

CMPEN271

HW#9A

Ruiyang Qin

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HW #9A: Binary Ripple Counter (see schedule)

#1. Design and simulate a binary ripple counter with the MOD equal to the last 2 digits (LSDs) of your PSU email address. (If the last 2 digits of your PSU email address is less than 11 or is any power of 2, then use MOD=50). For example, if the last 2 digits of your PSU email address is 73, then you should design and simulate a MOD-73 counter (counts from 0 to 72, then repeats.). Example, if your PSU email address is XYZ5435, then you would design a MOD-35 counter. If your PSU email address is XYZ5432, then you would design a MOD-50 counter. If your PSU email address is XYZ2405, then you would design a MOD-50 counter.

Use negative-edge triggered JK flip flops in your design and any other logic gates as needed. The output in Multisim should be set of binary LED indicators (be careful with labeling). Include timing diagrams (with reset) with markups (use Logic Analyzer). Include critical portions of the timing diagrams. Include timing diagram markups for 2 counts before the reset to 0, count=0, and 2 counts after the reset to 0. Show count values in both binary and in decimal. Label msb and lsb. For example, if you have to design a MOD 50 counter (count sequence 0 to 49) then you would show binary and decimal markups on timing diagram for counts 48, 49, 0, 1, 2.

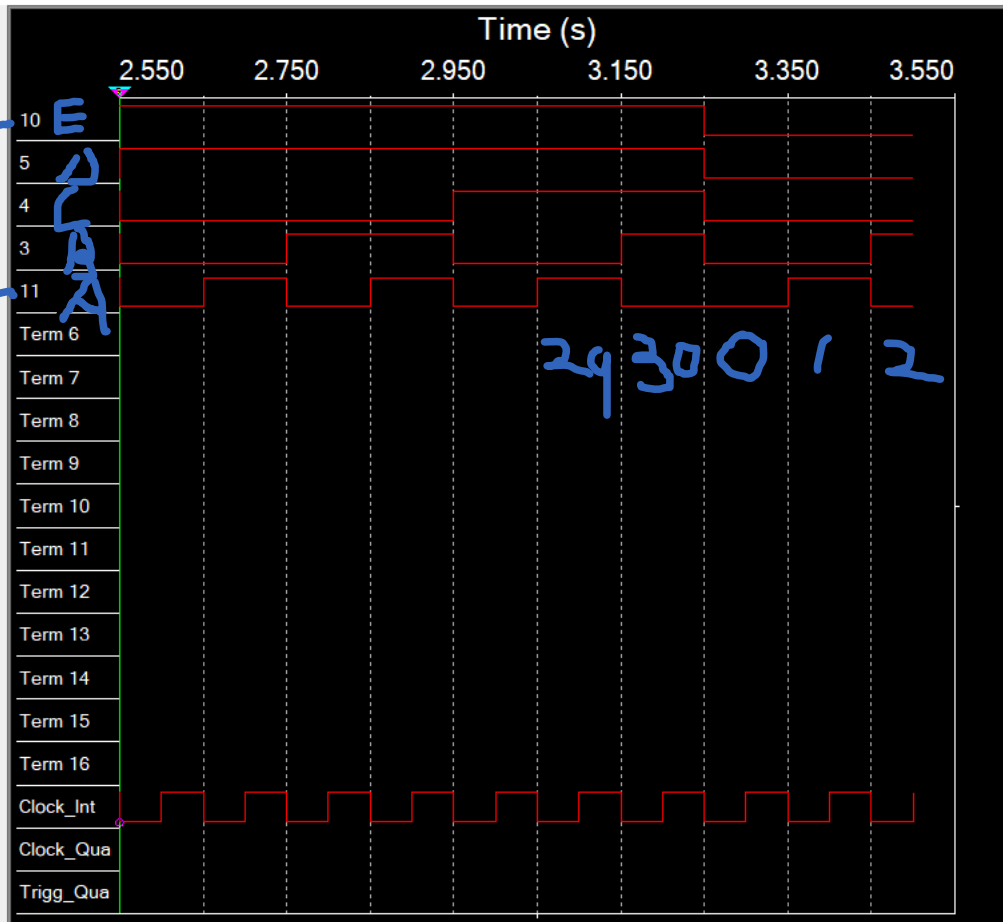
Ruiyang Qin: rxq5031

So, need to show 0 – 30(00000-11110)

Lsb:A

Msb:E

msb -
lsb -



Stop

Reset

Reverse

T1



2.550 s

0003

T2



2.550 s

0003

T2-T1

0.000 s

Clock

Clocks/Div

1

Set...

External (C) Qualifier (Q)

Trigger

Set...

Qualifier (T)

