



Eletrônica Digital II

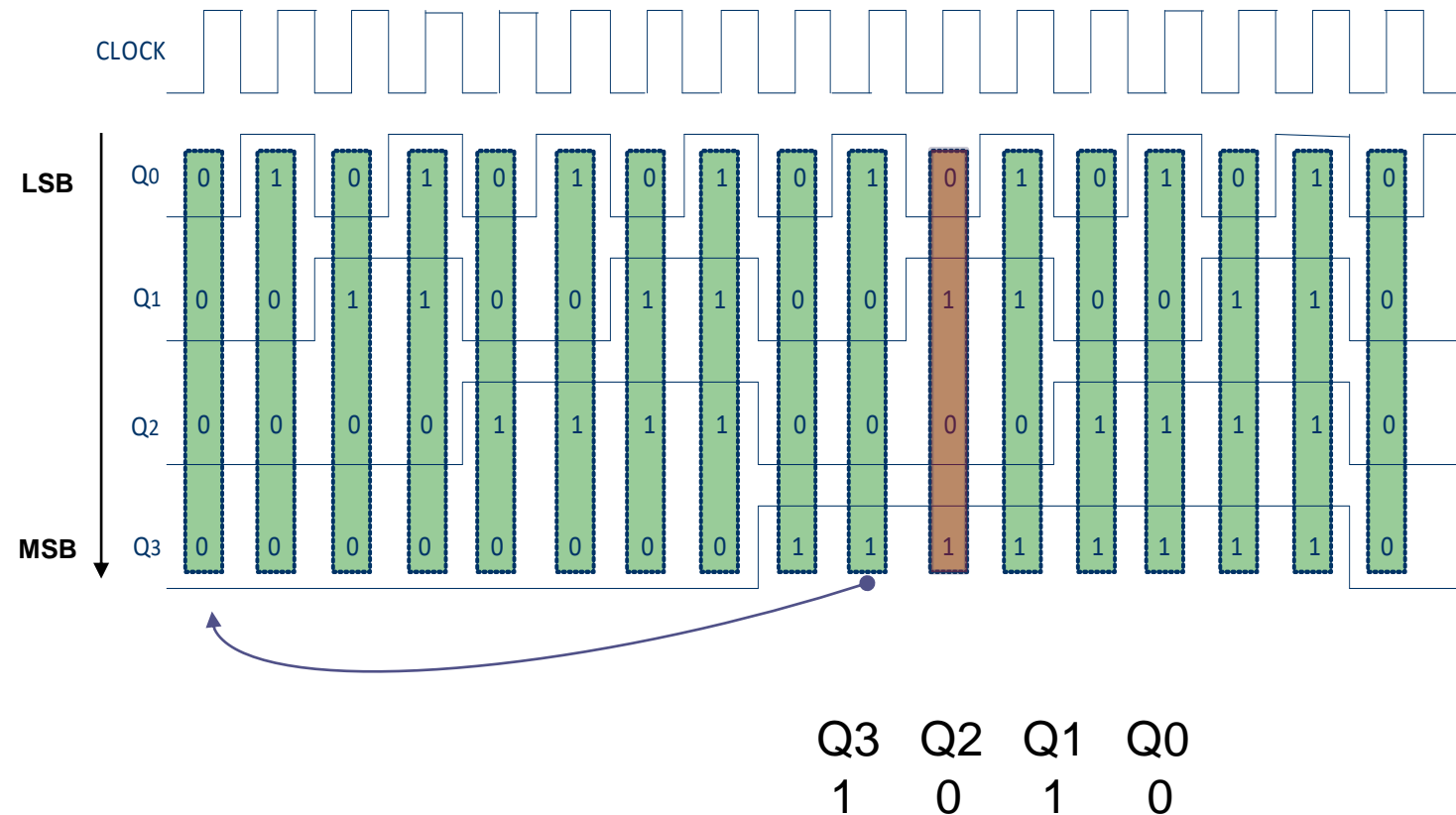
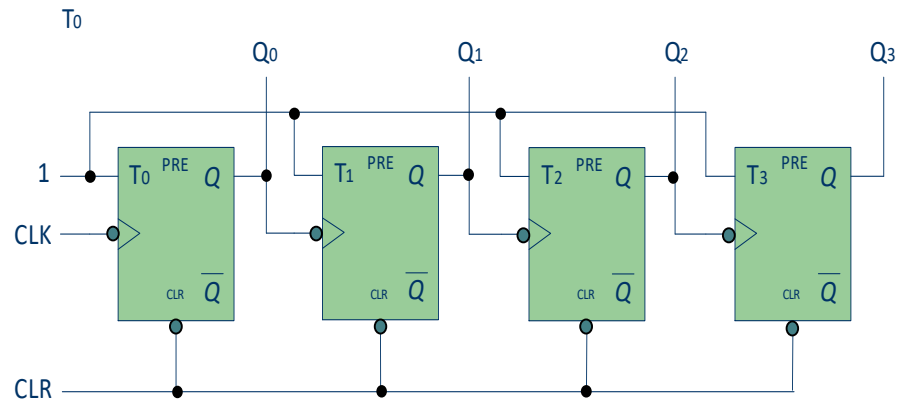
Aula G – Contador Assíncrono (Parte 2)
(Contador de Década)

