

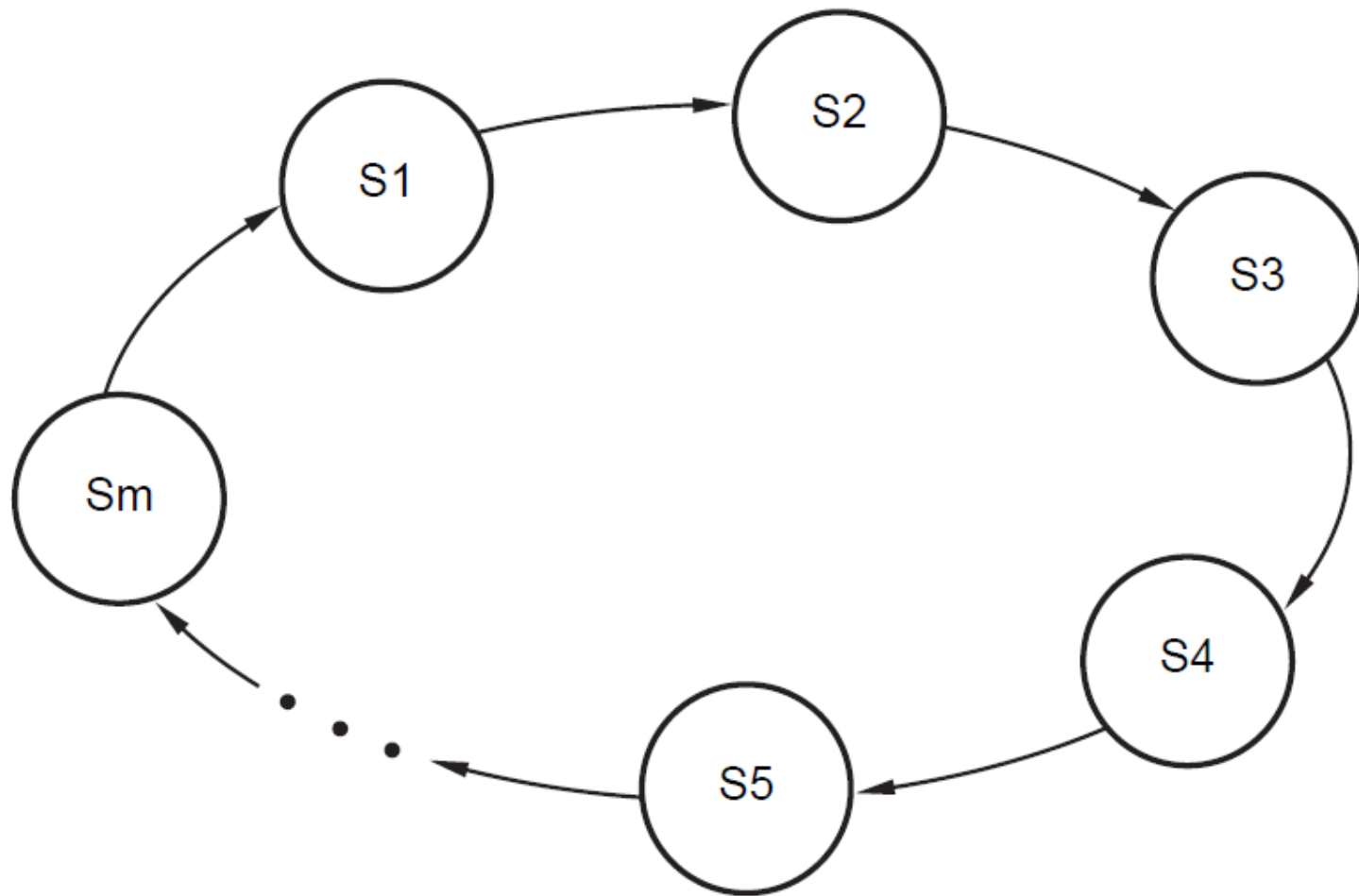
# Sistemas Digitales Contadores

Prof. Luis Araujo

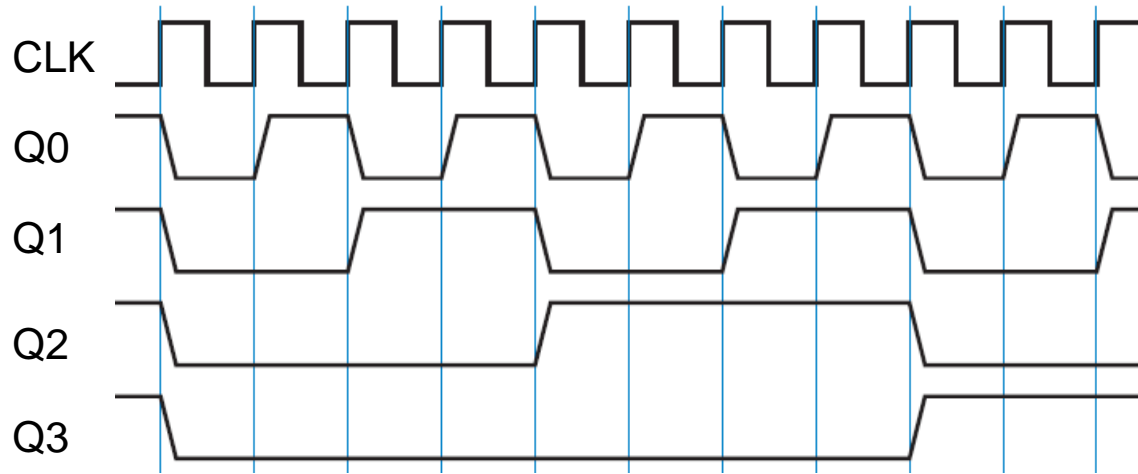
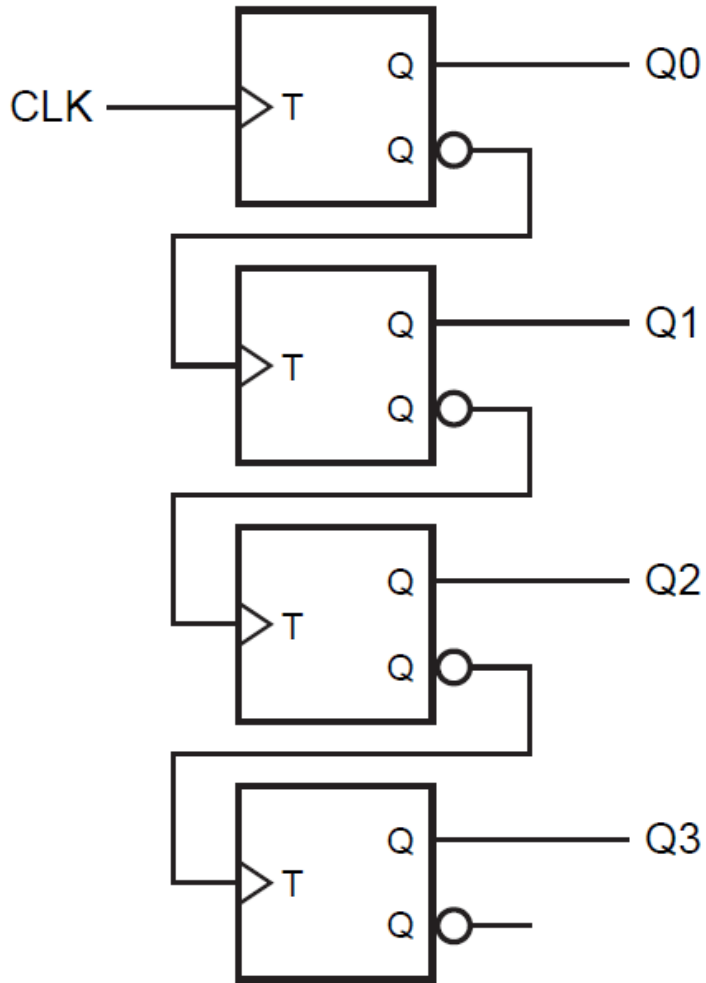
Escuela de Ingeniería Eléctrica



