Circuit Simulation Project

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

Name of the participant : Damodar Darshan Kolla

Title of the circuit : Sequence Detector Circuit

Theory/Description :

A sequence detector is a sequential state machine that takes an input string of bits and generates an output 1 whenever the target sequence has been detected. In a Mealy machine, output depends on the present state and the external input (x).

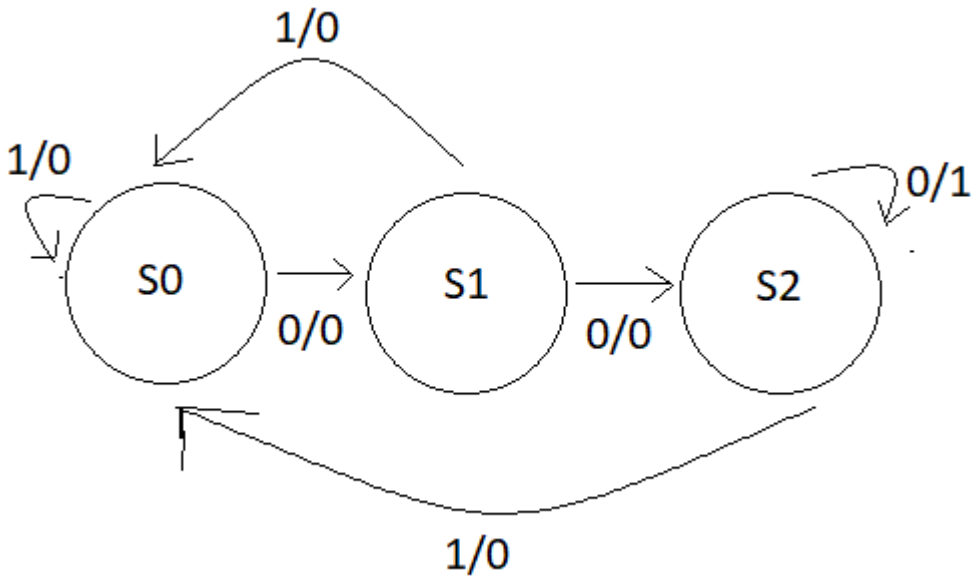
There are two types of sequence detectors:

