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Introduction To Digital Electronics – Lesson 9: Design A 4-Bit Counter

HOMEWORK

The following homework questions are meant to go with the online lesson found here:
http://www.pyroelectro.com/edu/digital/binary_counter/

HOMEWORK QUESTION 1

What is the maximum value that our 4-bit ripple counter could count to? How could we make it count higher?

HOMEWORK QUESTION 2

What controls the speed of how fast a counter counts? How could we make it count faster or slower?

HOMEWORK QUESTION 3

How many flip-flops would we need to make an 8-bit counter? Why?

HOMEWORK QUESTION 4

Is there a 74xx series IC that has a counter module inside of it? Why would we want to use it instead of making our own D flip-flop counter array?

ADDITIONAL INFORMATION

To get feedback on your homework or to ask additional questions related to this lesson, please post your homework answers or your questions in the online forums at:
<http://www.pyroelectro.com/forums/viewforum.php?f=21>