

# 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. Include your name and student number in a comment at the top of your documents / Logisim circuits. **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 should be completed before you start this assignment

### Implementation

Using Logisim Evolution create the circuit for the following problem:

- Input: a 3-bit unsigned integer number
- Output: a single bit
- Task: 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 pins 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 clock. The TA will turn the clock on to run 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
  - 10 points for 2-bit solution
  - 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

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