

Circuit Simulation Project

<https://esim.fossee.in/circuit-simulation-project>

Name of the participant : Damodar Darshan Kolla

Title of the circuit : 8 bit Ring Counter

Theory/Description :

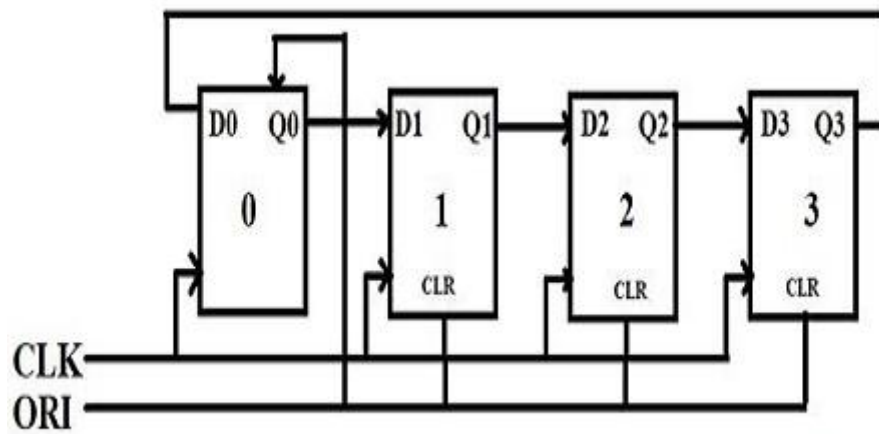
Ring Counter is very similar to shift register. At each clock pulse, data at each flip flop shifted to the next flip flop with the last output is feedback to the input of the first flip flop. Also the first flop is set to '1' at the reset state. So it shifts bit '1' to the next flip flop for each clock input and repeats the sequence as shown below.

Ring counters are used to count the data in a continuous loop.

They are also used to detect the various numbers values or various patterns within a set of information, by connecting AND & OR logic gates to the ring counter circuits.

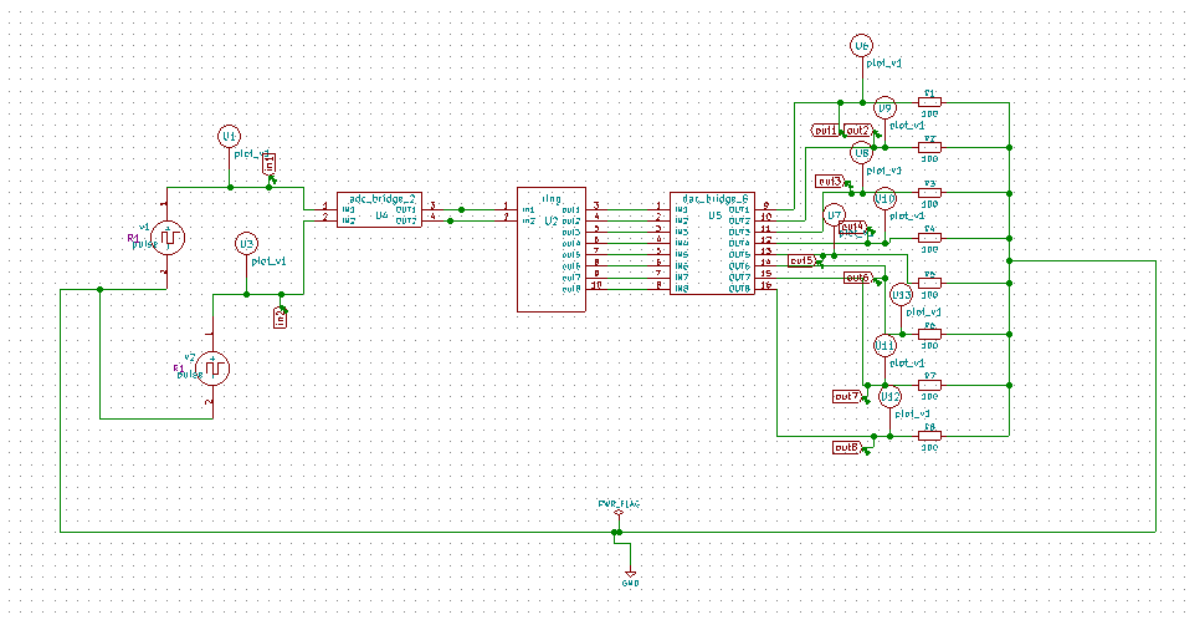
Clock Input	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	0
3	0	0	0	0	0	1	0	0
4	0	0	0	0	1	0	0	0
5	0	0	0	1	0	0	0	0
6	0	0	1	0	0	0	0	0
7	0	1	0	0	0	0	0	0
8	1	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	1