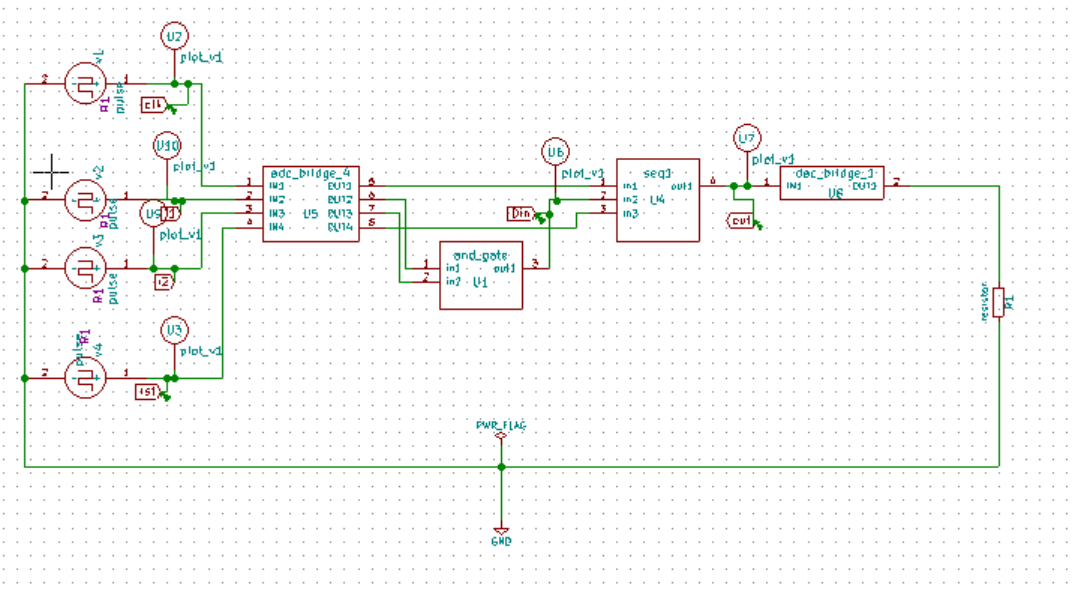
Overlapping

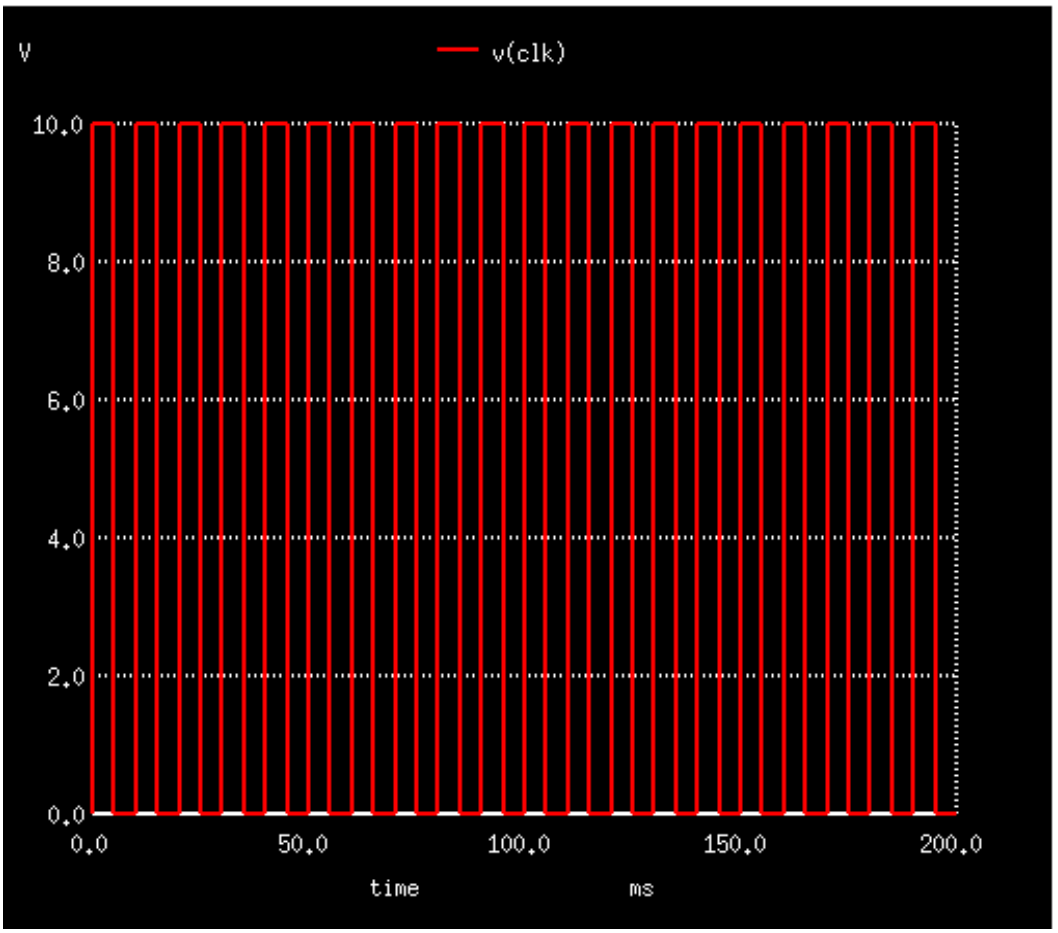
Nonoverlapping

The following detector is an overlapping circuit and **detects the sequence of '000'.**

Circuit Diagram(s) :



