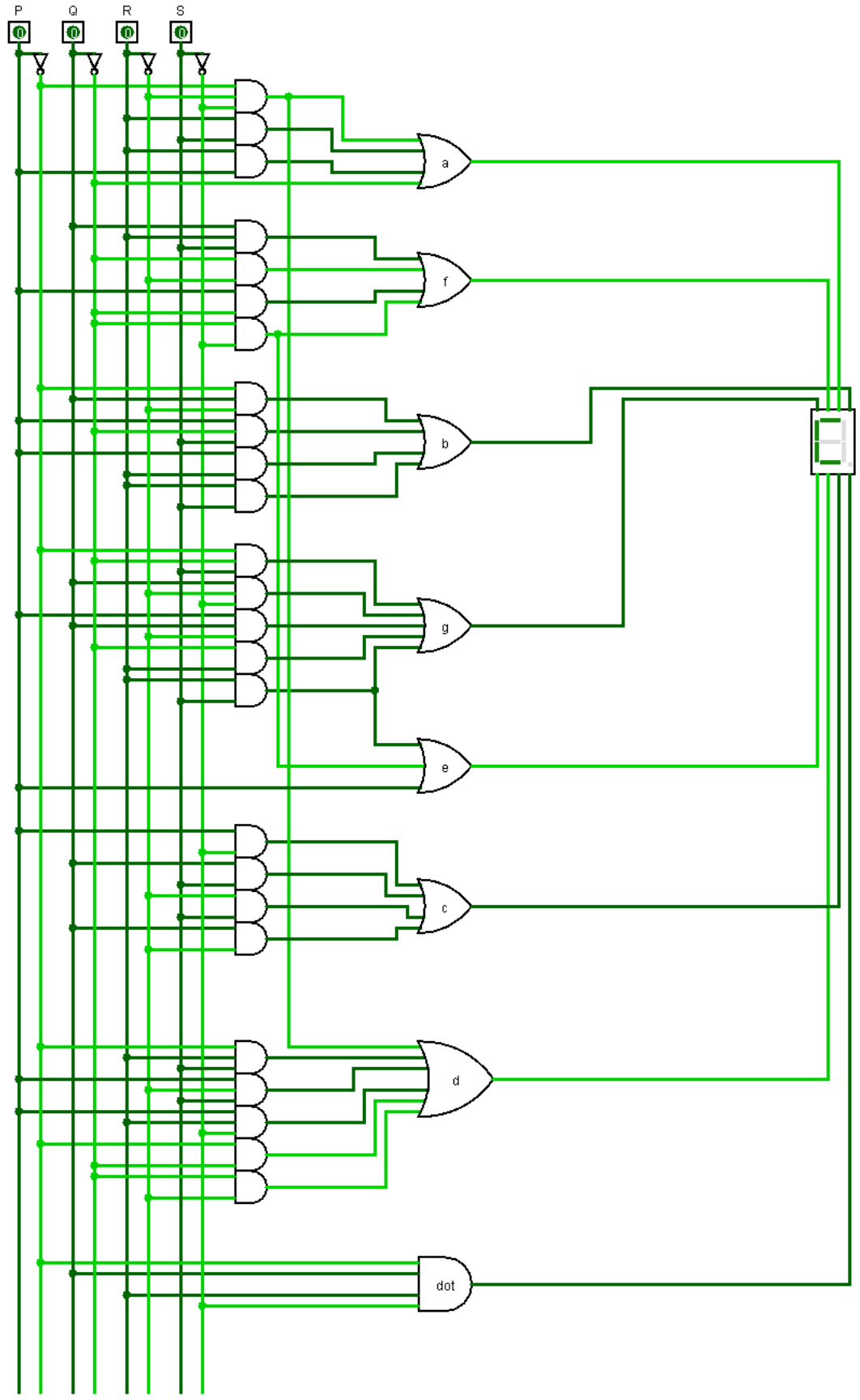
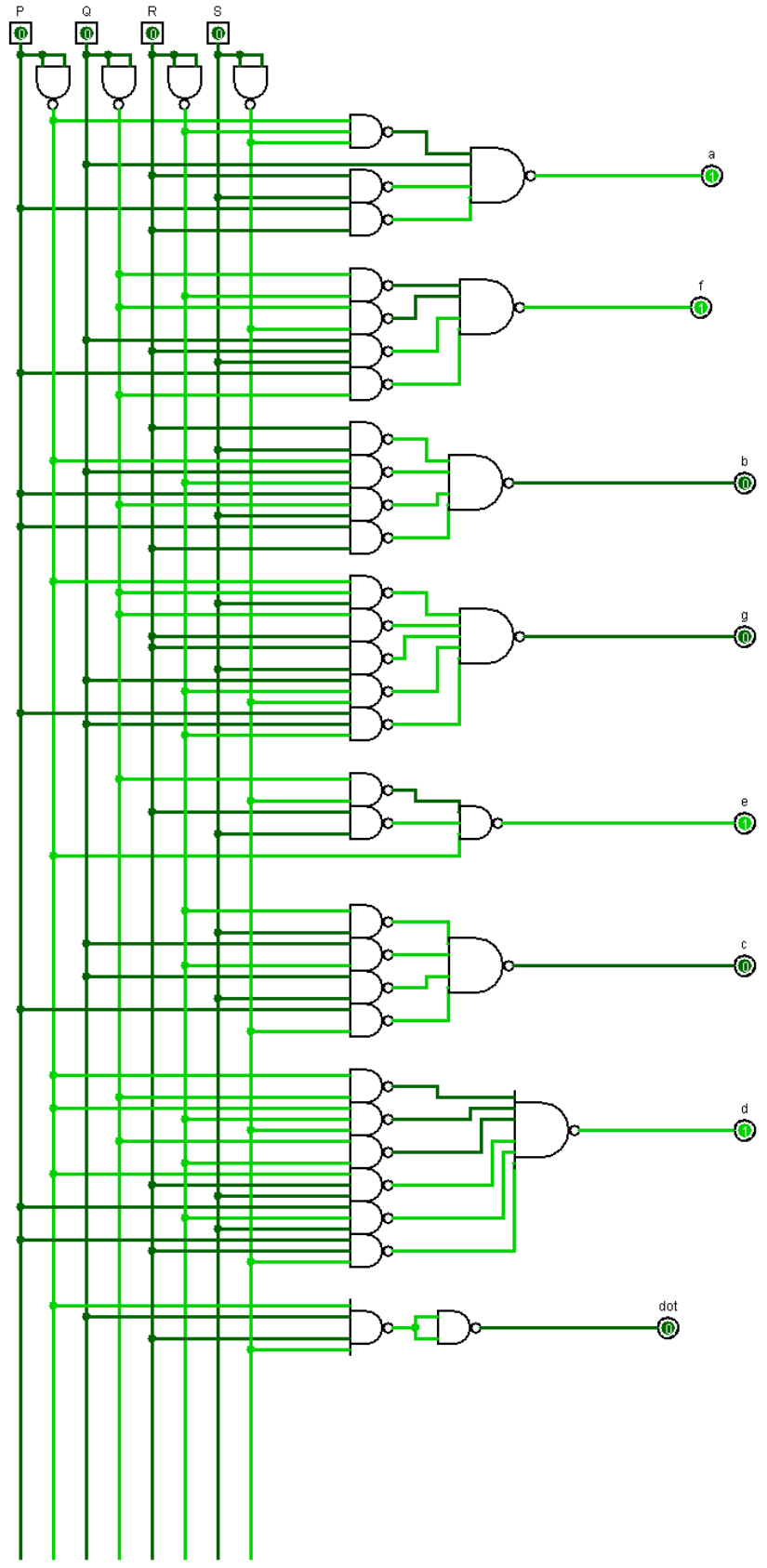