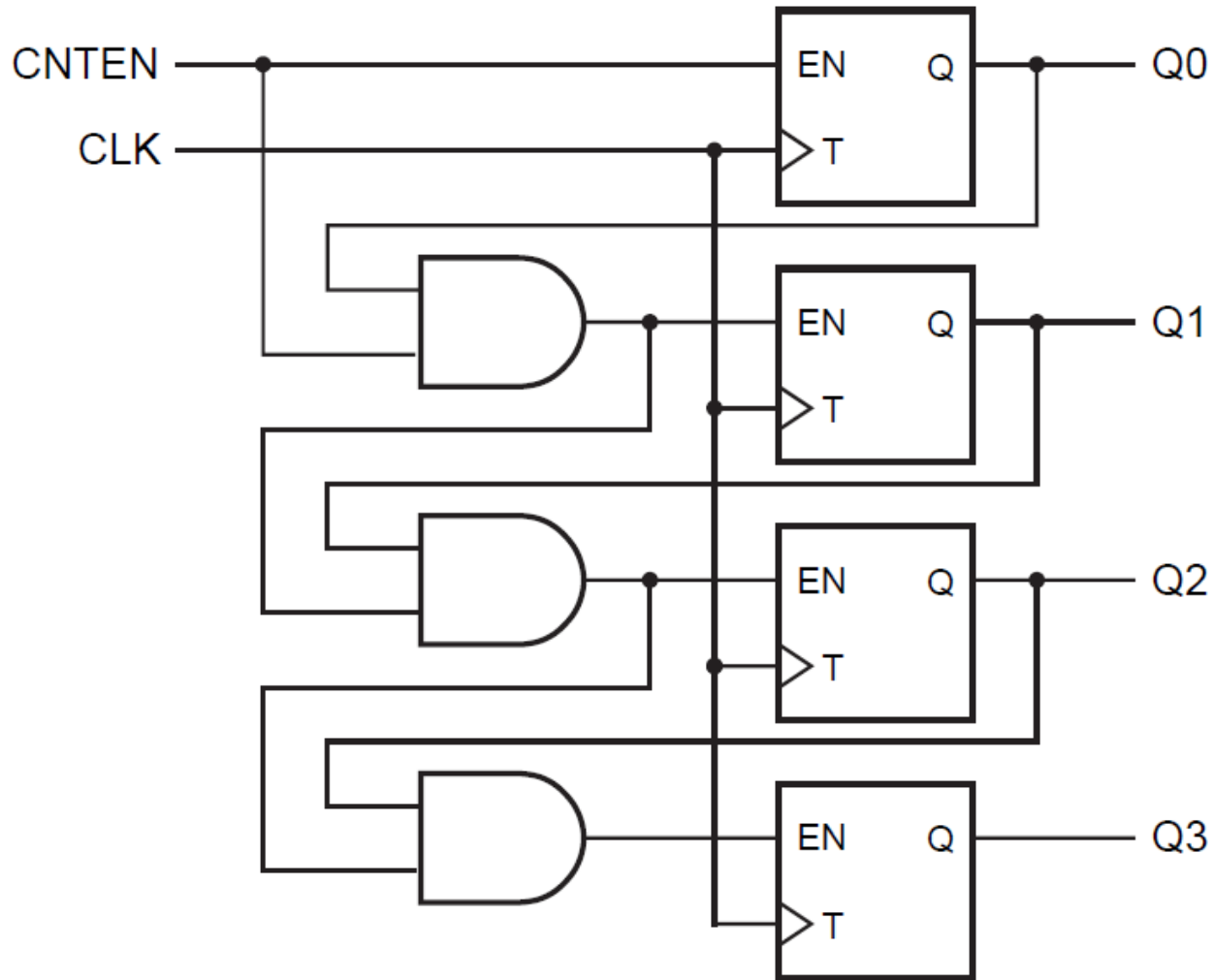
# Contadores



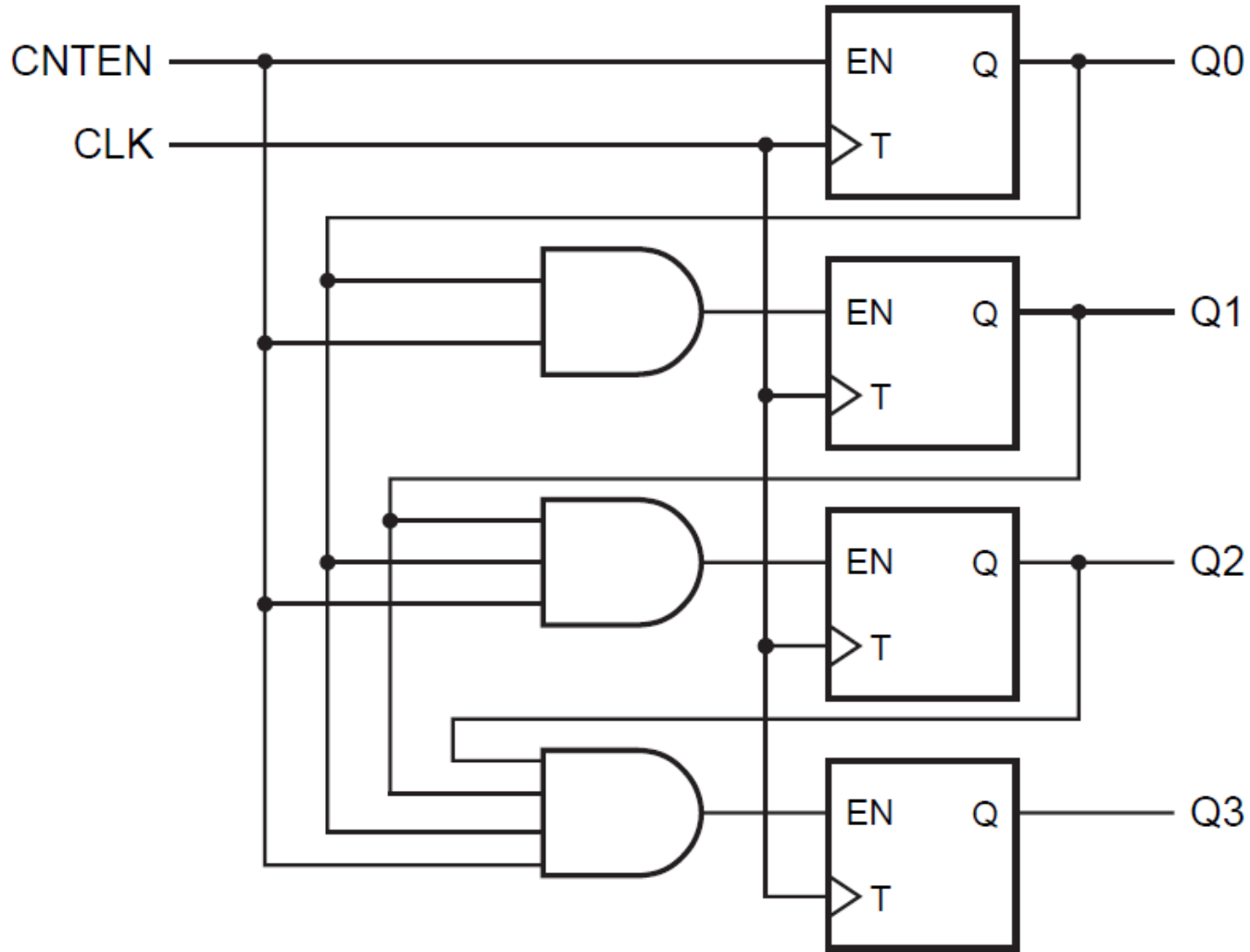
# Contador Asíncrono



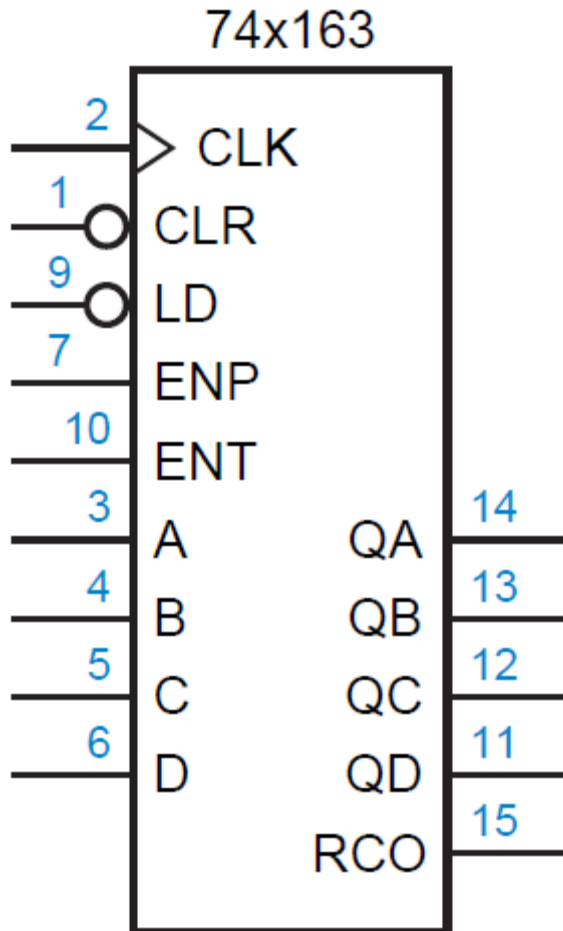
# Contador Síncrono Habilitación Serial



# Contador Síncrono Habilitación en Paralelo

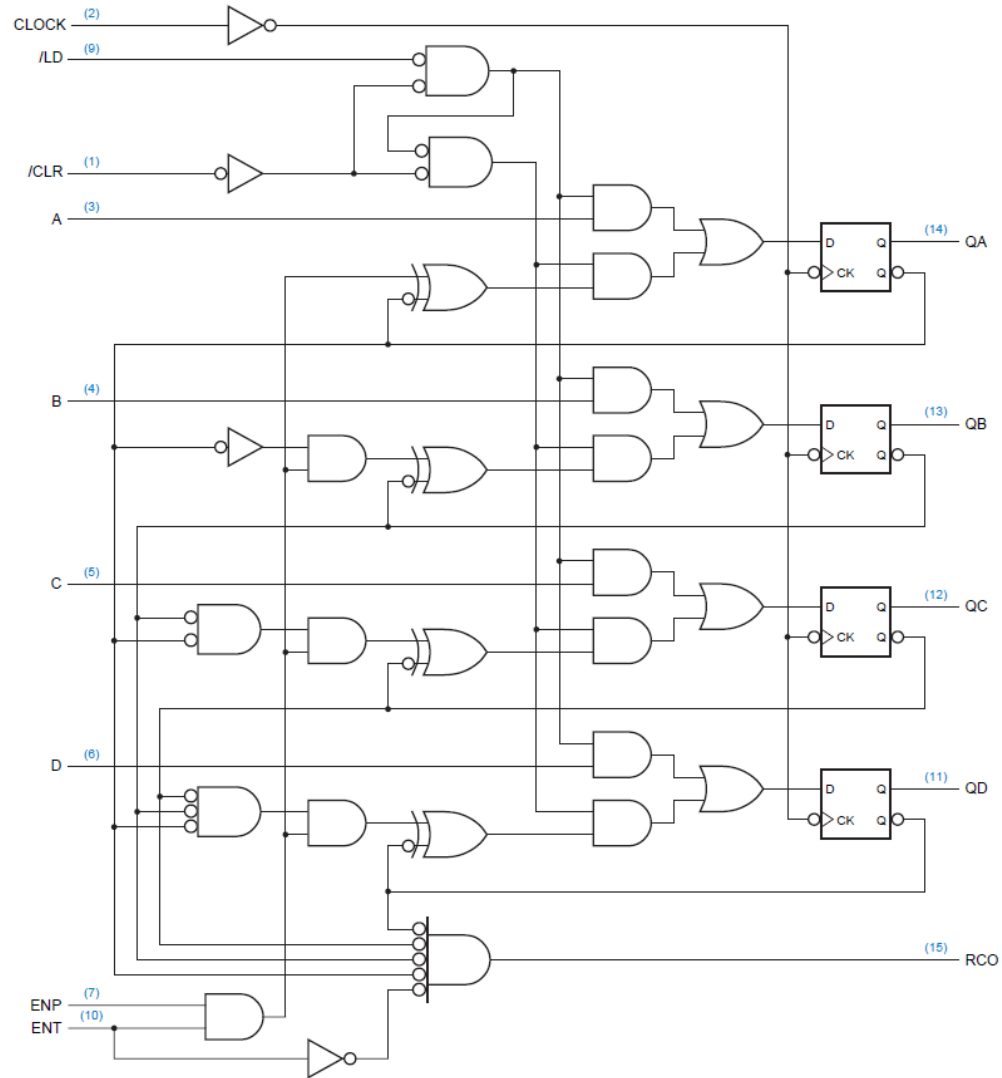


# Contador Binario Comercial

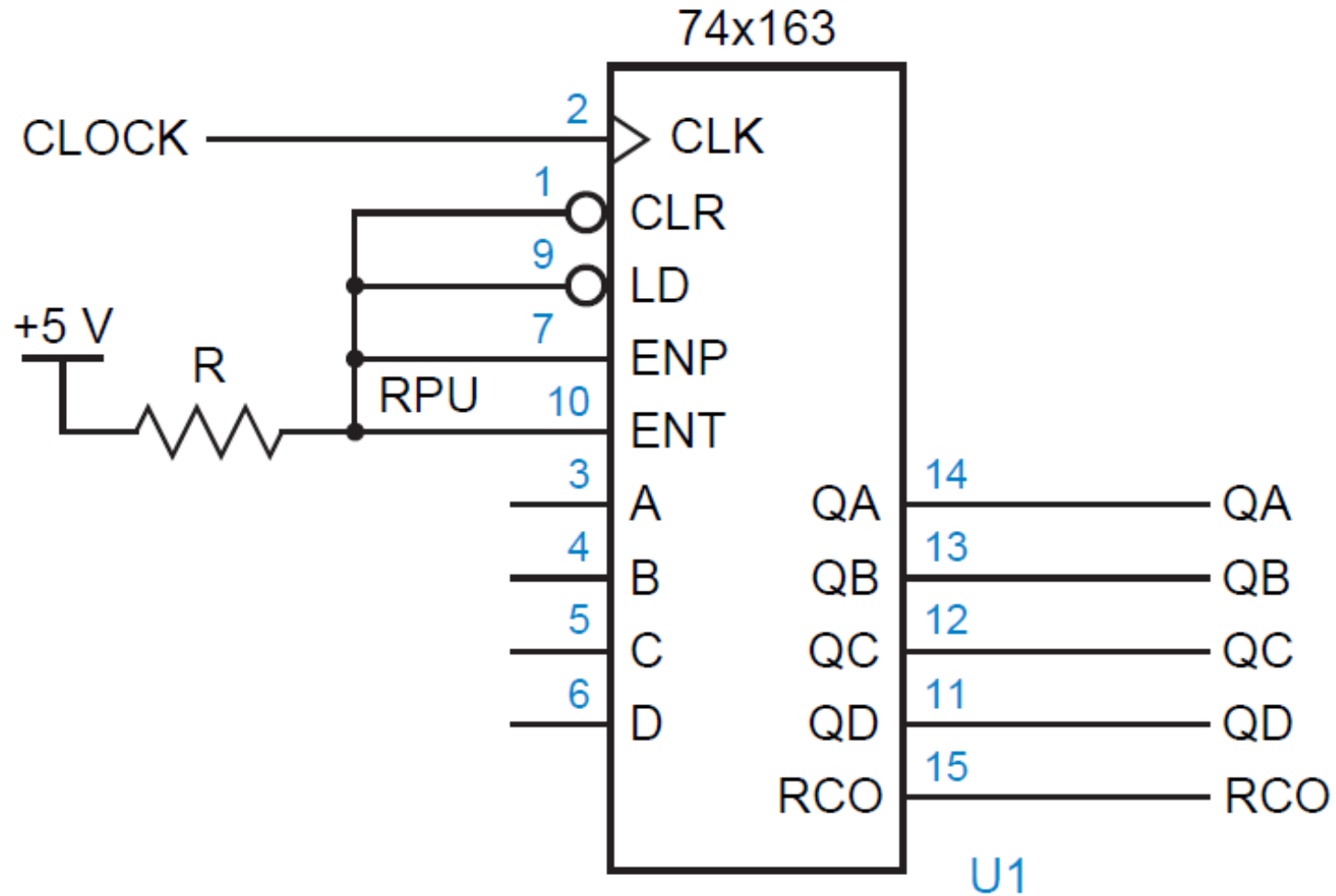


Inputs				Current State				Next State			
/CLR	/LD	ENT	ENP	QD	QC	QB	QA	QD*	QC*	QB*	QA*
0	x	x	x	x	x	x	x	0	0	0	0
1	0	x	x	x	x	x	x	D	C	B	A
1	1	0	x	x	x	x	x	QD	QC	QB	QA
1	1	x	0	x	x	x	x	QD	QC	QB	QA
1	1	1	1	0	0	0	0	0	0	0	1
1	1	1	1	0	0	0	1	0	0	1	0
1	1	1	1	0	0	1	0	0	0	1	1
1	1	1	1	0	0	1	1	0	1	0	0
1	1	1	1	0	1	0	0	0	1	0	1
1	1	1	1	0	1	0	1	0	1	1	0
1	1	1	1	0	1	1	0	0	1	1	1
1	1	1	1	0	1	1	1	1	0	0	0
1	1	1	1	1	0	0	0	1	0	0	1
1	1	1	1	1	0	0	1	1	0	1	0
1	1	1	1	1	0	1	0	1	0	1	1
1	1	1	1	1	0	1	1	1	1	0	0
1	1	1	1	1	1	0	0	1	1	0	1
1	1	1	1	1	1	0	1	1	1	1	0
1	1	1	1	1	1	1	0	1	1	1	1
1	1	1	1	1	1	1	1	0	0	0	0

