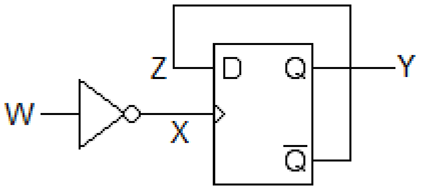
1 Link each number in **binary** with its equivalent in **BCD**.

binary	BCD
0011	8
0001	6
0101	3
1000	1
0110	5

2 Complete the sentences for this one-bit counter.
Choose from these words.

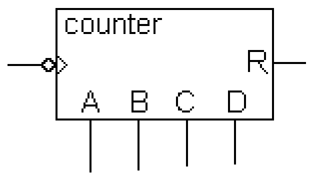


falling **flip-flop** **rising** **W** **X** **Y** **Z**

When a rising edge arrives at W, a _____________edge appears at X. This has no effect on the _________ , which requires a ____________ edge at ______ for the signal at _____ to be copied to _____. Since the signals at ____ and _____ are always different, this means that _____ changes state each time a _________ edge arrives at W .

3 Link the binary output state **DCBA** of a binary counter with the number of **clock pulses** it has counted since it was last reset.

DCBA	clock pulses
1110	10
1010	2
0111	14
0010	13
1101	7



4 Here are some statements about binary counters. Which of them are correct?

An eight-bit counter can count up to 1024 pulses.
Binary counters always have to start counting from zero.
Latches can be used instead of D flip-flops to make counters.
Their outputs can be connected directly to seven-segment display.
They count only the falling edges of each pulse at the clock terminal.
Each bit of a counter changes when the preceeding bit falls from 1 to 0.
Each D flip-flop in a counter changes state when its input rises from 0 to 1.