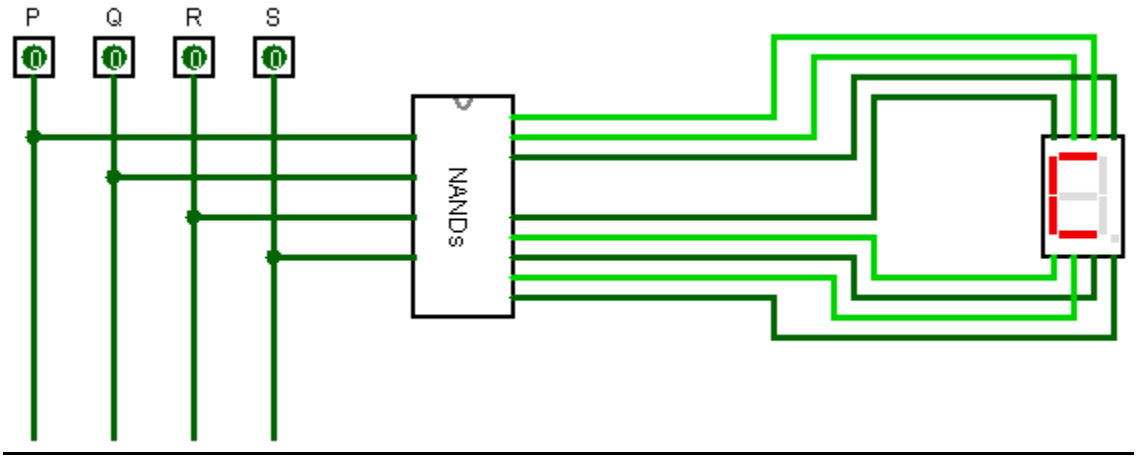
Basic Gates:

