

Circuit Simulation Project

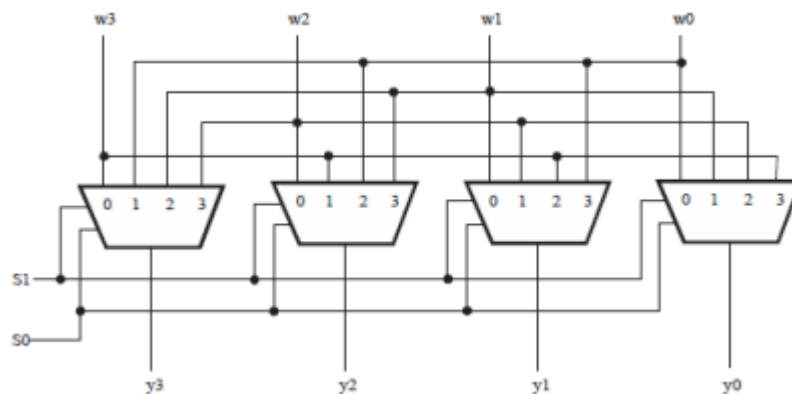
<https://esim.fossee.in/circuit-simulation-project>

Name of the participant : Jovin P John

Title of the circuit : 4-bit Barrel Shifter

Theory/Description : A 4-bit barrel shifter takes a 4-bit input word and shifts it left or right by 0, 1, 2, or 3 positions in a single step. Unlike normal shifters that use a chain of shift registers, the barrel shifter uses multiplexers (MUX) to select the shifted output directly.

Circuit Diagram(s) :



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

s_1	s_0	y_3	y_2	y_1	y_0
0	0	w_3	w_2	w_1	w_0
0	1	w_0	w_3	w_2	w_1
1	0	w_1	w_0	w_3	w_2
1	1	w_2	w_1	w_0	w_3

Source/Reference(s) : Praveen, G., Manasa, M., Chandana, S., & Jyothsna, T. (n.d.). *Design and analysis of a 4-bit low power universal barrel-shifter using 2×1 MUX in 16nm FinFET technology*. Department of Electronics and Communication Engineering, Vignana Bharathi Institute of Technology, Hyderabad, Telangana, India.