Prof. MSc. Bruno de Oliveira Monteiro

Inatel

Contador de Década:

Efetua a contagem em binário de 0 a 9_{10} ou seja acompanha a sequência do código BCD 8421 de 0000 a 1001.

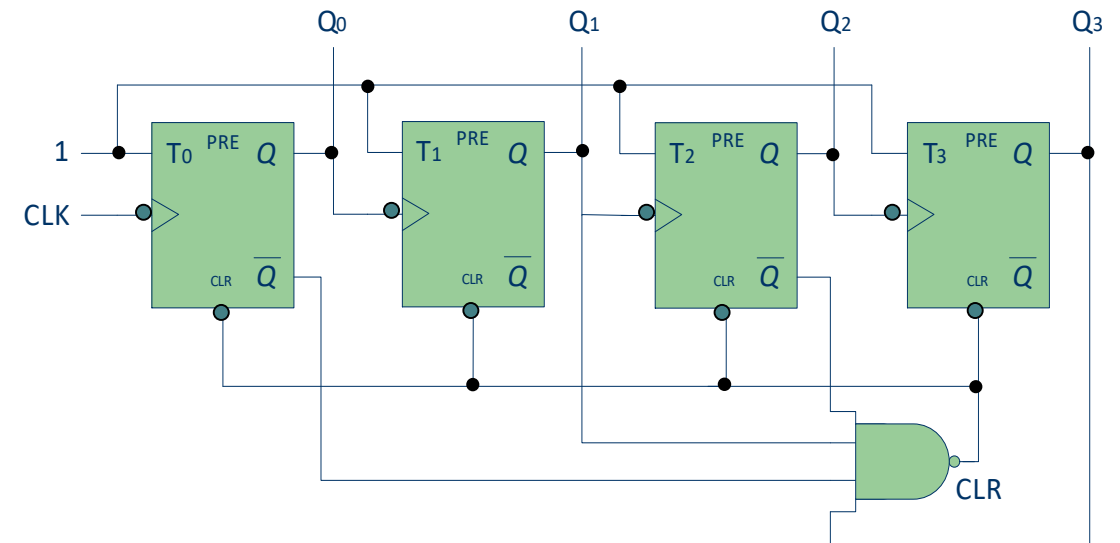
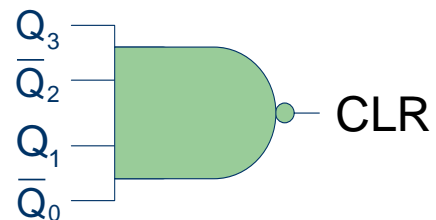


Contador de Década:

Decimal	Q ₃	Q ₂	Q ₁	Q ₀	CLR
0	0	0	0	0	1
1	0	0	0	1	1
2	0	0	1	0	1
3	0	0	1	1	1
4	0	1	0	0	1
5	0	1	0	1	1
6	0	1	1	0	1
7	0	1	1	1	1
8	1	0	0	0	1
9	1	0	0	1	1
10	1	0	1	0	0