# Contador Binario Comercial

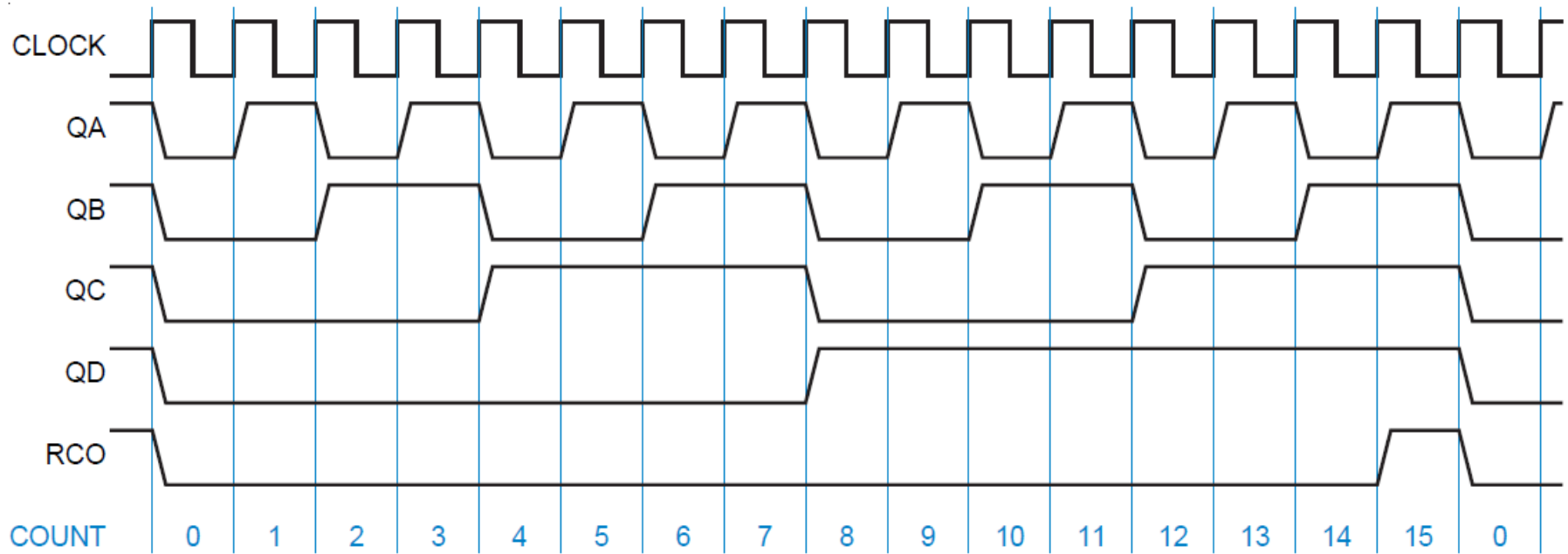


# Contador en conteo libre

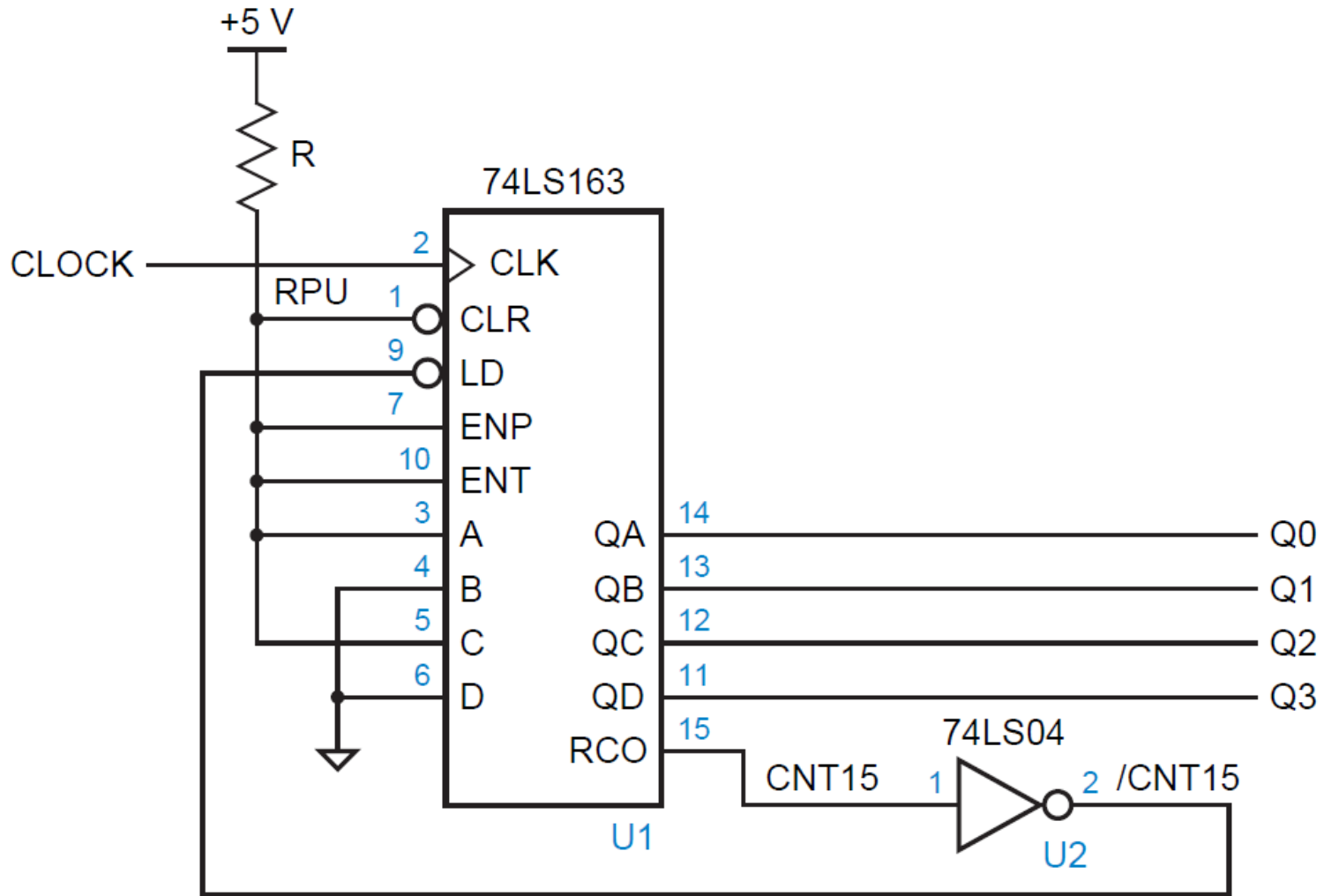