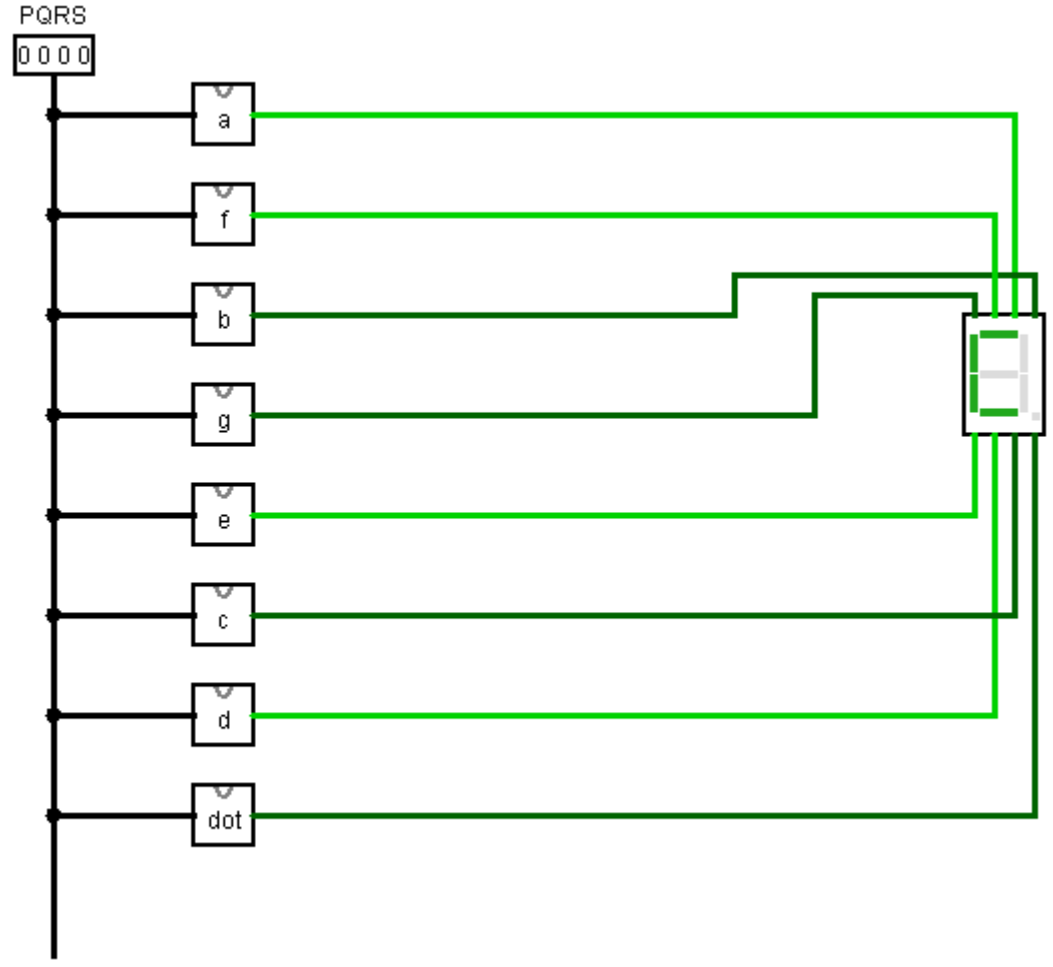


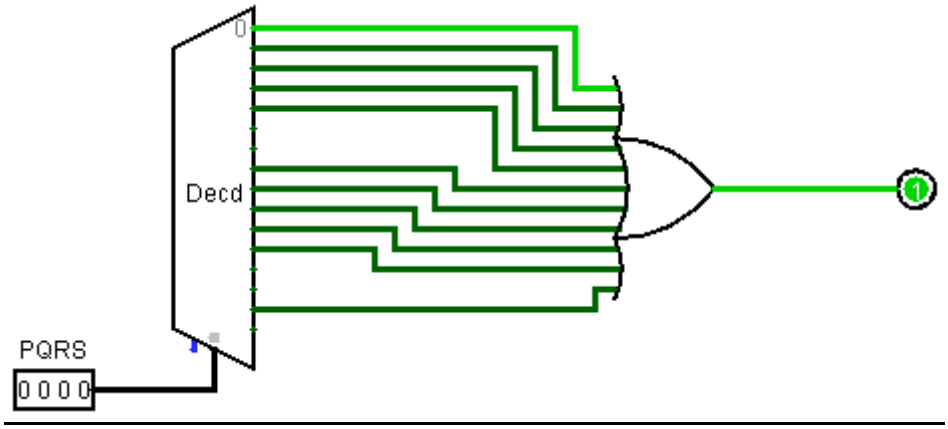
Universal Gates



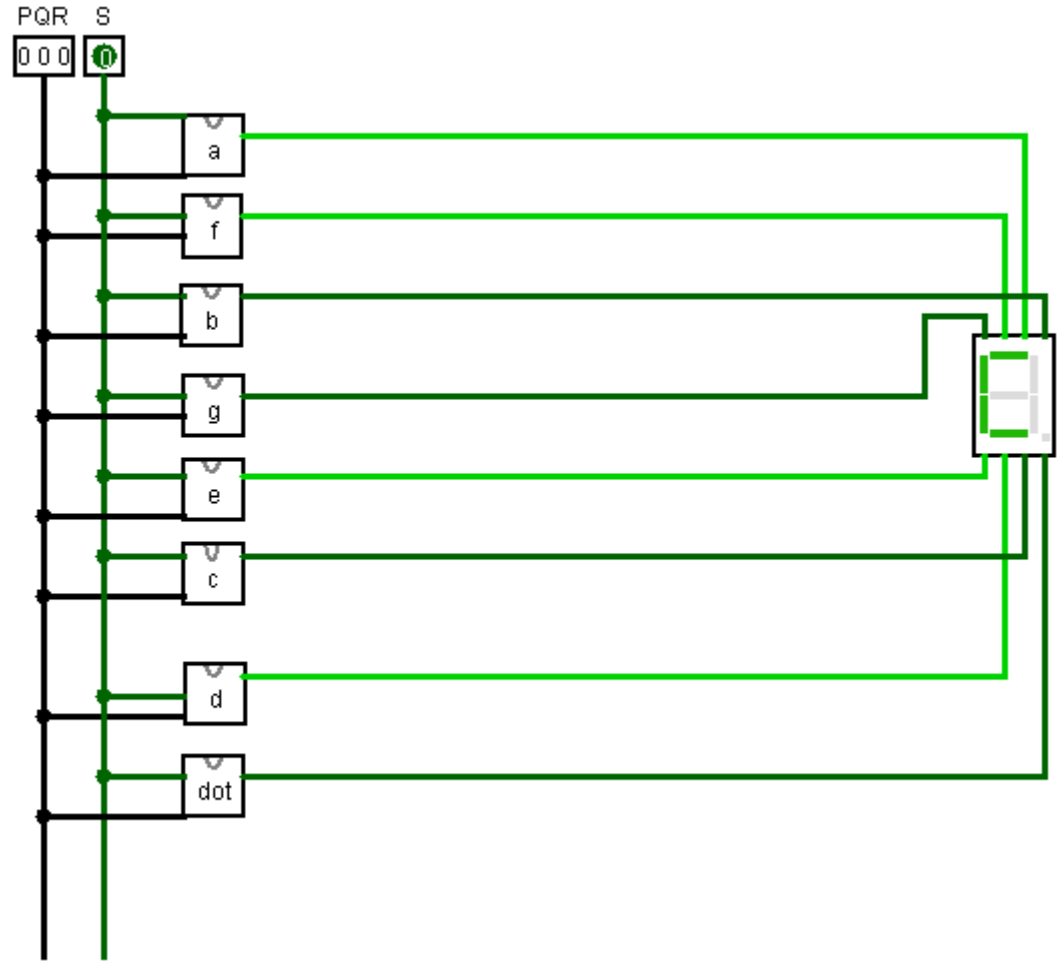