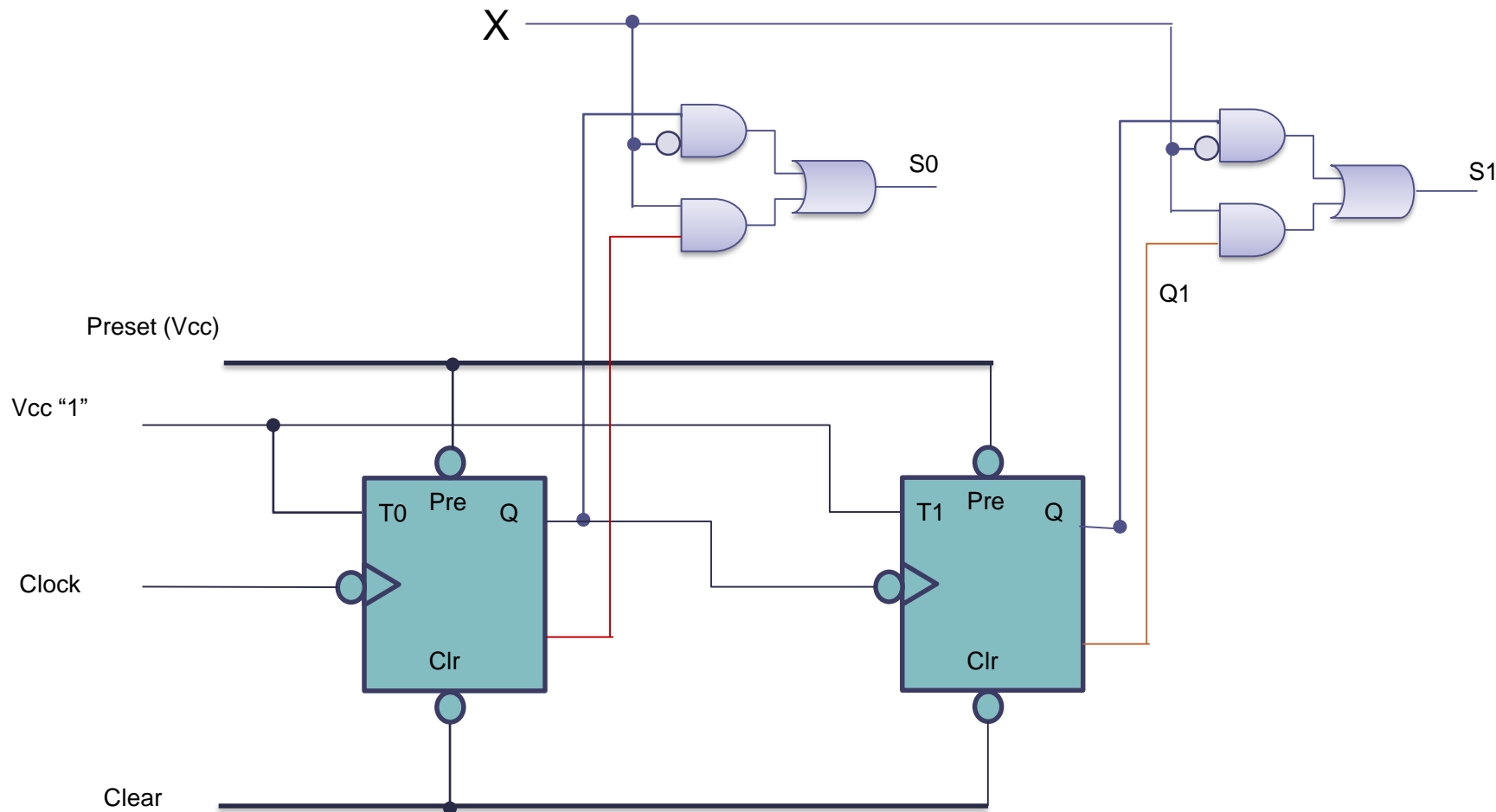
Quando a saída identificar o número 10 decimal, irá ativar o CLEAR

$$CLR = \overline{Q_3} \overline{Q_2} Q_1 \overline{Q_0} = 0$$



Contadores Assíncronos - Crescente / Decrescente

Exercício 1: Avalie o circuito abaixo, montando a forma de onda das saídas S0 e S1, para X=0 e X=1.