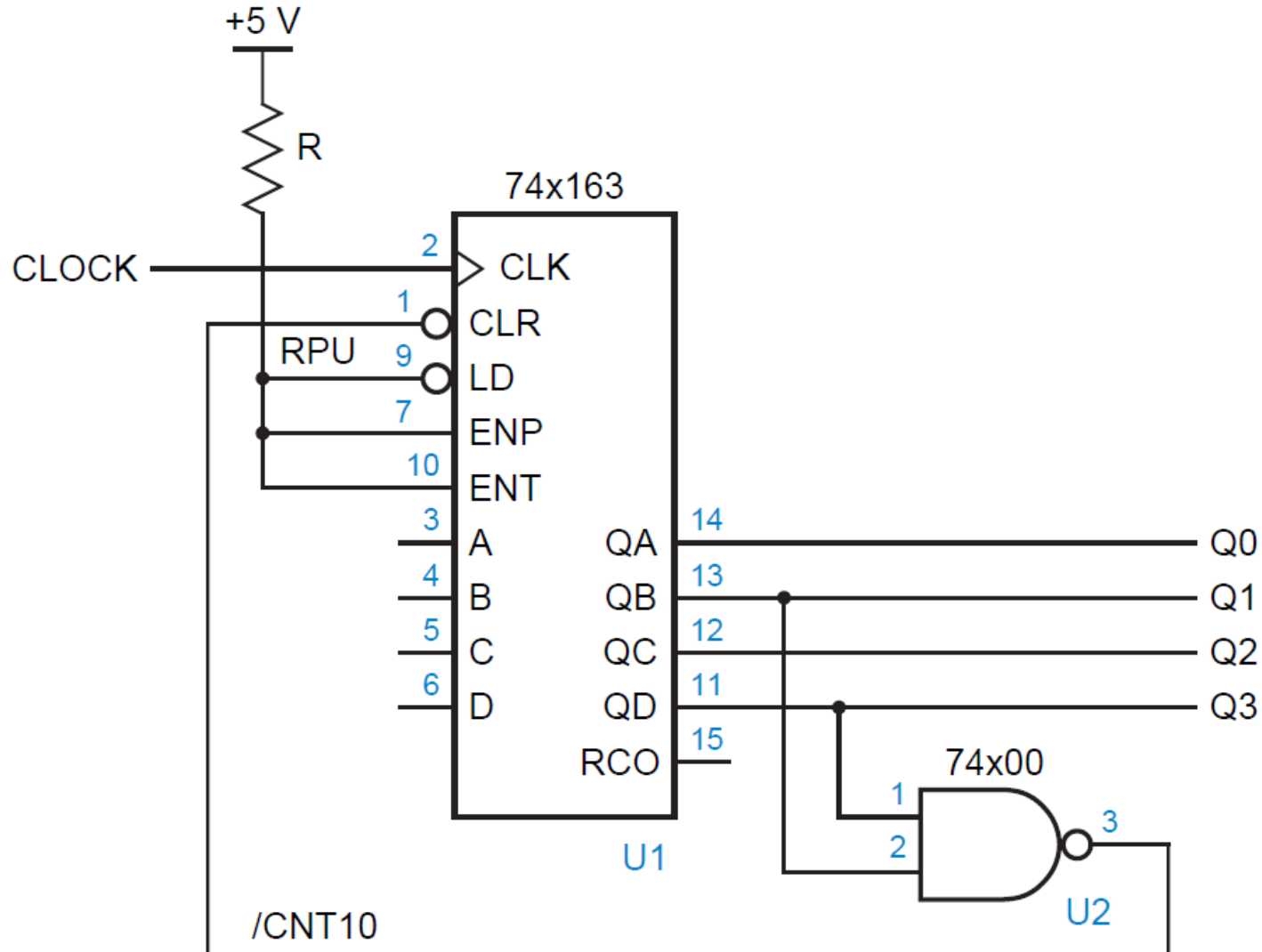
# Contador en conteo libre



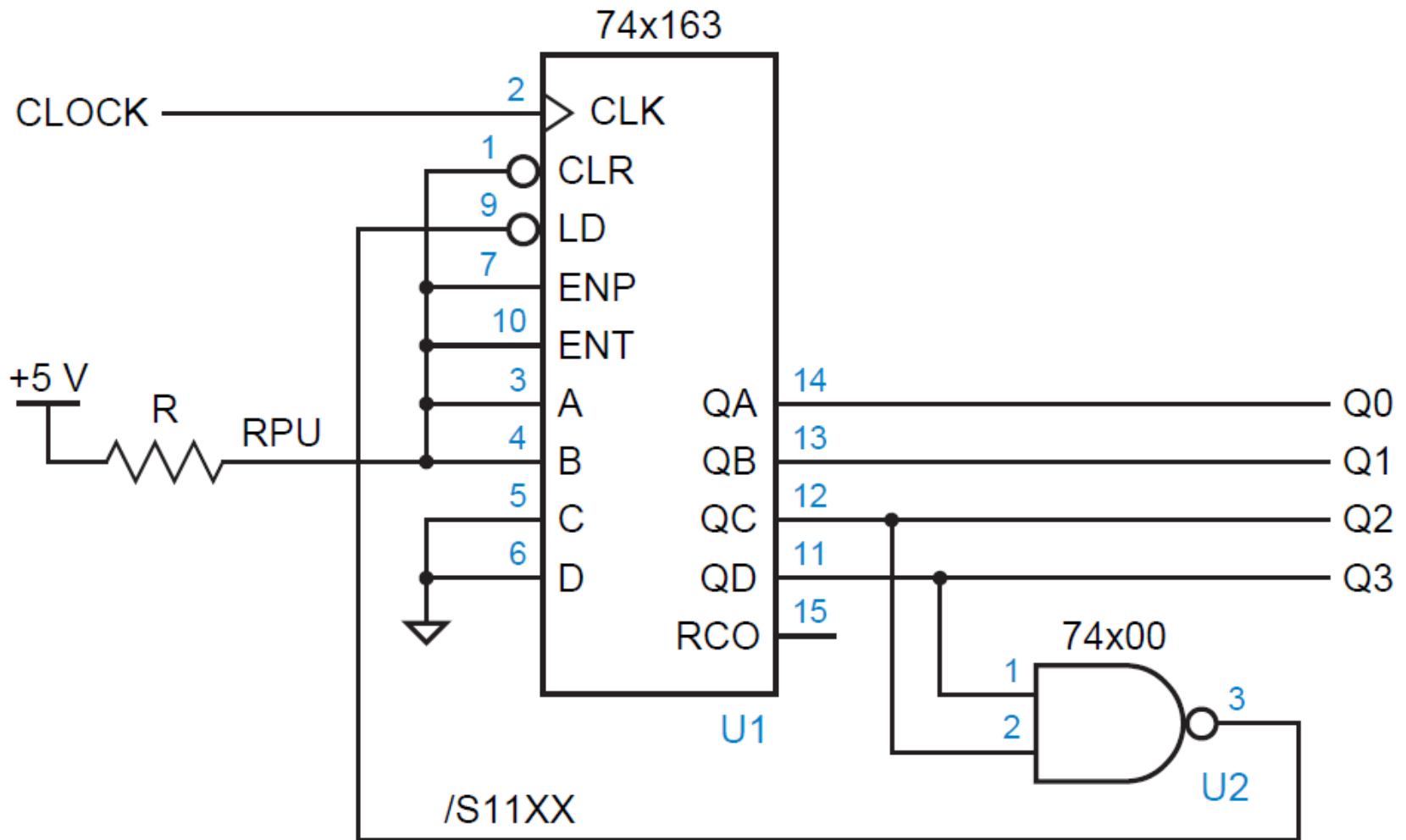
# Contador 5 ... 15, 5 ... 15, 5 ...



