ET5302701

Homework Assignment 4

Date: November 22, 2024

Due Date: December 13, 2024.

Please note that **NO late homework** will be accepted.

In this homework we have five project options. You only need to pick one of them and finish it completely using full-custom approach. Your report must at least include circuit, layout, pre-layout and post-layout simulation results, LVS result, and DRC result. Also you may add I/O pads to your circuit core and run off-line DRC.

Project 1: Design and implement an 4×4 Booth's array multiplier (Slide 12-59) studied in the class.

Project 2: Design and implement an 8-bit synchronous binary counter.

Project 3: Design and implement an 8-bit carry-lookahead adder.

Project 4: Design and implement an 8-bit carry-skip adder.

Project 5: Design and implement the non-restoring array divider (Slides 12-63 and 12-64) studied in the class.