Lab 8

ECE 3300 LAB

SECTION 02

Instructor: Mohamed Aly

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Group I

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| Name | Bronco ID | Email |
| Jose Soto-Covarrubias | 013778700 | jls1@cpp.edu |
| Shreyas Surana | 013790140 | ssurana@cpp.edu |

**Abstract**

Purpose of the experiment was to create a system using up/down counter and barrel shifter . A barrel shifter was used to shift a data by a specified number of bits in one clock cycle in a left rotation or right rotation. In this experiment the number of bits that was used were 32 since 8 displays were used. To create 4-bit barrel shifter, 2 multiplexors were used. The total number of multiplexors used was 8 multiplexors. Similar to lab 5, a button was used as the up/down counter instead of using a switch.

**Theory: Sketch of Design**

A piece of paper with writing on it

Description automatically generated with medium confidence

**Area/Resources Information**

Elaborated Design

Chart, waterfall chart

Description automatically generated

Diagram, schematic

Description automatically generated

Diagram, schematic

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Diagram

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4-bit barrel shifter uses 2 multiplexors however for our implementation, total muxes used was 8 multiplexors due to using the number of displays

Diagram, schematic

Description automatically generated

Diagram

Description automatically generated

**Power Usage**

**Chart, waterfall chart

Description automatically generated**

**Post-Implementation Resource Utilization**