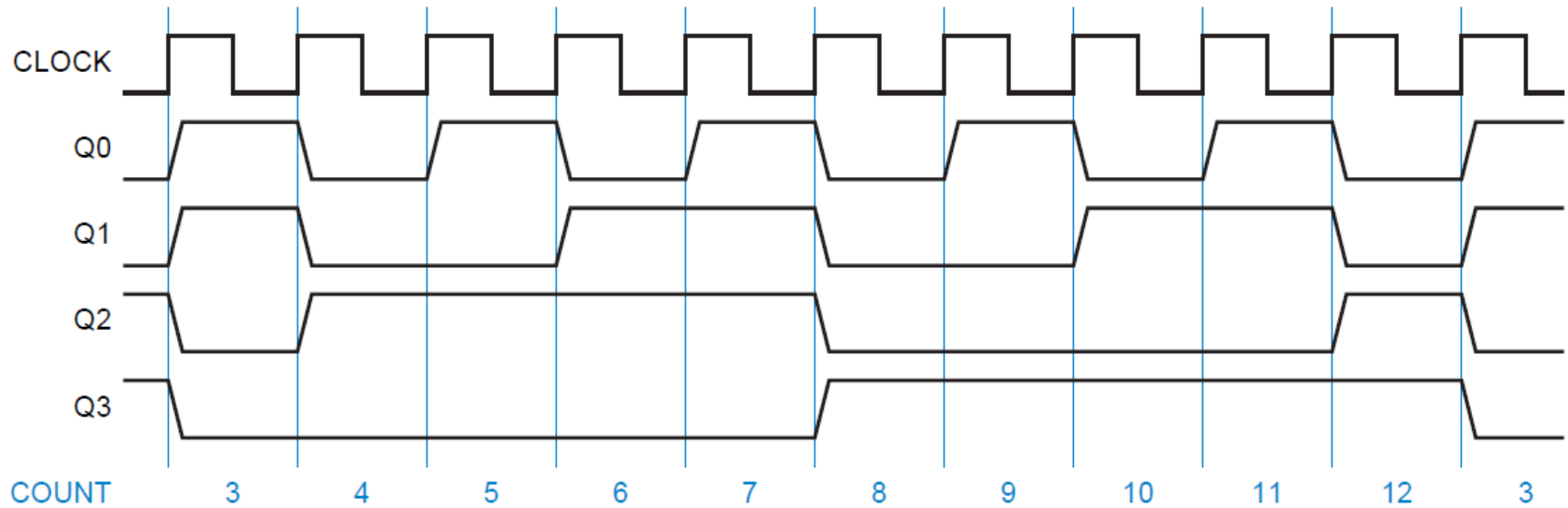
# Contador 0 ... 10, 0 ... 10, 0 ...



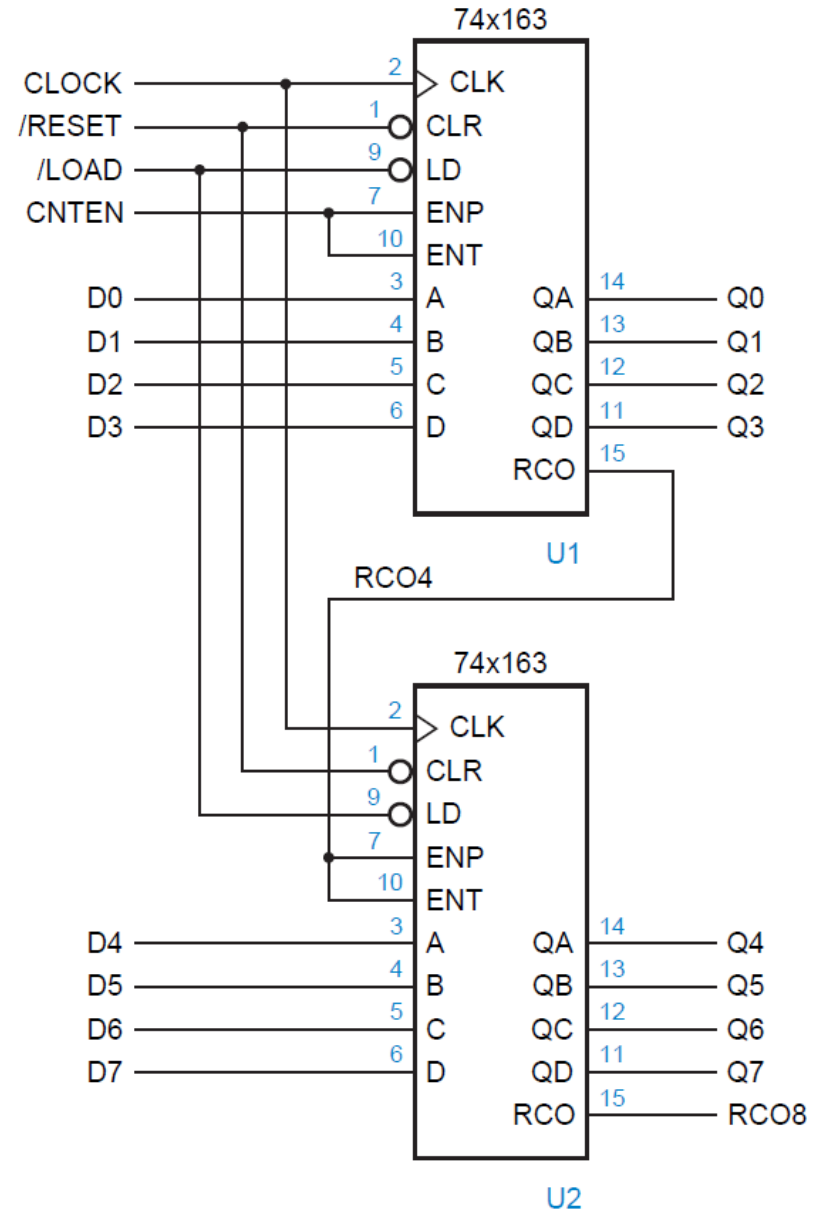
# Contador 3 ... 12, 3 ... 12, 3 ...