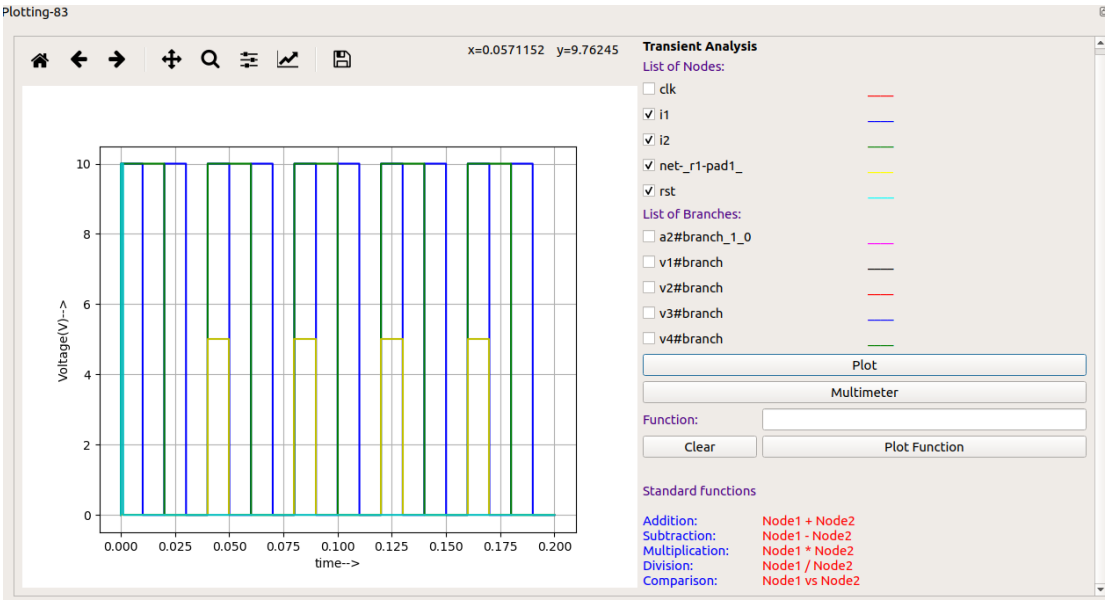

U2
plot_v1
clk
U10
plot_v1
U5
plot_v1
rst
U3
plot_v1
adc_bridge_4
U5
and_gate
U1
U6
plot_v1
seq1
Din
out
U7
plot_v1
dac_bridge_1
U8
PWR_FLAG
GND

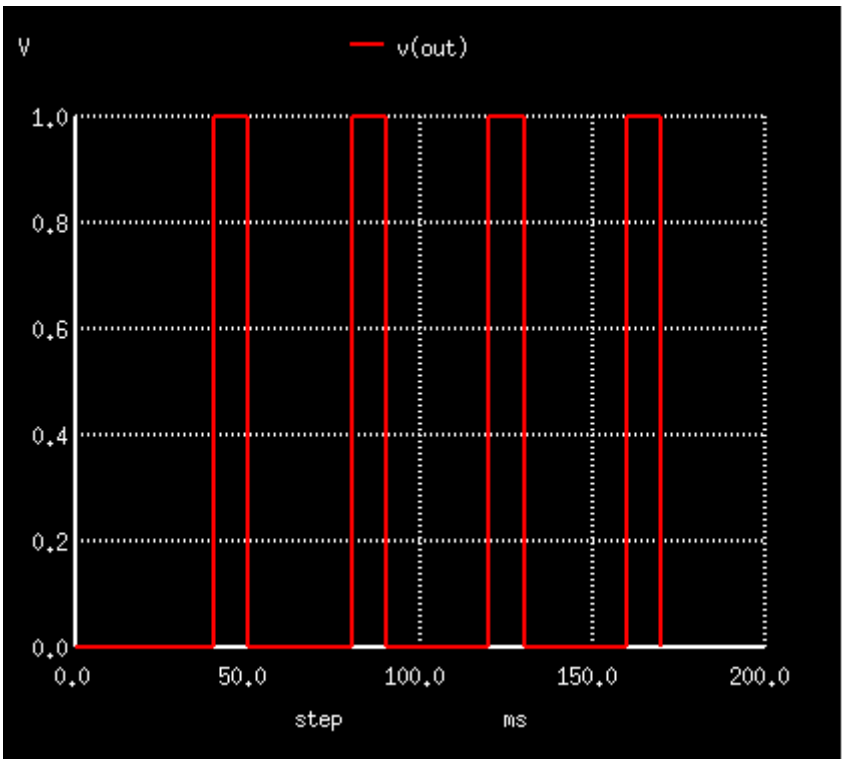

V
v(clk)
10.0
8.0
6.0
4.0
2.0
0.0
0.0
50.0
100.0
150.0
200.0
time
ms

Clock Input


V
v(rst)
10.0
8.0

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





Output is high when the sequence is detected

Source/Reference(s) :

https://www.youtube.com/watch?v=HXG_YPVNIsM&t=302s

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