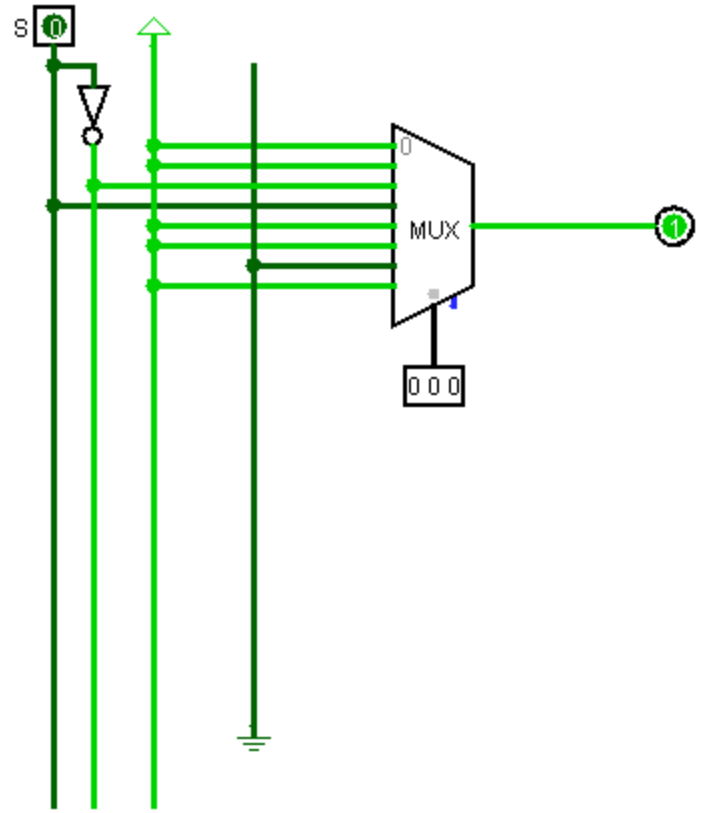
Decoder



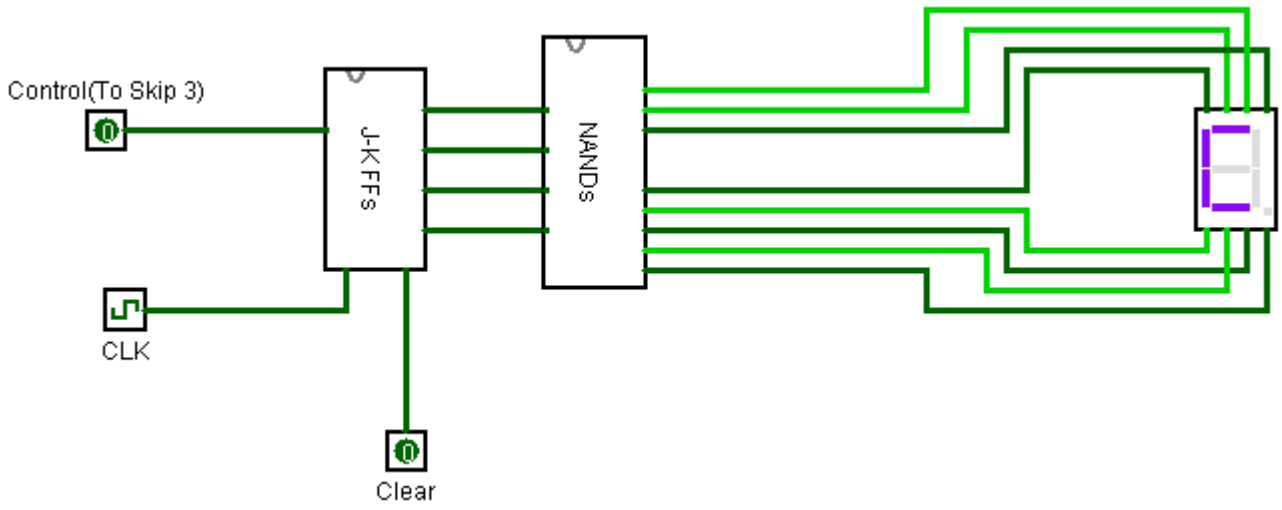


