CMPSCI 122 Computer Architecture & Assembly Language

Project 2 – Machine Language Programming

30 points total

Due 1/28/21

Please complete the following exercises from the textbook. Save each machine language program as a Pep/9 Object Code (.pepo) file. The name of each file should identify the textbook chapter and exercise number. For example, if the program is a solution to Exercise 11 in Chapter 4, the Object Code file should be named **Exercise4-11.pepo**. When you have completed all exercises, ZIP up all of your **.pepo** files and upload them to Canvas.

Section 4.4 (2 points each)

11. Write a machine language program to output your name on the output device. The name you output must be longer than two characters. Write it in a format suitable for the loader and execute it on the Pep/9 simulator.
12. Write a machine language program to output the four characters `Frog` on the output device. Write it in a format suitable for the loader and execute it on the Pep/9 simulator.
13. Write a machine language program to output the three characters `Cat` on the output device. Write it in a format suitable for the loader and execute it on the Pep/9 simulator.
14. Write a machine language program to **add** the three numbers 2, -3 and 6 and output the sum on the output device. Store the -3 in hexadecimal. **Do not use the subtract, negate or invert instructions**. Write the program in a format suitable for the loader and execute it on the Pep/9 simulator.
15. Write a machine language program to input two one-digit numbers, add them, and output the one-digit sum. There can be no space between the two one-digit numbers on input. Write the program in a format suitable for the loader and execute it on the Pep/9 simulator.