ASSEMBLER PROJECT

Write a program to simulate the SIC/XE 2-pass assembler. It takes as input a text file (in.txt) that contains an assembly program written in SIC/XE assembly language.

The program should produce an output text file (out.txt) that contains the object code written in HTE format.

Use C/JAVA programming languages to implement your code. You should submit the source code, executable files and a report that includes problem statement, source code, design issues and sample runs.

Pass 1

Pass 1 should read the input file and produce:

      1. Location Counter for all program lines

      2. Symbol Table

Pass 2

Pass 1 should re-read the input file and make actual translation of the code

      1. Translate instruction operation into opcode

      2. Fill the instruction flag bits

      3. Translate operands using symbol Table

And finally arrange the object code generated into HTE record file following its format.