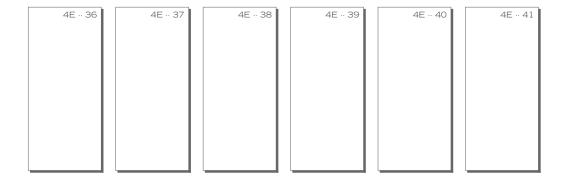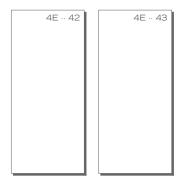# LABORATORY 6

Please print this sheet prior to coming to laboratory. Complete the pre-laboratory tasks in your lab notebook. Complete the lab tasks in **both** your lab notebook and this submission sheet.

1   Pre-laboratory Verification

4E ·· 36	4E ·· 37	4E ·· 38	4E ·· 39	4E ·· 40	4E ·· 41

2   Laboratory Verification

4E ·· 42	4E ·· 43

3 Deliverables

1. Attach **`multiplex.vhd`** VHDL code (decoder is not necessary).

2. Attach block diagram.

3. Attach three required photos of board, printed on a single sheet of paper.

4. When implementing blanking for the seven-segment display that was created using hardware (previous laboratory), a combinational circuit had to be developed. What would need to be changed in order to implement blanking on the FPGA?

5. What would need to be changed in order to display hexadecimal (**A-F**) digits?

6. What is the function of a multiplexer (summarize, as if explaining to a child)? Give two real-world applications of multiplexers.