North South University

ECE

Experiment No: 5
Experiment Title: Design of a Register File
Course Code: CSE332L
Course Name: Computer Organization & Architecture Lab

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Date of Experiment: 7.4.2022
Date of Submission: 10.4.2022

Objective:

- Design a register file that is 16 bit wide. Label properly the inputs/outputs/selections
- Design the interfacing for reading data from any of those registers.
- Design the interfacing for writing data to any of those registers. Make sure it has to write to control signal
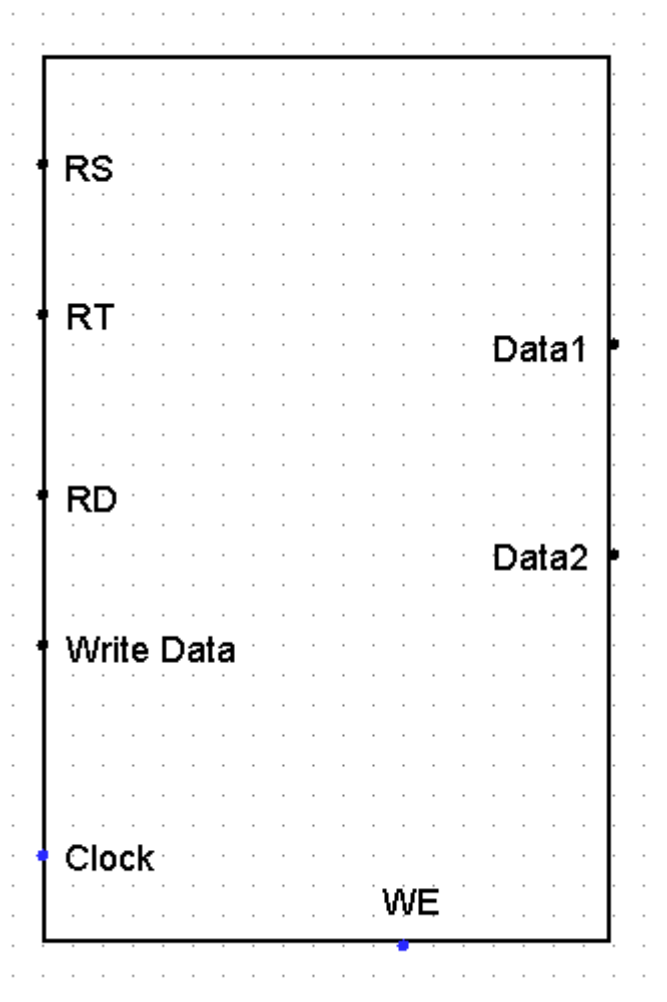
Apparatus:

Logisim Tool

Block Diagram:
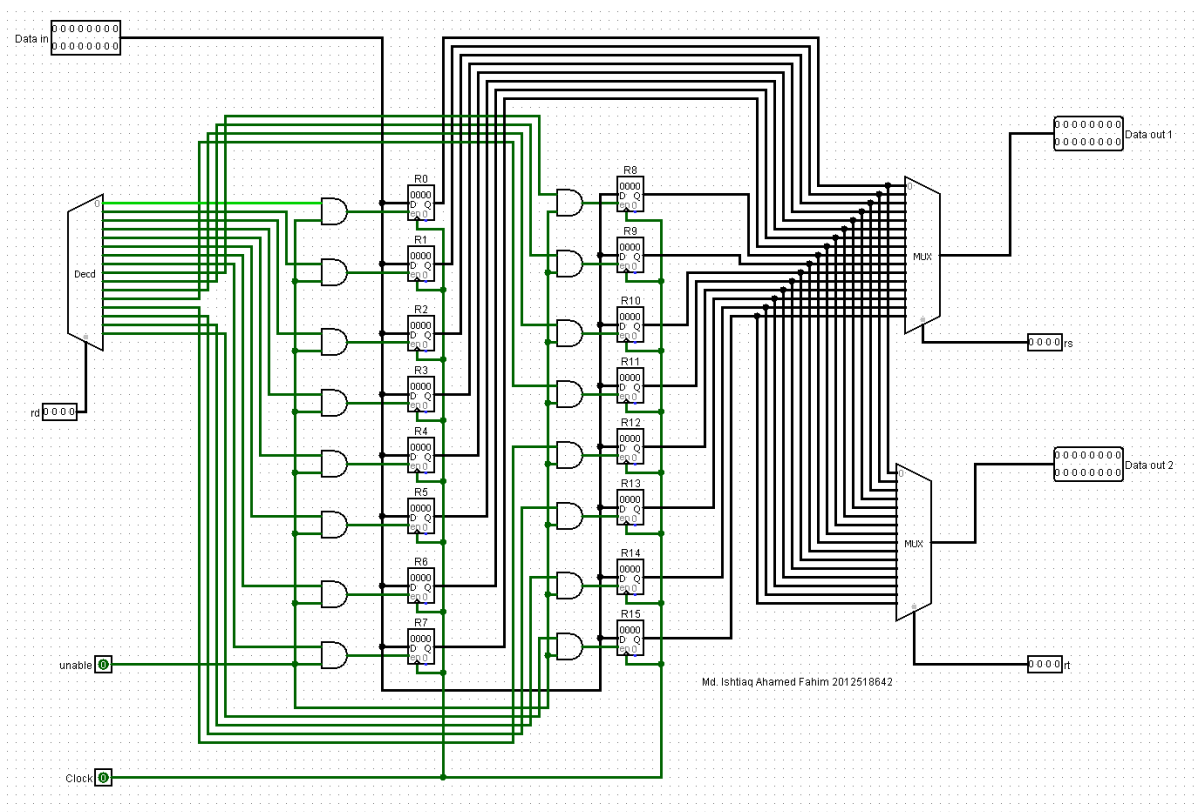

Fig-1: register 16 bit wide

Circuit diagram:

Fig-2: 4-bit by 4-bit Binary Multiplication Unit (Circuit diagram)

Discussion:

We learned how to create a 16 bit wide register and understand how rs and rt access the read part of the register and rd control the write part with proper select bit in following case and how clock play role in it and to be unable or disable the unit.