Contadores Assíncronos - Crescente / Decrescente

Exercício 1: Monte um contador de capaz de contar 0 – 1 - 2 -3 – 4



Exercício 2: Monte um contador de capaz de contar 0 – 1 - 2 -3 – 4 – 5 – 6



Exercício 3: Monte um contador de capaz de contar 7 – 6 - 5 – 4 – 3



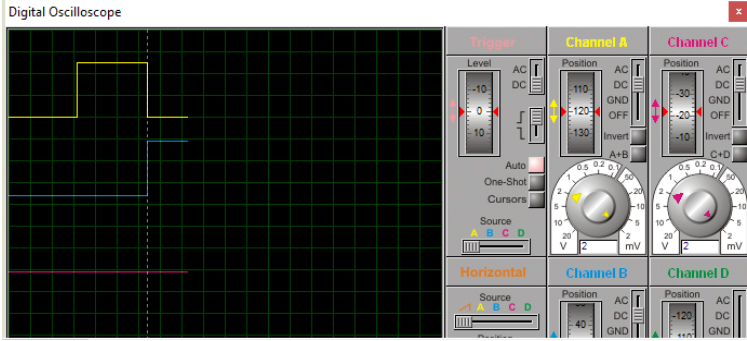
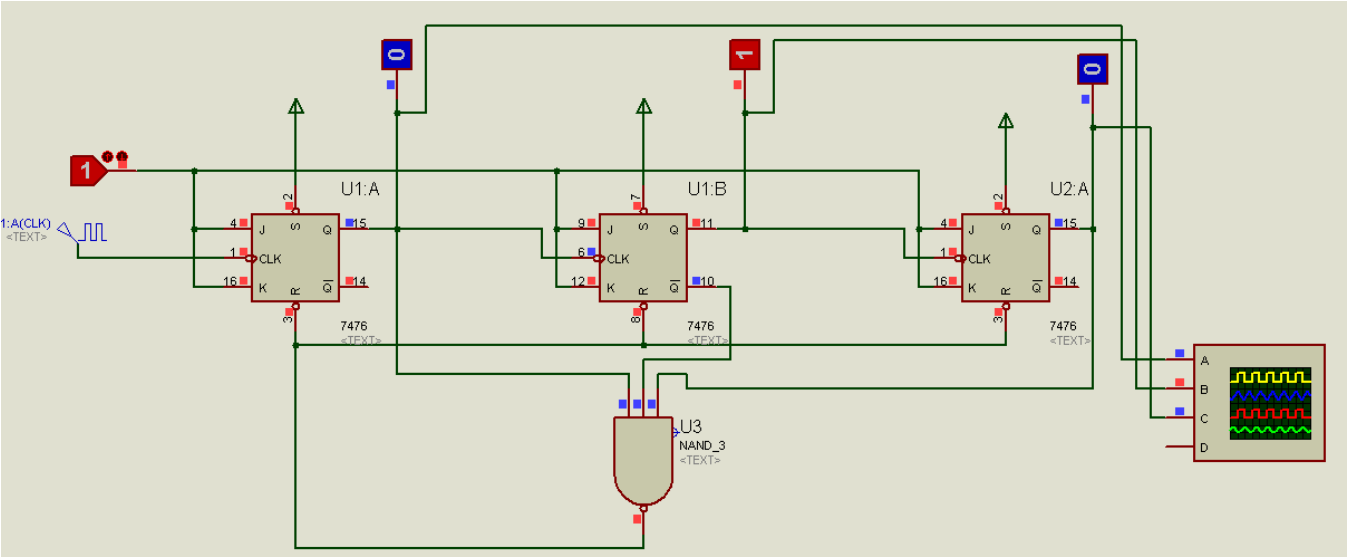
Exercício 4: Monte um contador de capaz de contar 7 – 6 - 5 – 4 – 3 – 2 - 1



