Individual Report – Sahil Palnitkar

1 Name and Group Members:

- Name: Sahil Palnitkar
- Group Members: Anthony Nguyen, Simon Yao

2 Parts of Design I did Alone:

- ALU
- PC Increment Logic
- OPCodes used for matrix addition
- ROM Datafile
- y86 Code for matrix addition
- Half of memory control
- Memory Data Logic
- Half of main circuit design

3 Advantages/Disadvantages

- Advantage:

  Allows teamwork to manage time and complete work based on deadlines. Helps split work responsibility so that a single person does not have to commit too much time.

- Disadvantage:

  A lot of the project works of other problems or previous labs. Every person in the group has completed these labs in a different way and it is hard to understand everyone's method of solving a problem and combining it to create a final solution.

4 Design Preference/Improvements

- Superior:

  Most of the basic circuits were very similar when brainstorming. Every team member worked on separate problems in the lab and helped the others with their problems. This meant that each problem had an individual flair to it and did not have a competing design made by another person. So, no design can be flagged as superior. The design worked exactly similar to the sequential architecture taught in class.

- Improvements:

  While the processor worked very well to do the matrix addition. It was slow, as the multiple registers in all parts of the circuit required delays to properly transmit data. For these delays, no-ops in the counter had to be added. This increased the overall runtime of a single instruction. This can be improved in future versions of our processor.