# **Computational Logic Circuits (Online Lab 6)**

Bi-directional Shift Registers

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## **OBJECTIVES**

- > To understand the function of bi-directional shift registers.
- > To understand how to design bi-directional shift register.
- > To verify and simulate the function of a bi-directional shift register.

#### **DESIGN**

#### **Experiment**

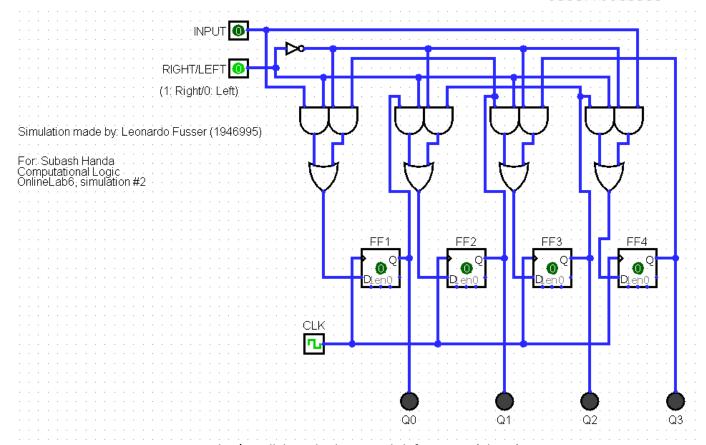
There were two simulations done in this lab. We were asked to simulate a Serial In/Serial Out and a Serial In/Parallel Out bi-directional shift register. The sequence was in 4-bits, so 4 d flip-flops were used in the simulation. The user would choose between Left (0) or Right shifting (1) and serial input (0 or 1) to be shifted. Proper design and testing were done as well. The simulations were done in "Logisim". Below outlines the work done in the lab.

### **SIMULATIONS**

#### Simulations from the Experiment

Serial In/Serial Out bi-directional shift register (above)





Serial In/Parallel Out bi-directional shift register (above)