0
S1
0
1
2
3
C0
X0
F.A
Y0
S
D0
C1

(5)



(6)

C_{in}	S_1	S_0	Y	G	
0	0	0	0	A	انتقال (transfer)
0	0	1	B	A+B	جمع (sum)
0	1	0	$\bar{B}$	$A+\bar{B}$ = A−B−1	تفریق با رقم قرضی
0	1	1	1	A−1	کاهش
1	0	0	0	A+1	افزایش
1	0	1	B	A+B+1	جمع با رقم نقلی
1	1	0	$\bar{B}$	$A+\bar{B}+1$ = A−B	تفریق
1	1	1	1	A	انتقال (transfer)

$Y = (B \cdot S_0) + (\bar{B} \cdot S_1)$ ⟶ (Y بدون Cin [illegible])