Simple Circuits

COMP 273 Assignment 4 – Fall 2021

Due: October 28, 2021, at 4 PM on myCourses

Submission instructions

All work must be your own and must be submitted to myCourses. <u>Include your name and student number in a comment at the top of your documents / Logisim circuits</u>. **Submit only one file: a4.circ**. Do not use a zip archive. Check your submission by downloading it from myCourses and checking that it was correctly submitted. You will not receive marks for work that is incorrectly submitted.

Purpose

- An easy first circuit assignment
- To get used to using Logisim Evolution (this will be our new run-time environment)
- To build your first running circuit (the TA will input a number and then see the correct result)

Helpful

- Tutorial D shou

Implementation

Using Logisim Evolution create the circuit for the followin

- <u>Input</u>: a 3-bit unsigned integer number
- <u>Output</u>: a single bit
- <u>Task</u>: The output bit becomes 1 when the input number is odd and greater than three

Steps

- Do not use bit circuits (flip-flops), instead use input and output <u>pins</u> and logic gates.
- Place 3 input pins on the left side of your circuit. These will represent the 3-bit unsigned integer number. The TA will click these pins to select a binary number.
- Connect your circuit to a <u>clock</u>. The TA will turn the clock on to <u>run</u> the circuit, to see the result in the output pin. The output pin must display 0 when the clock is off.
- Place the output pin on the right side of the circuit.

Important

- There are two possible solutions for this problem. One solution uses only 2 input pins, the other solution uses all 3 input pins. Create both solution circuits in the same Logisim Evolution file. Place the 2-pin solution above the 3-pin solution.

Marking

- Maximum 20 points
    - o 10 points for 2-bit solution
    - o 10 points for 3-bit solution
- -10% per day late with max 2 late days
- -3 points for not following instructions
- -5 points for not using the clock
- Assignment must execute to be graded

Assignment Project Exam Help

https://eduassistpro.github.io/

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