Table: Truth Table of Ring Counter

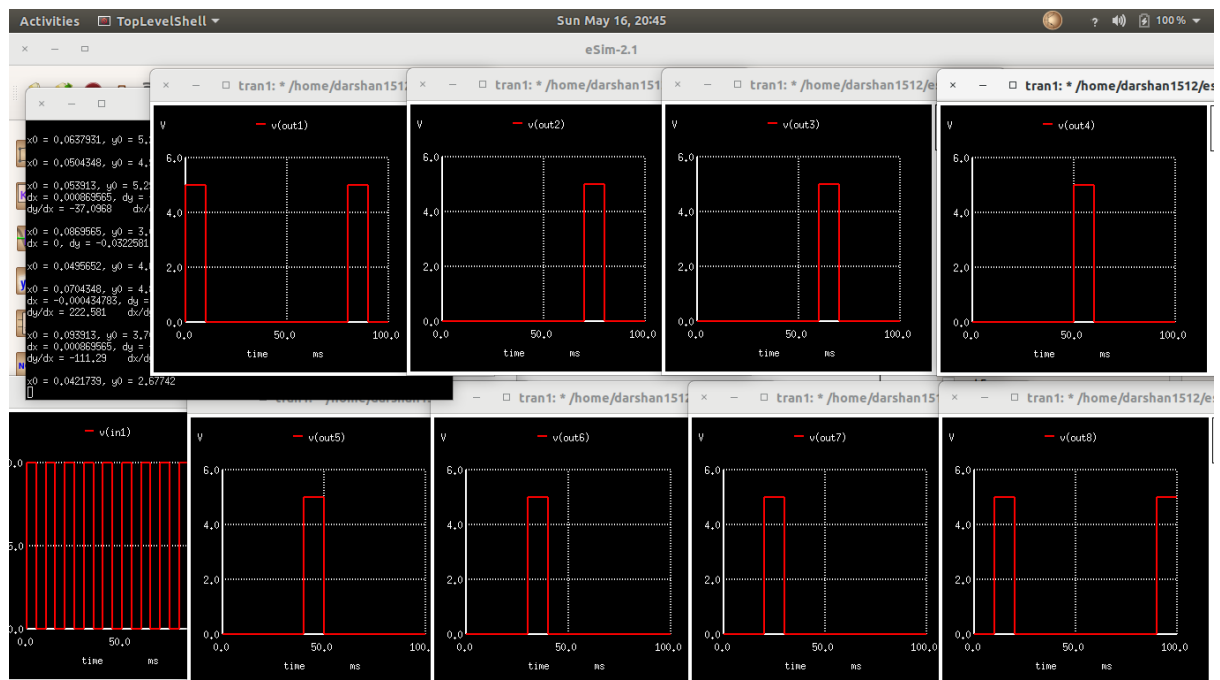
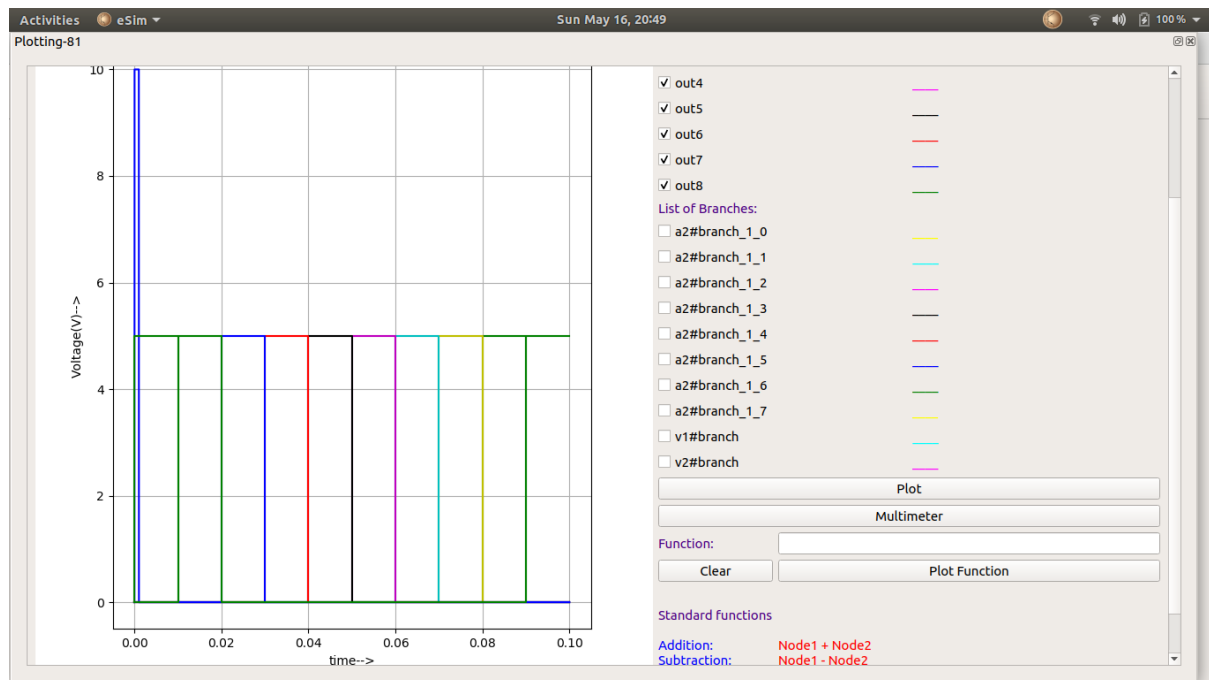


Example of a 4 bit Ring Counter

Circuit Diagram(s) :



Results (Input, Output waveforms and/or Multimeter readings)



Source/Reference(s) :

https://www.electronics-tutorials.ws/sequential/seq_6.html

https://spoken-tutorial.org/tutorial-search/?search_foss=eSim&search_language=English