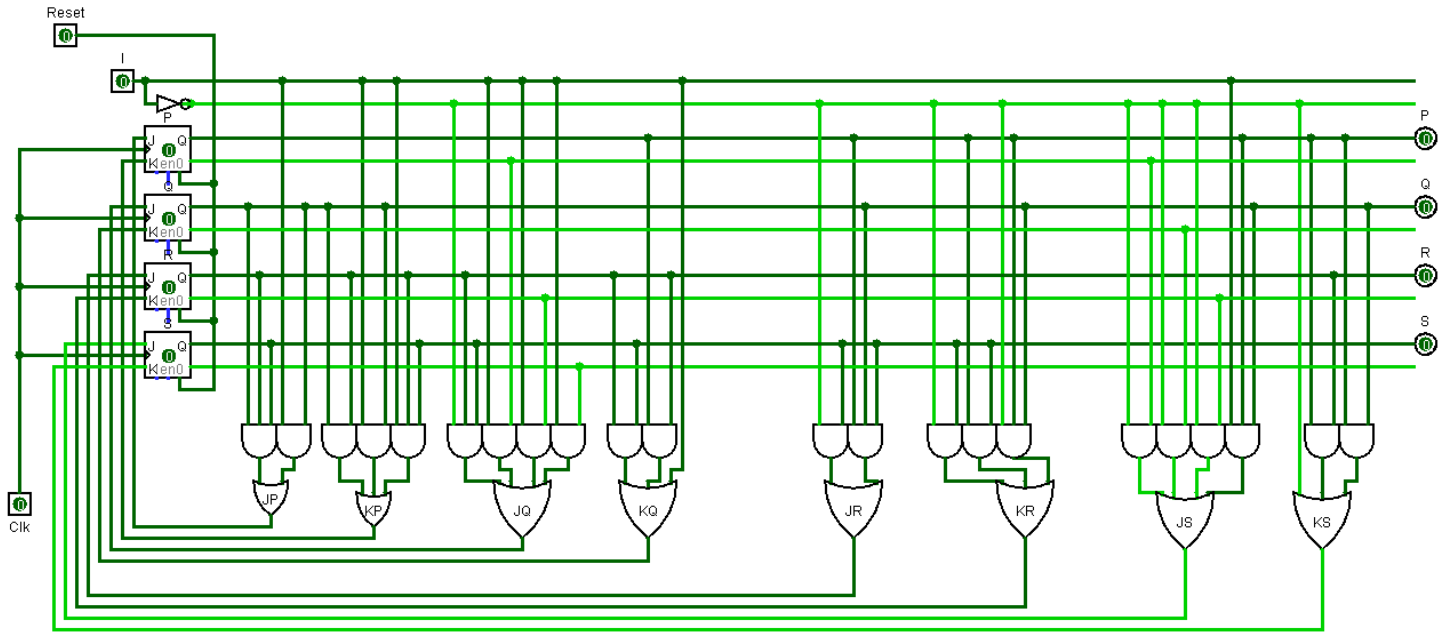
Mux



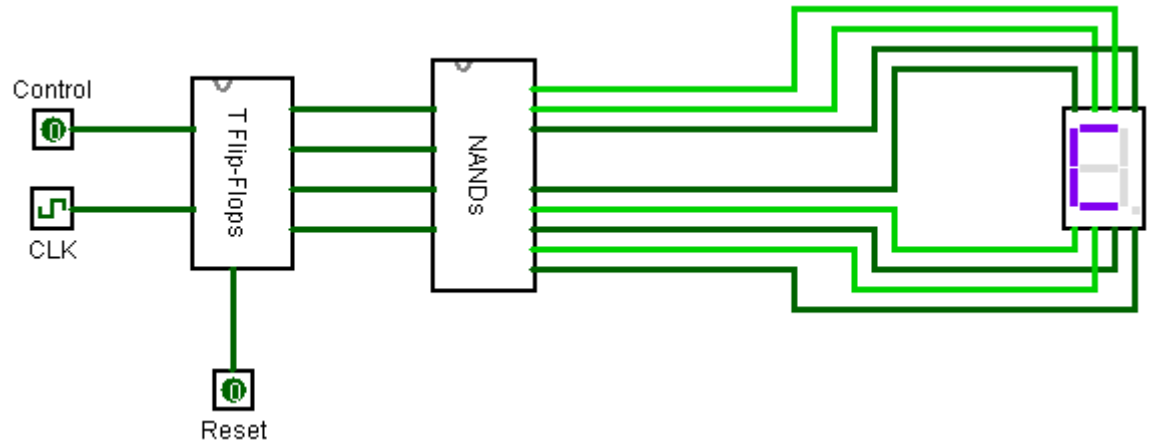


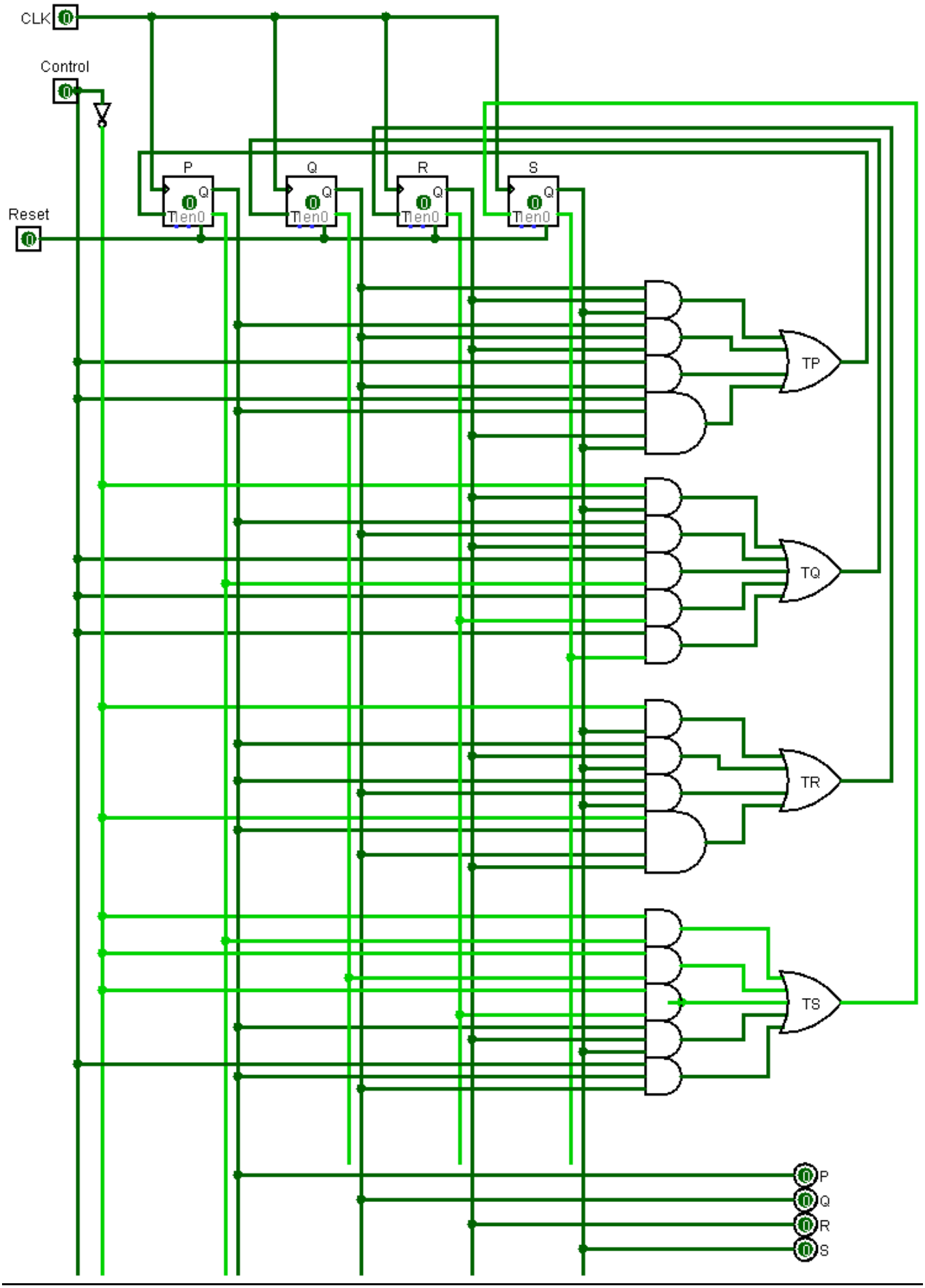
J-K Flip-Flops



