

## Assembler Project

Total 100 Points

### Project Detail:

- Write an assembler using the techniques described in your favorite language (It must be able to click and play from my office computer)
- Your program should print your name and any instructions needed to run it (user friendly)
- Name your files with your last name.
- To keep the assembler as simple as possible the following additional restrictions will be added if you want:
  - 1) the label (if present) will occupy the first 3 characters of a line – (must be exactly 3 Characters)
  - 2) if a label is present the 4th character of the line will be a “,”.
  - 3) The 3 character instruction or Pseudo instruction will occupy characters position 5-7 in every case
  - 4) If the Instruction is a Memory Reference Instruction (MRI), the reference will occupy characters position 9-11
  - 5) Position 4 and 8 will always be blank
  - 6) If the instruction is an indirect MRI, the character at position 13 will be an “I”
  - 7) No blank lines will be allowed
  - 8) Any comments should be preceded with a “/” and will occur no sooner than character 16
  - 9) Two files are expected to be generated by your assembler: symbol table and bin file.

Please submit the following items

- 1) Electronic copy: source and executable code to canvas
- 2) The Assembler Report Form (see next page)
- 3) **Include any detailed instructions I may need to run and test you program.**

A few example statements:

```
012345678901234567890<- Character Position Number
    ORG 100          /this is a comment
    LDA ADS
    CLA
LOP, ADD PTR I  /this is as close as a comment can be
    ISZ PTR
    HLT
ADS,  HEX 150
PTR,  HEX 0
    ORG 150
    DEC 25
    DEC 50
    END
```