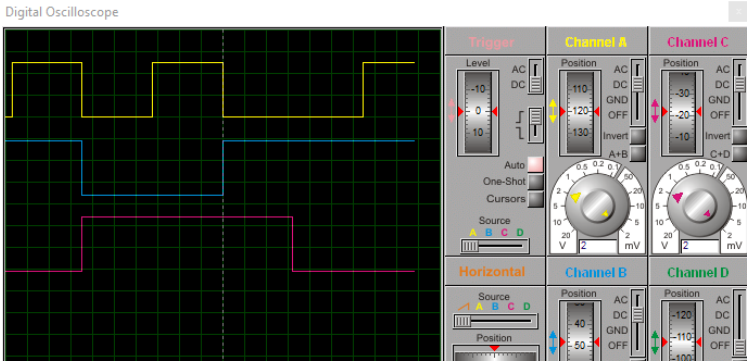
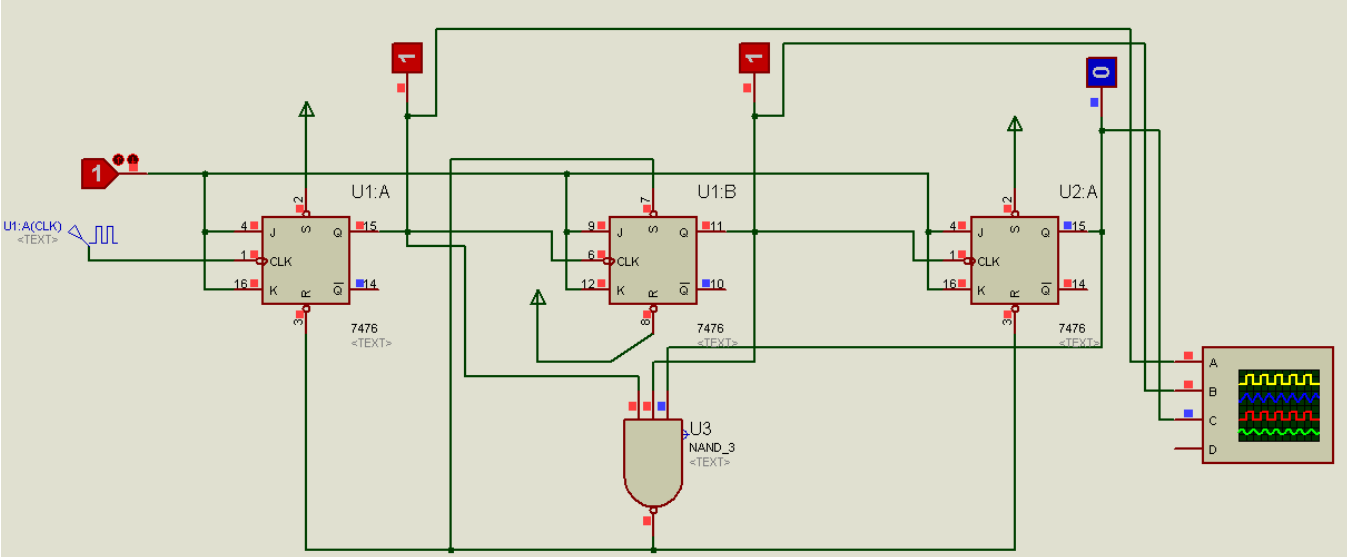
Exercício 5: Monte um contador de capaz de contar 7 – 6 - 5 – 2 -1 - 0



