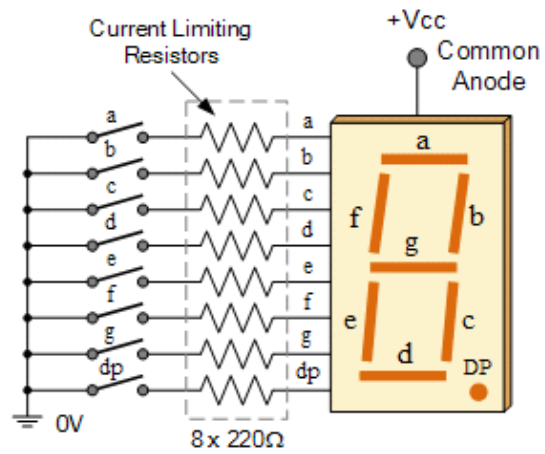


Diseño Esquemático

Decoder BCD

| B3 B2 B1 B0 | A B C D E F G |
|-------------|---------------|
| 0000 | 0000001 |
| 0001 | 1001111 |
| 0010 | 0010010 |
| 0011 | 0000110 |
| 0100 | 1001100 |
| 0101 | 0100100 |
| 0110 | 0100000 |
| 0111 | 0001111 |
| 1000 | 0000000 |
| 1001 | 0000100 |



Expresión Booleana

$$A = B_0 + B_2 + B_1B_3 + B_1'B_3'$$

$$B = B_1' + B_2'B_3' + B_2B_3$$

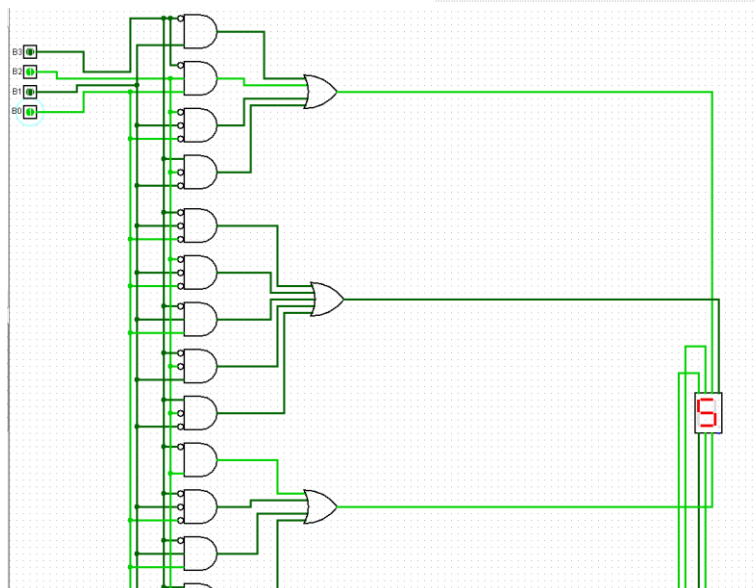
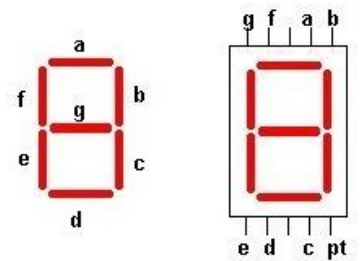
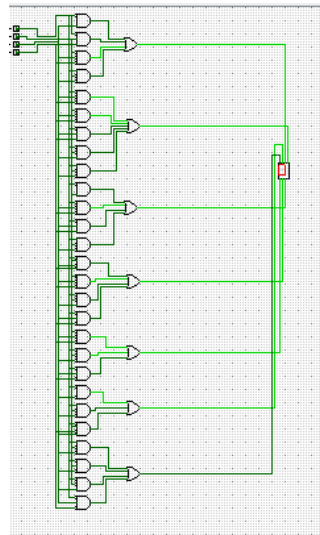
$$C = B_1 + B_2' + B_3$$

$$D = B_1'B_3' + B_2B_3' + B_1B_2'B_3 + B_1'B_2 + B_0$$

$$E = B_1'B_3' + B_2B_3'$$

$$F = B_0 + B_2'B_3' + B_1B_2' + B_1B_3'$$

$$G = B_0 + B_1B_2' + B_1'B_2 + B_2b_3'$$



Controlador

| | Q3 | Q2 | Q1 | Q0 | | Q3 | Q2 | Q1 | Q0 | | J3 | K3 | J2 | K2 | J1 | K1 | J0 | K0 |
|----|----|----|----|----|--|----|----|----|----|--|----|----|----|----|----|----|----|----|
| 0 | 0 | 0 | 0 | 0 | | 1 | 1 | 1 | 0 | | 1 | X | 1 | X | 1 | X | 0 | X |
| 7 | 0 | 1 | 1 | 1 | | 1 | 1 | 1 | 0 | | 1 | X | X | 0 | X | 0 | X | 1 |
| 8 | 1 | 0 | 0 | 0 | | X | X | X | X | | X | X | X | X | X | X | X | X |
| 9 | 1 | 0 | 0 | 1 | | X | X | X | X | | X | X | X | X | X | X | X | X |
| 10 | 1 | 0 | 1 | 0 | | X | X | X | X | | X | X | X | X | X | X | X | X |
| 11 | 1 | 0 | 1 | 1 | | 0 | 1 | 1 | 1 | | X | 1 | 1 | X | X | 0 | X | 0 |
| 12 | 1 | 1 | 0 | 0 | | X | X | X | X | | X | X | X | X | X | X | X | X |
| 13 | 1 | 1 | 0 | 1 | | 1 | 0 | 1 | 1 | | X | 0 | X | 1 | 1 | X | X | 0 |
| 14 | 1 | 1 | 1 | 0 | | 1 | 1 | 0 | 1 | | X | 0 | X | 0 | X | 1 | 1 | X |
| 15 | 1 | 1 | 1 | 1 | | X | X | X | X | | X | X | X | X | X | X | X | X |