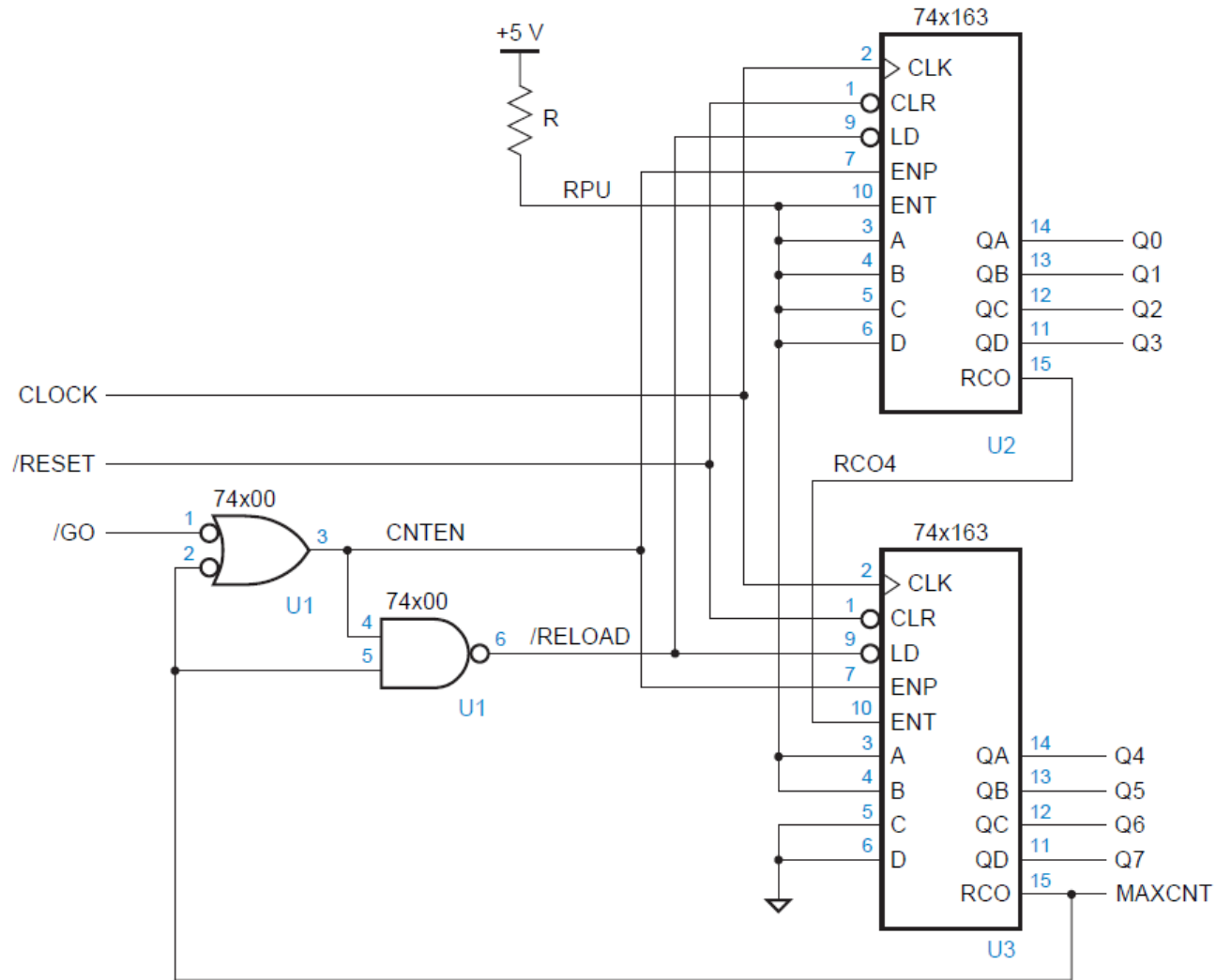
# Contador 3 ... 12, 3 ... 12, 3 ...