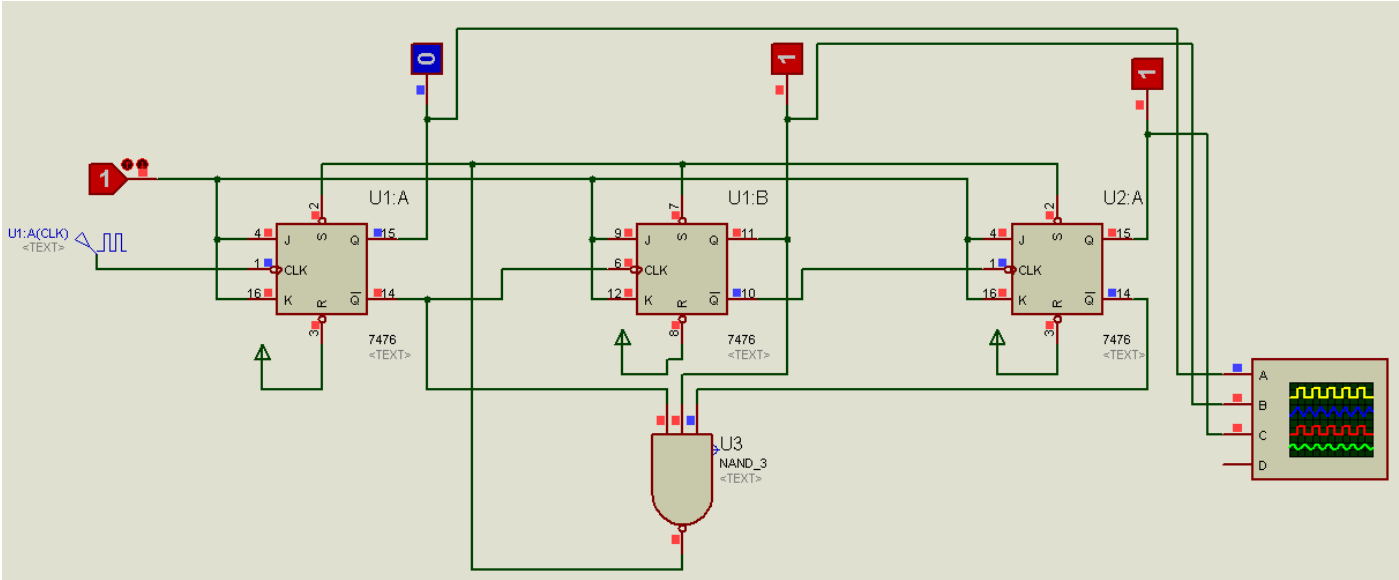
Exercício 1:



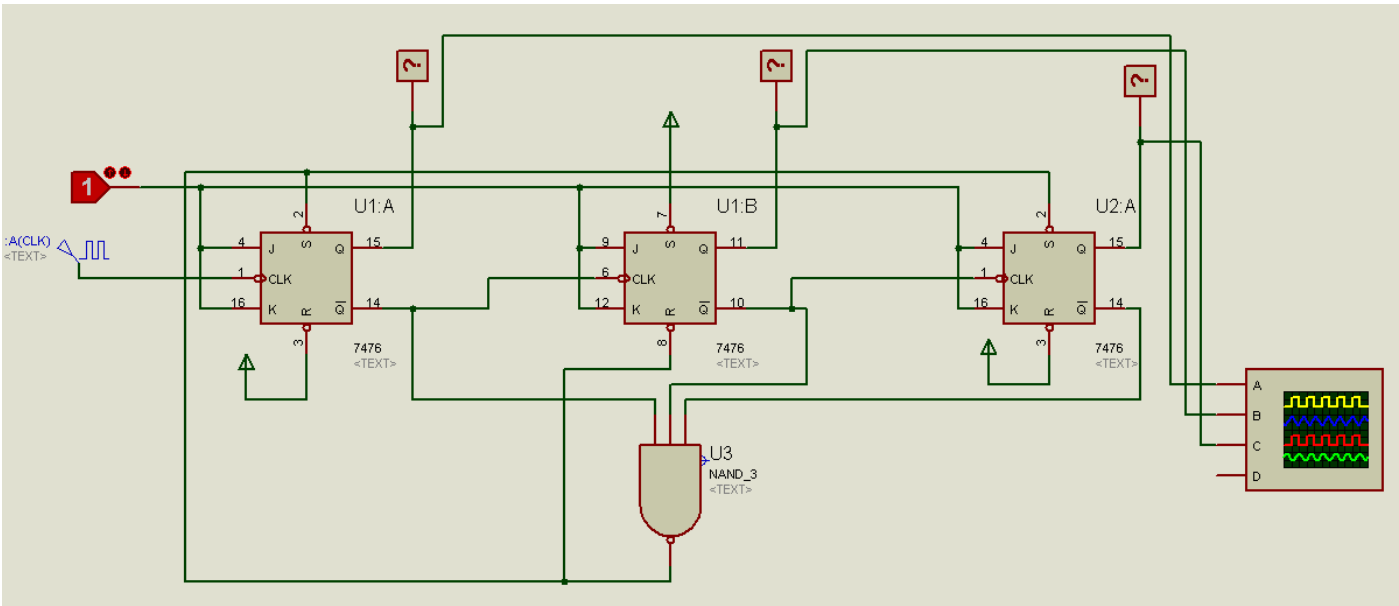
Exercício 2:



