

TECH 3232
Fall 2018
Lab #6
5-Bit Adder
SimCirJS ver 1.0

Objectives: To learn about the full adder circuit and to design a 5 bit adder.

Lab Procedure: Using SimcirJS (available on the class website at <http://tech-uofm.info/simcirjs/blank.html>) design a FULL ADDER circuit as discussed in class using only the basic gates (and, or, not, xor, etc...)

Test the design in simulation and verify it's functionality and once it is working, hold down the ctrl key and right-click on the mouse within the simulation window (text should appear). Copy all the text in the window and paste it into notepad++ and save it as a .txt file. Submit that file via the online submission system at <http://tech-uofm.info/upload/upload1.php> as Lab #6a.

Print out this simulation before moving on to the next step (I would suggest printing 2x)

Now create a 2nd SimCirJS simulation for a 5 bit ripple adder using the Full Adder Block. Please label your inputs A0..A4 and B0..B4 (0 indicating the LSB and 4 indicating the MSB).

Once again, verify it is functioning and then submit as Lab#6b.

Now, using the printout made of the full adder circuit, label the drawing with pin numbers, part numbers etc so aid in building the circuit. The instructor will NOT assist students who do not have a labeled circuit diagram debug their circuit.

Now build, test and demo a **FULL-ADDER Circuit** and verify its functionality.

Once it is working, hook up your circuit with 4 other students and wire up a 5-bit adder, test and demo to the instructor.

Each student is required to turn in the hand labeled circuit diagram.

Each group is required to turn in a list of students who were in their 5 bit adder group.