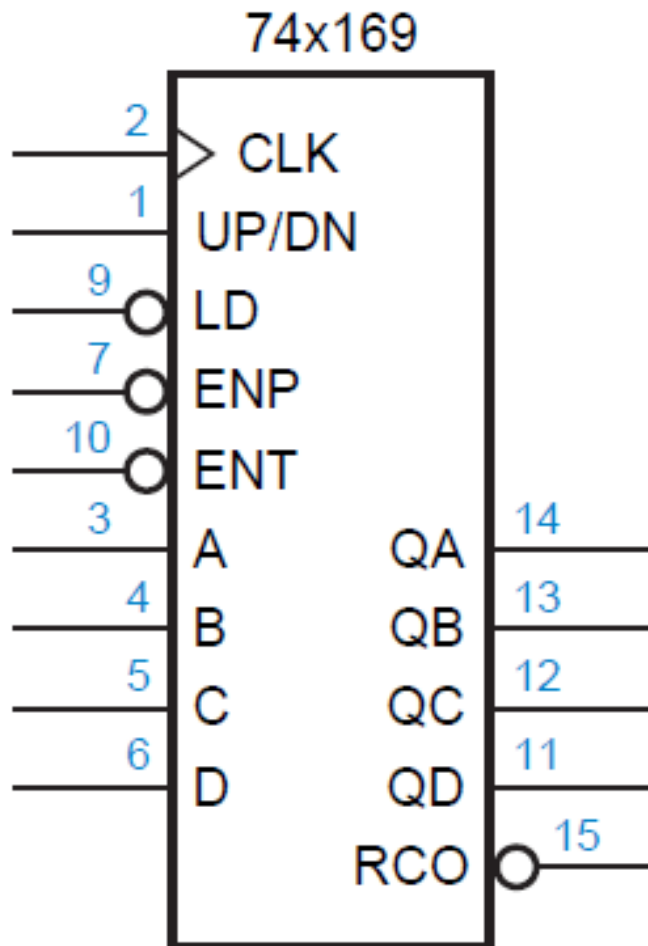
# Contador en cascada



# Contador 63 ... 255



# Contador Binario Arriba/Abajo

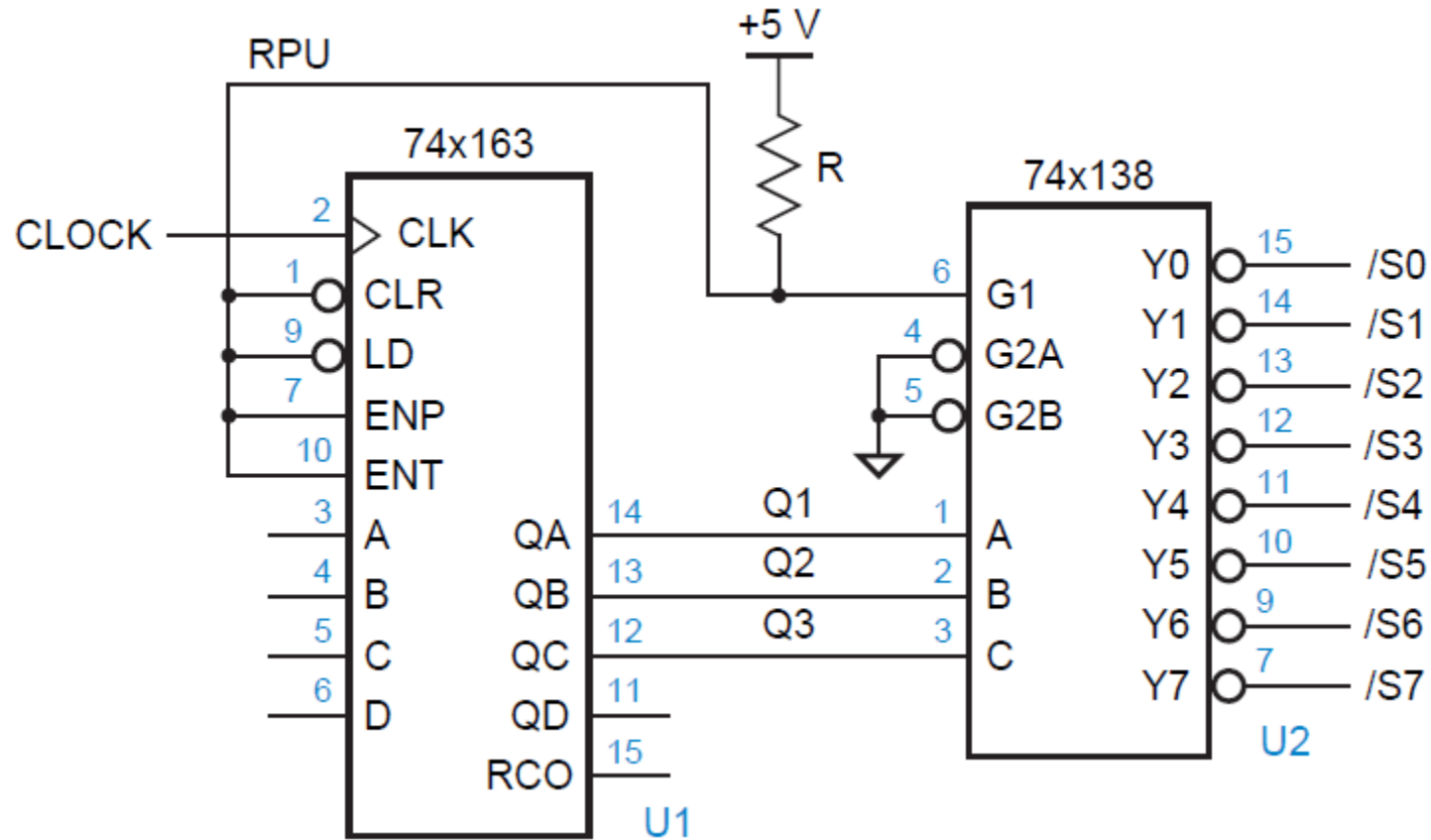


Diferencias con el  
74x163:

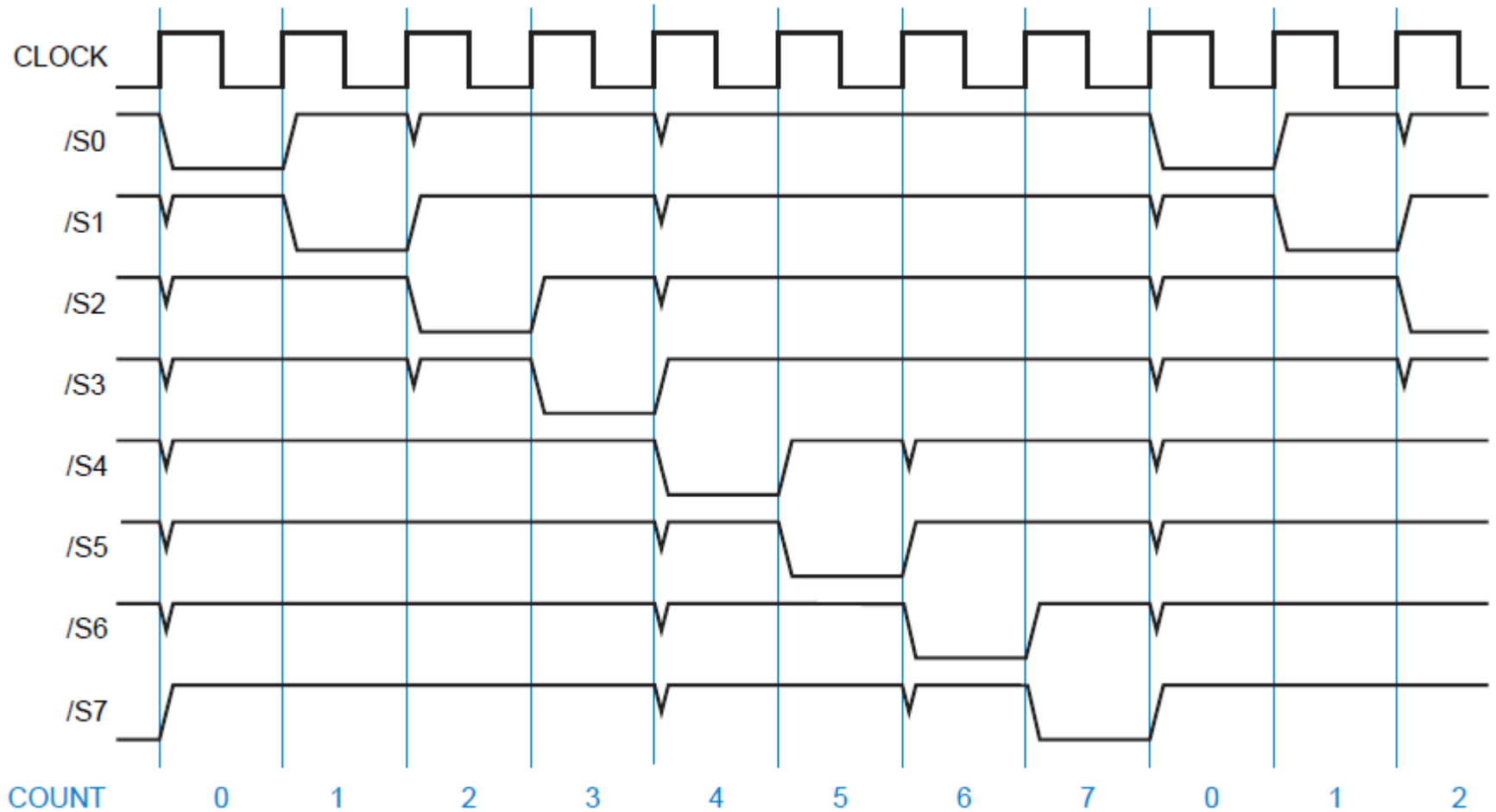
- ENP, ENT y RCO :  
Activas en Bajo
- Cuenta Arriba/Abajo :
  - UP/DN = 1 →  
Arriba
  - UP/DN = 0 →  
Abajo



# Contador Módulo-8 y Decodificador



# Contador Módulo-8 y Decodificador



# Contador Módulo-8 y Decodificador