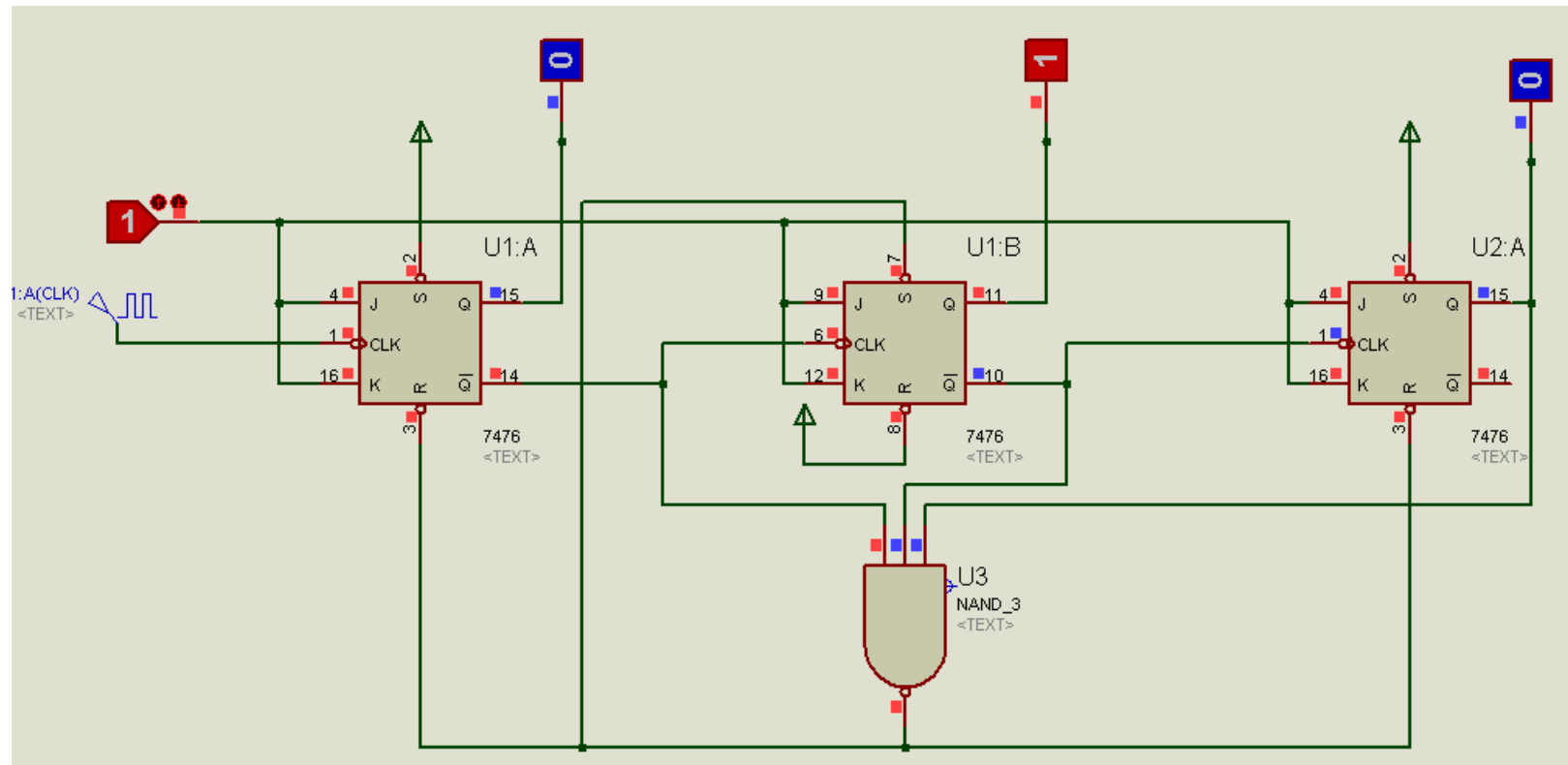
Exercício 3:



Exercício 4:



Exercício 5:





Bons Estudos

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