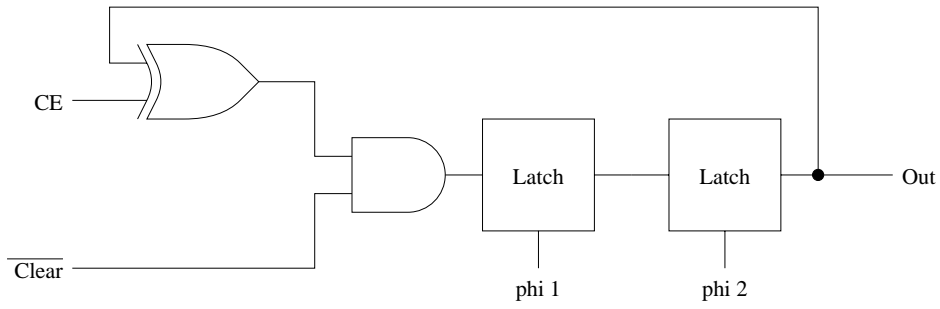
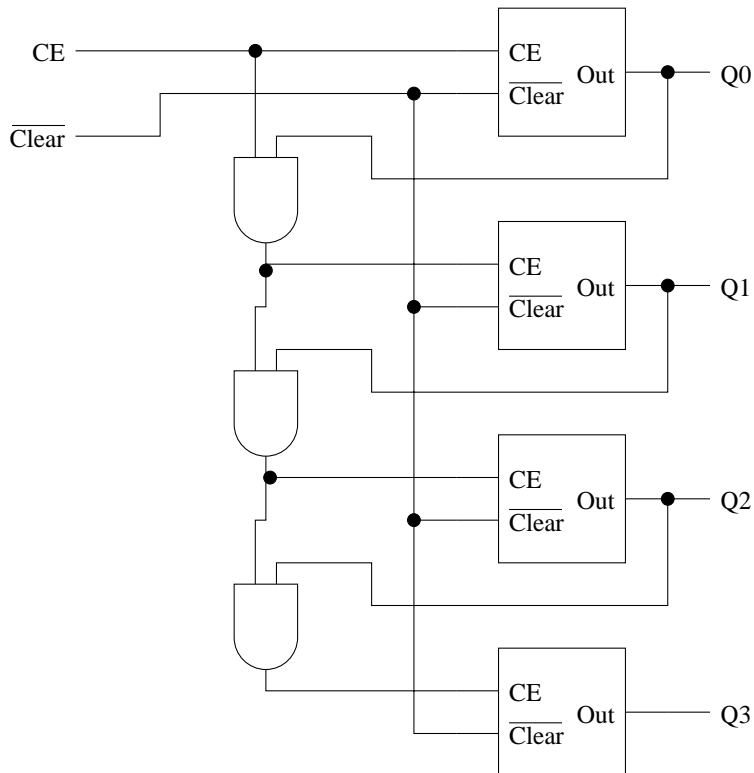


# Counters

## Part A



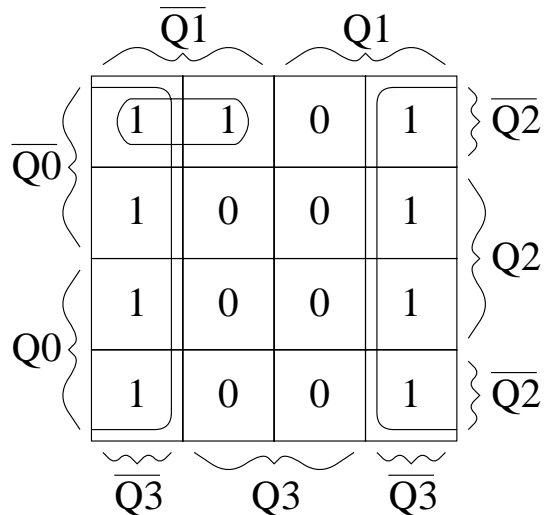
## Part B



## Part C

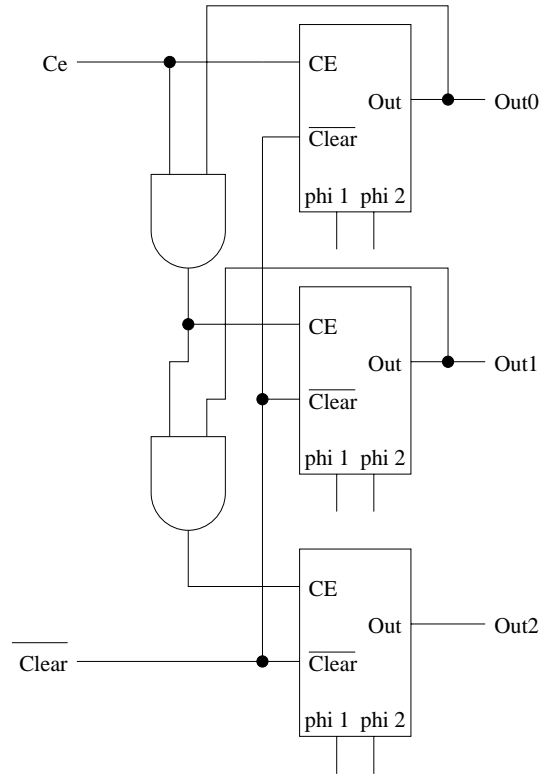
Q3	Q2	Q1	Q0	Clear
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1

Q3	Q2	Q1	Q0	Clear
1	0	0	0	1
1	0	0	1	0
1	0	1	0	0
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0



$$\overline{Clear} = \overline{Q_3} + \overline{Q_2} \overline{Q_1} \overline{Q_0} = \overline{Q_3} (Q_2 + Q_1 + Q_0)$$

Part D



Part E

