Jaci Reichenberger, A20131719

Stephen Potter, A11341625

ECEN 4243: Computer Architecture

1 March 2021

Lab 2: Instruction-Level ARM Simulator

**Section 1: Introduction**

Purpose. Progress. Brief review of results. Summary of Lab Assignment. .5-.75pg

The purpose of this lab was to write a C program that will be an instruction-level simulator for a limited subset of the ARM instruction set. This program will allow users to tun ARM programs and see the outputs. The objectives of this lab are to introduce the software and process in running code, compiling in C, and introduces the ARM ISA. Several input files are given to test the code that is written. The shell and the simulation routine are the two main sections of the simulator. The goal is to write code for and implement the simulation routine, as the shell code is already given. Code was written within the sim.c and isa.h. Code was written for the data processes, branching, and memory. The results of this code were… All in all, this lab taught students how to design an ARM Architecture Simulator based in the C language.

**Section 2: Baseline Design**

Baseline design and implementation. Pic of FSM, block diagram, etc… How it works. Be specific. <1pg

The baseline design for this lab was creating code for sim.c and isa.h

**Section 3: Design**

Alternative design and implementation. Datapath diagram for alternative design. Deep dive into details of design. No waveforms. ~1pg

**Section 4: Testing Strategy**

Describe testing framework. Overall strategy, test cases, table with summary. 1 paragraph of testing overview, 1 paragraph per each kind of testing (why that test, what did you actually test), last paragraph explaining why testing is functionally correct.

**Section 5: Evaluation**

Report simulation results using text, tables, and plots. Summary. Analyze results. Final paragraph that has more details from high level conclusion from Intro. (probs longest section)

MAX 4 pgs, not including tables and figures.