COP 3404
Systems Software
Project 4
Fall 2018

Project 4 due 12/2/18 at 11:59 PM (nearly midnight)

For this project you are to implement pass 2 of the assembler. Pass 1 should construct the symbol table, the addresses associated with each instruction, addresses of each label. The input file will be in fixed format:

Col 1-8 label optional
Col 9 blank
Col 10 + optional
Col 11-17 mnemonic
Col 18 blank
Col 19 #, @ ... optional
Col 20-29 label, register, ',',X optional ...
Col 30-31 blank
Col 32-80 comments optional

There may be blank lines in the source file. Your project should assemble all of SIC/XE and be equivalent to sicasm. Extra credit will be awarded for additional features currently not included in sicasm such as EQU, CSECT, USE, etc. All test files will be entered in upper case. Appropriate error conditions such as duplicately defined labels or undefined labels. Invalid mnemonics should be ignored in maintaining your addresses and your assembler should continue processing. Your should anticipate project 4 as pass two, thus you might, in the design of pass 1, consider pass 2. This has been review from project 1. Pass 2 should complete pass 1 creating the .obj file similar to the file created by sicasm. Both the .obj file and the .lst file should be created using appropriate names.

You may include any other files as you desire in your project folder. Be sure to test the integrity of your shar (or any compressed folder).