## Lab 4 Specifications

### Lab-specific Specifications

### Proficiency

☐ Assembly program correctly sorts an array of signed bytes.

☐ Brief description of sort algorithm implemented.

☐ SEGGER Embedded Studio debugger used to demonstrate that the test array was sorted properly.

☐ Assembly code includes line-by-line comments

☐ Code is running on MCU connected to SEGGER Embedded Studio for instructor to verify operation with a test case of their choosing.

### Excellence

☐ Report identifies all possible edge cases for sorting **and** presents testing results to verify that the design performs correctly for all the edge cases you've identified. You can demonstrate this by showing screenshots of the intial (`src`) and final (`dst`) arrays in the watch window or memory viewer.

**General Specifications**

**Proficiency**

**General Schematic Specifications**

- ☐ All pin names labeled
- ☐ All pin numbers labeled
- ☐ Crossing wires clearly identified as junction or unconnected
- ☐ Neat layout (e.g., clear organization and spacing)
- ☐ All parts labeled with part number
- ☐ All component values present

## Block Diagram

- ☐ Block diagram present with one block per SystemVerilog module
- ☐ Each block includes all input and output signals

## HDL & Code Specifications

*General Formatting*

- ☐ Descriptive filename (e.g., `lab2_jb.sv`)
- ☐ Descriptive variable names
- ☐ Neat formatting (e.g., standard indentation, consistent formatting for variable names (kebab-case/snake_case/camelCase/PascalCase ))
- ☐ Descriptive and clear function/module names

*Comments*

- ☐ Comments to indicate the purpose of each function/module

## Lab Writeup/Summary

- ☐ Brief (e.g., 3-5 sentence) description of the main goals of the assignment and what was done.
- ☐ Explanation of design approach. How did you go about designing and implementing the design?
- ☐ Explanation of testing approach. How did you verify your design was behaving as expected?
- ☐ Statement of whether the design meets all the requirements. If not, list the shortcomings.
- ☐ Number of hours spent working on the lab are included.
- ☐ Writeup contains minimal spelling or grammar issues and any errors do not significantly detract from clarity of the writeup.
- ☐ (Optional) List commments or suggestions on what was particularly good about the assignment or what you think needs to change in future versions.

**Excellence**

## General Schematic Specifications

☐ Standard symbols used for all components where applicable
☐ Signals "flow" from left to right where possible (e.g., inputs on left hand side, outputs on right hand side)
☐ Title block with author name, title, and date

## HDL & Code Specifications

*General Formatting*

☐ Name, email, and date at the top of every file
☐ Comment at the top of each source code file to describe what is in it
☐ Clear and organized hierarchy (e.g., deliniation between top level modules and submodules)

*Testbenches*

☐ Testbenches written for each individual module to demonstrate proper operation
☐ Testbench output included in the report

## Lab Writeup/Summary

☐ Writeup is free of spelling and grammar issues