CPE 301 Microprocessor System Design Lab
Lab #01 Fall 2013

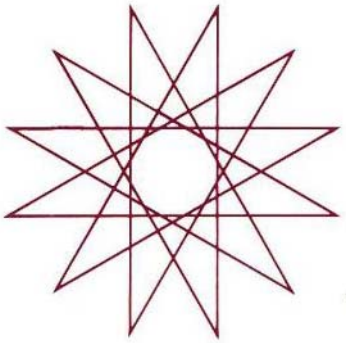
Objective:
To learn about assembly language programming using the Simulated Computer. Also, to learn some simple basics about input and output devices when programming in assembly language.

Procedures:

1. THE SQUIRAL
Refer to the Turtle Graphics section of the Simulated Computer manual. Write a program which draws a square spiral, or "squiral". This program should use no INP instructions. The output should look like the figure below.

2. A SAWTOOTH
Write a program which draws a sawtooth line like the one shown below.

3. A 12-POINTED STAR
Did you discover that the turtle can draw backwards if you store a negative number to the Draw location? Use this fact to draw a 12-pointed star like the one shown below.



4. A SOUND MAKER
Refer to sections in the Simulated Computer manual relative to Sound, Special INPUT Instruction, and the RUNSPED command. Then, write a program which will loop and input a number from the user and create a sound using this number. Experiment with different run speeds and examine the range of numbers which will be allowed for the sound generation.