Sequential Circuits
COMP273 Assignment 2 - Fall 2015, Prof. Kry

School of Computer Science, McGill University
Available: 29 September 2015
Due date: 11:30 PM, 13 October 2015
Submit electronically via MyCourses

1 Sequential Multiplication (15 marks)

Create a sequential circuit that implements an 8 bit **unsigned** multiplier following the design of the simple sequential multiplier seen in class. Your circuit should have RESET signal to signal that two 8 bit inputs A and B are ready to multiply. Your circuit should also provide a DONE signal that goes high when the 16 bit result is ready. You may use anything you like from the default Logisim library (e.g., wiring, gates, plexers, memory), but you should only use one Adder circuit (16 bit adder in this case) from the Arithmetic part of the library.

Use the provided file to create your circuit, as it already defines the inputs and outputs. Furthermore, the filename, circuit name, and sub-circuit appearance (right-most toolbar button in logisim) must remain unchanged to allow for testing.

2 Improved Sequential Multiplication (5 marks)

Implement the improved sequential multiplier using only a single 8 bit adder, following the design of the improved multiplier seen in class. Use the provided file to create your circuit.

Submission Instructions

All work must be your own, and must be submitted by MyCourses. **Include your name and student number in your Logisim circuits**. Your circuits should be submitted as CIRC files, and must respect the filename, circuit name, and circuit layout specified so that we can run tests. Use a **zip archive** to bundle your submitted files (do not use other types of archives). You should not include any directory structure in your submitted zip file. Be sure to **check your submission** by downloading your submission from the server and checking that it was correctly submitted. You will not recieve marks for work that is incorrectly submitted.