MODI-SIC

Course: CC410 – Systems Programming

Submitted By:

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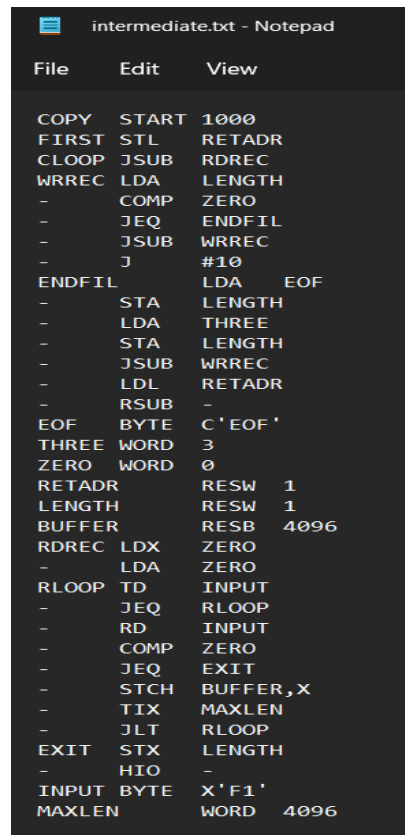
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How to use the program:

- In.txt (input file): Between each column there's a tab.

- Run Merged Code: Run **modi-SIC_merged_code.py**

- Run Individual Code: Run **code_intermediate.py** for intermediate.
  Run **code_pass1.py** for pass 1 (Address, Symb table)
  Run **code_pass2.py** for pass 2 (Object code, HTE)

Sample run:

- Intermediate.txt:

Pass 1:

- out_pass1.txt:


```
out_pass1.txt - Notepad

File    Edit    View

|-     COPY  START 1000
0x1000       FIRST STL   RETADR
0x1003       CLOOP JSUB  RDREC
0x1006       WRREC LDA   LENGTH
0x1009       -     COMP  ZERO
0x100c       -     JEQ   ENDFIL
0x100f       -     JSUB  WRREC
0x1012       -     J     #10
0x1015       ENDFIL      LDA   EOF
0x1018       -     STA   LENGTH
0x101b       -     LDA   THREE
0x101e       -     STA   LENGTH
0x1021       -     JSUB  WRREC
0x1024       -     LDL   RETADR
0x1027       -     RSUB  -
0x102a       EOF   BYTE  C'EOF'
0x102d       THREE WORD  3
0x1030       ZERO  WORD  0
0x1033       RETADR      RESW  1
0x1036       LENGTH      RESW  1
0x1039       BUFFER      RESB  4096
0x2039       RDREC LDX   ZERO
0x203c       -     LDA   ZERO
0x203f       RLOOP TD    INPUT
0x2042       -     JEQ   RLOOP
0x2045       -     RD    INPUT
0x2048       -     COMP  ZERO
0x204b       -     JEQ   EXIT
0x204e       -     STCH  BUFFER,X
0x2051       -     TIX   MAXLEN
0x2054       -     JLT   RLOOP
0x2057       EXIT  STX   LENGTH
0x205a       -     HIO   -
0x205b       INPUT BYTE  X'F1'
0x205c       MAXLEN      WORD  4096
```

- symbTable.txt:


```
symbTable.txt - Notepad

File    Edit    View

Address        Label
0x1000         FIRST
0x1003         CLOOP
0x1006         WRREC
0x1015         ENDFIL
0x102a         EOF
0x102d         THREE
0x1030         ZERO
0x1033         RETADR
0x1036         LENGTH
0x1039         BUFFER
0x2039         RDREC
0x203f         RLOOP
0x2057         EXIT
0x205b         INPUT
0x205c         MAXLEN
```

Pass 2:

- out_pass2.txt:

```
COPY   START 1000   -
FIRST  STL   RETADR        141033
CLOOP  JSUB  RDREC 482039
WRREC  LDA   LENGTH        001036
-      COMP  ZERO  281030
-      JEQ   ENDFIL        301015
-      JSUB  WRREC 481006
-      J     #10   3d000a
ENDFIL       LDA   EOF   00102a
-      STA   LENGTH        0C1036
-      LDA   THREE 00102d
-      STA   LENGTH        0C1036
-      JSUB  WRREC 481006
-      LDL   RETADR        081033
-      RSUB  -     4C0000
EOF    BYTE  C'EOF'        454f46
THREE  WORD  3     000003
ZERO   WORD  0     000000
RETADR       RESW  1     -
LENGTH       RESW  1     -
BUFFER       RESB  4096  -
RDREC  LDX   ZERO  041030
-      LDA   ZERO  001030
RLOOP  TD    INPUT E0205b
-      JEQ   RLOOP 30203f
-      RD    INPUT D8205b
-      COMP  ZERO  281030
-      JEQ   EXIT  302057
-      STCH  BUFFER,X      549039
-      TIX   MAXLEN        2C205c
-      JLT   RLOOP 38203f
EXIT   STX   LENGTH        101036
-      HIO   -     F4
INPUT  BYTE  X'F1' F1
MAXLEN       WORD  4096  001000
```

- HTE.txt:

```
H.COPYXX.001000.00105f
T.001000.1e.141033.482039.001036.281030.301015.481006.3d000a.00102a.0C1036.00102d.
T.00101e.15.0C1036.481006.081033.4C0000.454f46.000003.000000.
T.002039.1e.041030.001030.E0205b.30203f.D8205b.281030.302057.549039.2C205c.38203f.
T.002057.08.101036.F4.F1.001000.
E.001000
```