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E155
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Lab 2 Report: Multiplexed Display

1 Introduction

2 Design and Testing Methodology

2.1 Hardware

2.1.1 7-Segment Display

2.2 Software

2.2.1 7-Segment Decoder

2.2.2 LED bar decoder

2.2.3 Testing and Flashing

3 Technical Documentation

3.1 System Verilog Code

```
/* This module is the wrapper for the project. It instantiates
   an instance of the led bar decoder and 7 segment decoder

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*/

module lab1_SL( input logic clk,          //clock
                input logic [3:0] s,      //4 DIP switches
                output logic [7:0] led,   //8 lights on LED bar
                output logic [6:0] seg);  //segments in 7-seg display

    //instance of the led bar decoder
    ledBarDecoder   bar(.clk(clk), .s(s), .led(led));
    //instance of 7-seg display decoder
    led7Decoder     led7(.s(s), .seg(seg));

endmodule
```

4 Results and Discussion

5 Conclusion