EE 3181 Final Project Report Guidelines

Due 5/3 at 11:59 PM

Expectations:

This report will represent the culmination of your efforts and learning in this lab, as well as the technical writing abilities gained. The report should be professional with correct grammar (spelling, sentence structure, consistent verb tenses), clean screenshots and figures with labels, and follow the formatting that will be outlined. Use past reports you have submitted with given feedback as a guide for what we will be looking for in your final report. The expectation on this report will be higher than any previous report you have submitted however, so be sure to include as much information and explanations as possible. Remember, if you do not explain then we assume you do not know.

Formatting:

The format for this report will follow a similar format to the reports throughout the semester. However, each section should be substantially larger due to the increase in content and concepts. The required sections with expectations are as follows:

- **Title Page**
  - State the project title (Final Project), course title (EE 3181), list of team members, and the due date.
- **Introduction**
  - This section should clearly state the problem given and what is required to solve the problem.
  - Try to make this section as succinct as possible while still describing the project well at the highest level. Expect this section to be 2-3 paragraphs
- **Procedure**
  - This section will provide a better overview of the project, such as how you began to tackle the problem and the direction of your work throughout the 3 weeks in a chronological order.
  - Use figures here to illustrate any concepts you used in this project from floating point representation to floating point arithmetic and convolution. Make sure to label each figure properly with a figure number as well as a title. Ex) *Figure 1: IEEE 754 Single Precision*
  - The code specifics or syntax you used in the project should not be mentioned in this section. Speak about the operations a few lines of code perform instead without directly quoting written lines of code (commands, register uses, etc.).
- **Code**
  - Since this project has many different functional parts, it would be best to address those parts or operations (multiplication, accumulation, demodulation, convolution, decoding) individually. In other words, do not paste your entire code in one figure and attempt to talk about all of it. You should put figures of your code separated by function with explanations in between each portion of code. For example, put a screenshot of just

your multiplication and then talk about it. Next, you would put addition/subtraction followed by another explanation.
    - Please put **screenshots** of your code from Code Blocks. This makes your code color coded and much easier to read. Also remember to properly label them as figures!
    - I highly recommend having comments in the code and screenshots from the time you wrote the code so that even you don't forget what each line was trying to do!
    - In assembly, it is okay to have comments on every line since it is not easy to communicate with just the language what the programmer's thought process is. Please comment as much as possible or points will be deducted.
- **Results**
    - Please state the functionality of every section of the code that was previously mentioned. For example, you might have achieved multiplication floating-point operation, but not the convolution. Don't simply say the program did or did not fully work.
    - You must give **proof** of each section working. This can be done by taking screenshots in a similar fashion to other labs.
    - Also make sure to give proof (screenshot) of your execution time. You can determine the performance time by looking at the number of states in the register window under *Internal.* Place a breakpoint at your last line to ensure no extra cycles are counted. You will be given no performance points if this is not captured. If the project was not able to be completed, give the performance indication for the furthest step you achieved (demodulation, convolution, etc.).
- **Conclusion**
    - Similar to previous labs, this section should state whether or not your objective in the introduction was successful.
    - Summarize your final findings from the results in a few sentences.
    - Lessons learned should also be in this section. I know everyone learned at least one new concept in this project, and each lesson might be different. Since this project was collaborative and only one report is being submitted, please have a lessons learned section for each individual team member. Try to provide as much information as possible about your experience, and reflect on what each one of you has learned throughout the past 3 weeks.