J3= 1

K3= Q2N

J2= 1

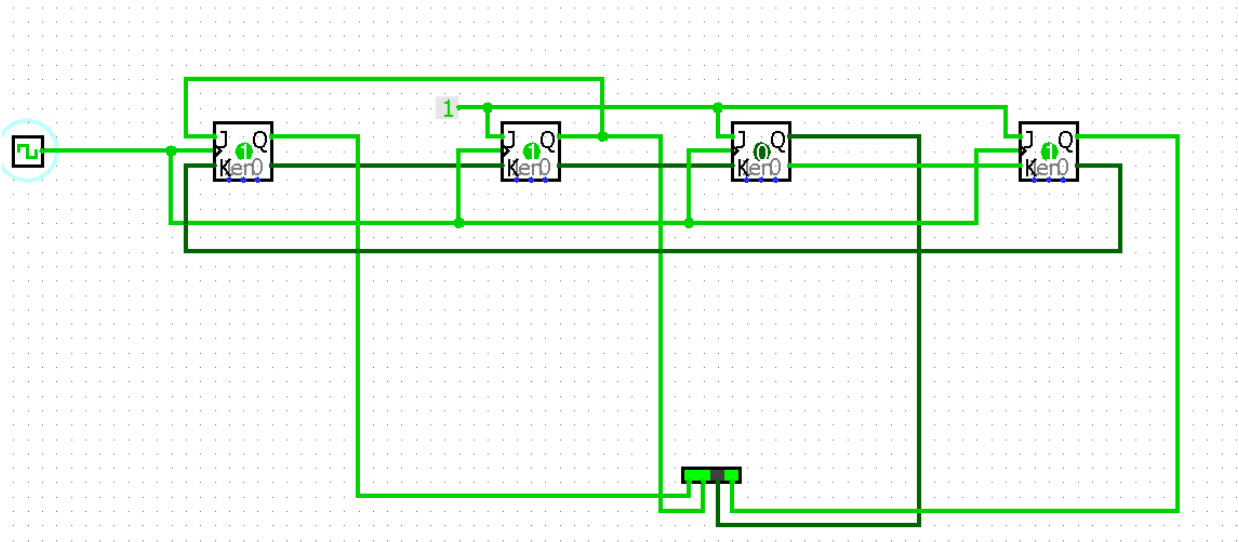
K2= Q1N

J1=1

K1=Q0N

J0=Q1

K0=Q3N

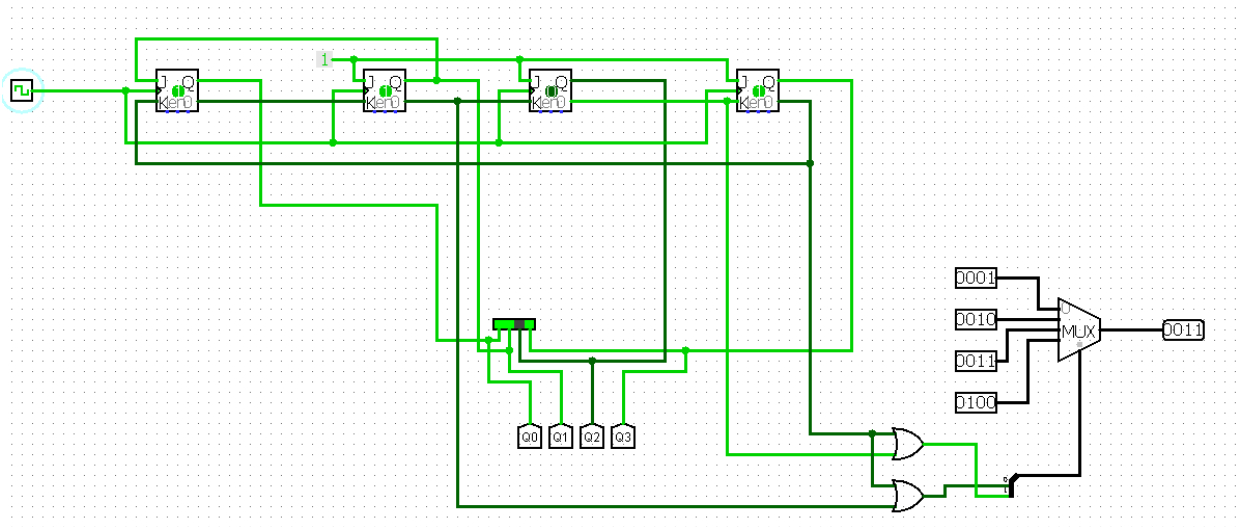


Mux Para pasar digitos

| | Q3 | Q2 | Q1 | Q0 | | A | B |
|----|----|----|----|----|--|---|---|
| 7 | 0 | 1 | 1 | 1 | | 1 | 1 |
| 11 | 1 | 0 | 1 | 1 | | 1 | 0 |
| 13 | 1 | 1 | 0 | 1 | | 0 | 1 |
| 14 | 1 | 1 | 1 | 0 | | 0 | 0 |

$A = Q_3N \text{ OR } Q_2N$

$B = Q_3N \text{ OR } Q_1N$



Diseño Final