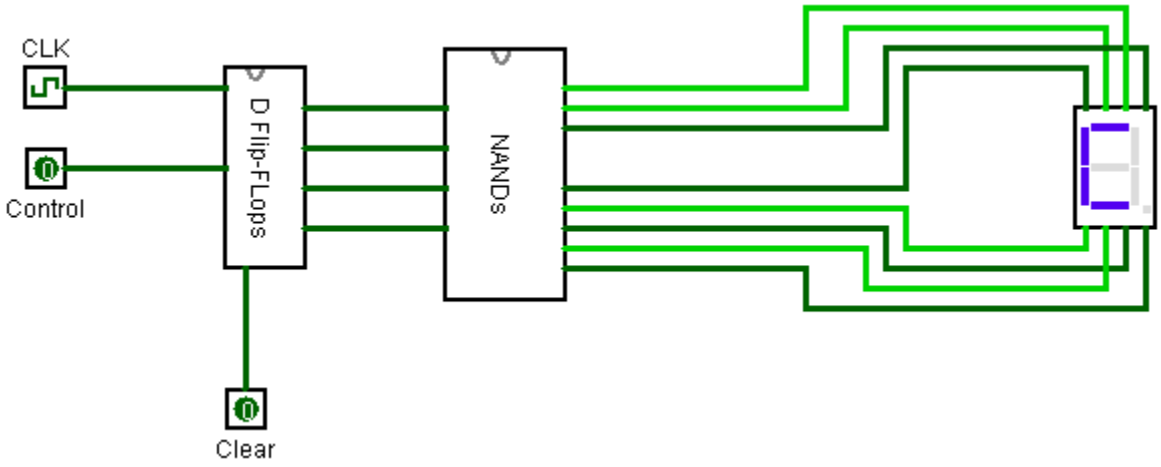

Reset
I
P
Clk
JP
KP
JQ
KQ
JR
KR
JS
KS
P
Q
R
S

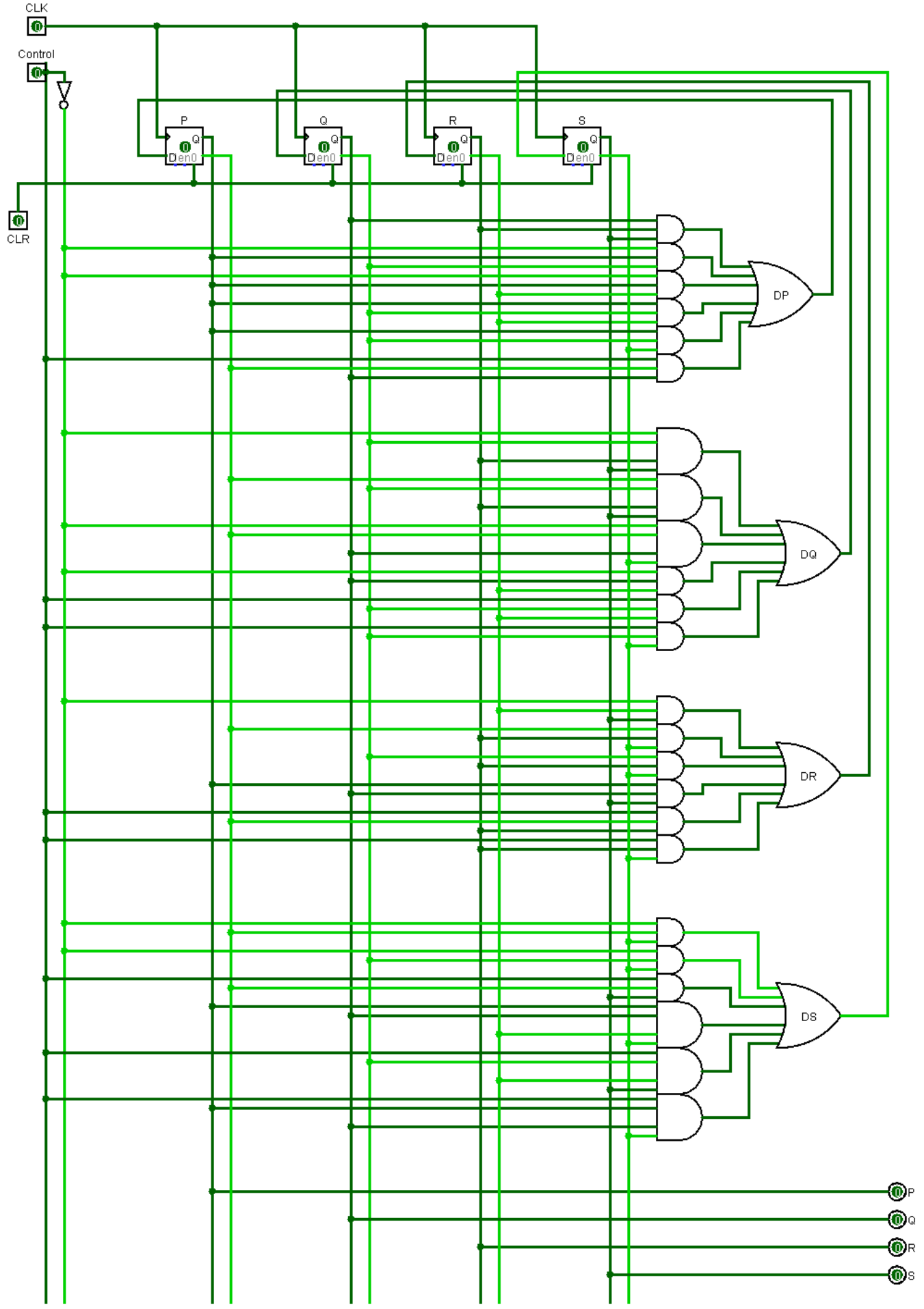
T Flip-Flops


Control
CLK
T Flip-Flops
NANDs
Reset


CLK
Control
Reset
P
Q
R
S
T
en
0
TP
TQ
TR
TS
P
Q
R
S

D Flip-Flops:



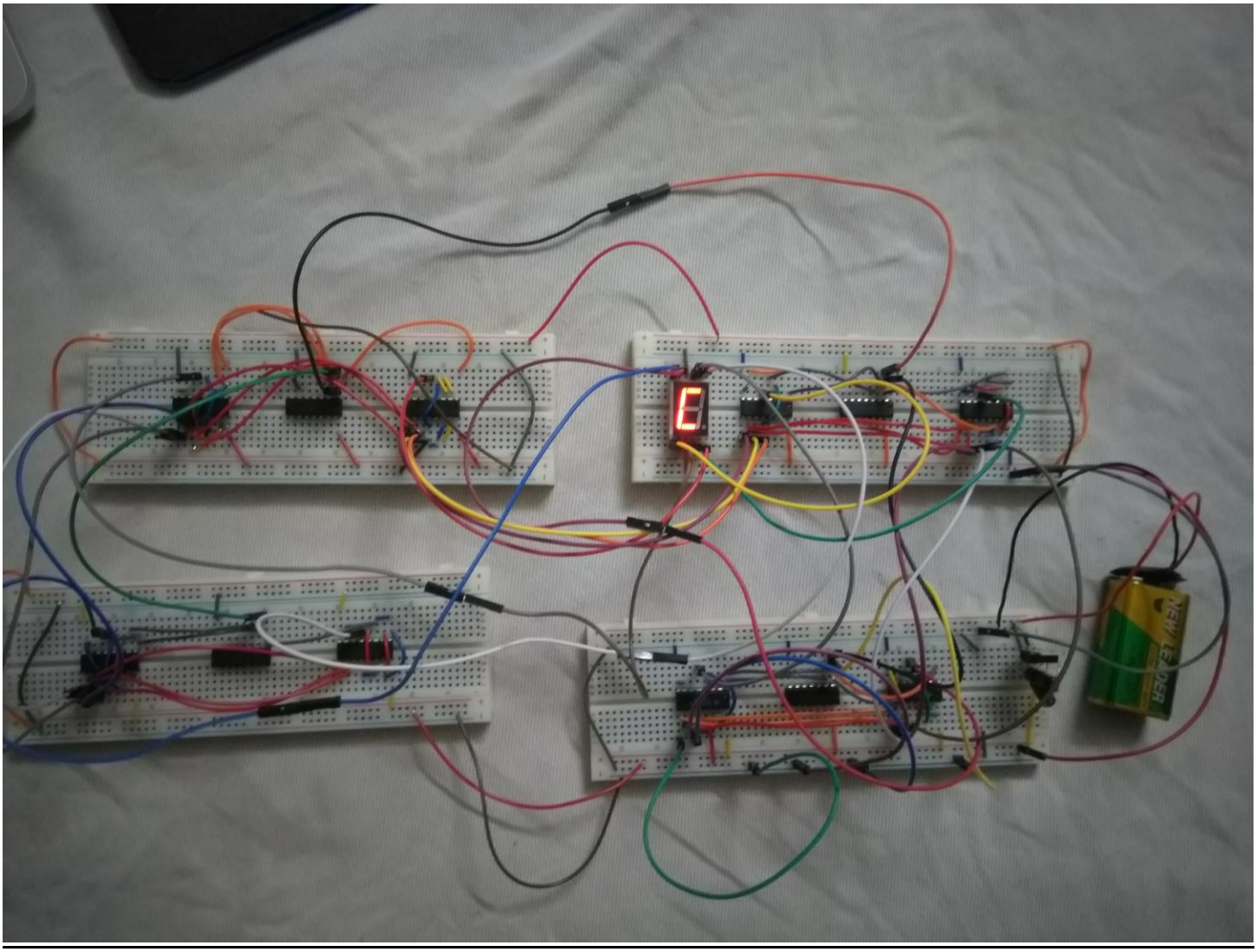

CLK
Control
CLR
P
Q
R
S
Q
Den0
DP
DQ
DR
DS
P
Q
R
S

IMPLEMENTATION

Combinational circuit implementation.

Parts Used:

- 8 IC 74151 (8:1 MUX)
- IC 7404 (NOT Gates)
- 9 volt battery
- LM7805 Voltage Regulator (5V)
- 10 uf Capacitor



Sequential circuit implementation.

Parts Used:

- IC 7432 *Quad 2-Input OR Gates*
- IC 4075 *Triple 3-Input OR Gates*
- IC 4072 *Dual 4-Input OR Gate*
- IC 7408 *Quad 2-Input AND Gates*
- IC 7411 *Triple 3-Input AND Gates*
- IC 7404 *Hex Inverter (Not Gate)*
- IC 7473*Dual JK Flip-Flops with Reset*
- NE555 (Timer IC)