

SYSTEMS PROGRAMMING

REPORT

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HOW TO USE OUR

PROGRAM:

- Modify the “in.txt” file to take the assembly code with the comments and the line numbers
- Run the python file
- The desired output files will be stored in 'intermediate.txt', 'out_pass1.txt', 'symbTable.txt', 'out_pass2.txt', 'HTME.txt'

FILE DESCRIPTION:

'intermediate.txt' will contain the assembly code with the comments and line numbers erased

'out_pass1.txt' will contain the location counter after pass 1

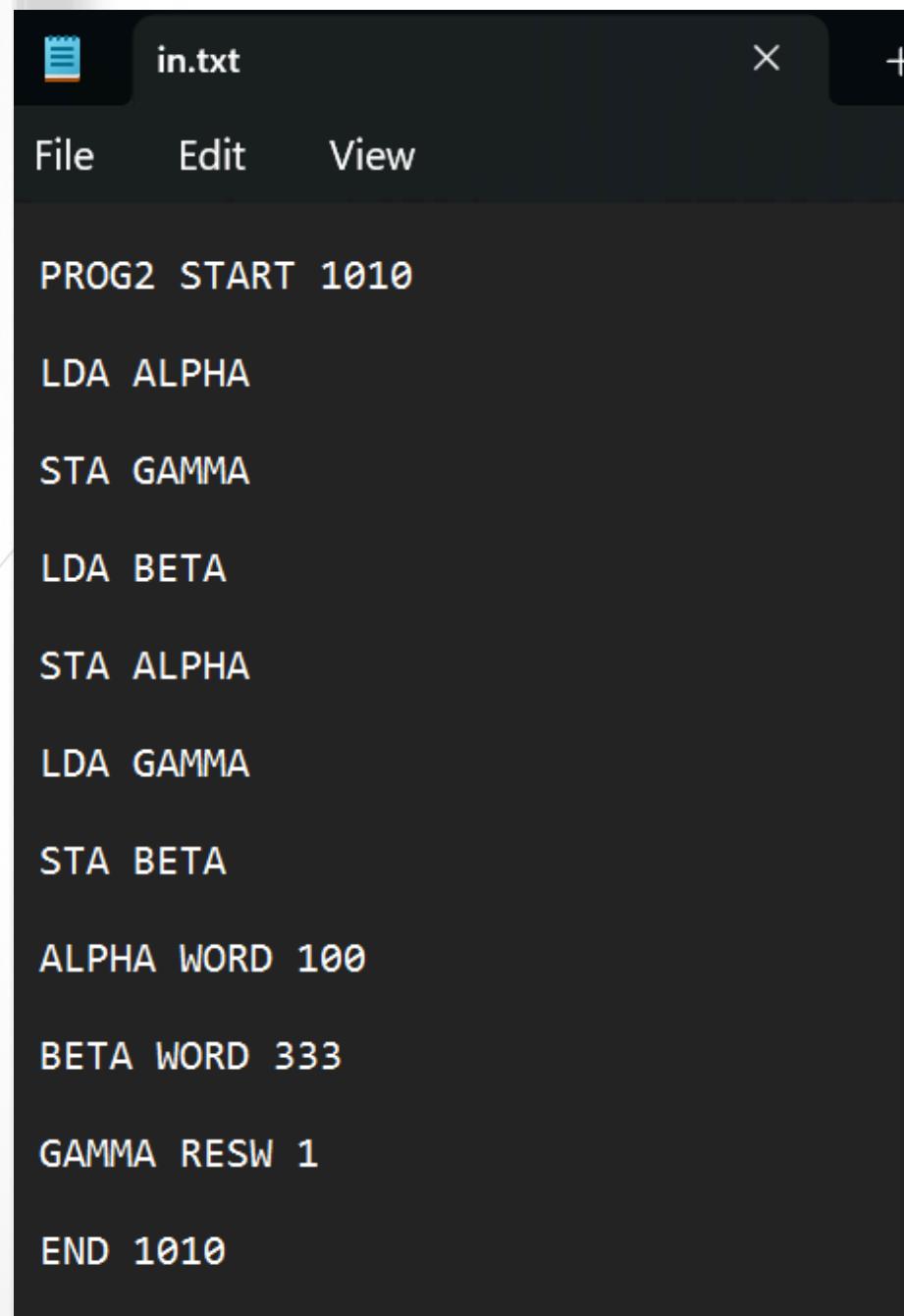
'symbTable.txt' will contain the symbol table after pass 1

'out_pass2.txt' will contain the object code after pass 2

'HTME.txt' will contain the HTME record for the assembly code after pass 2

EXAMPLE RUN:

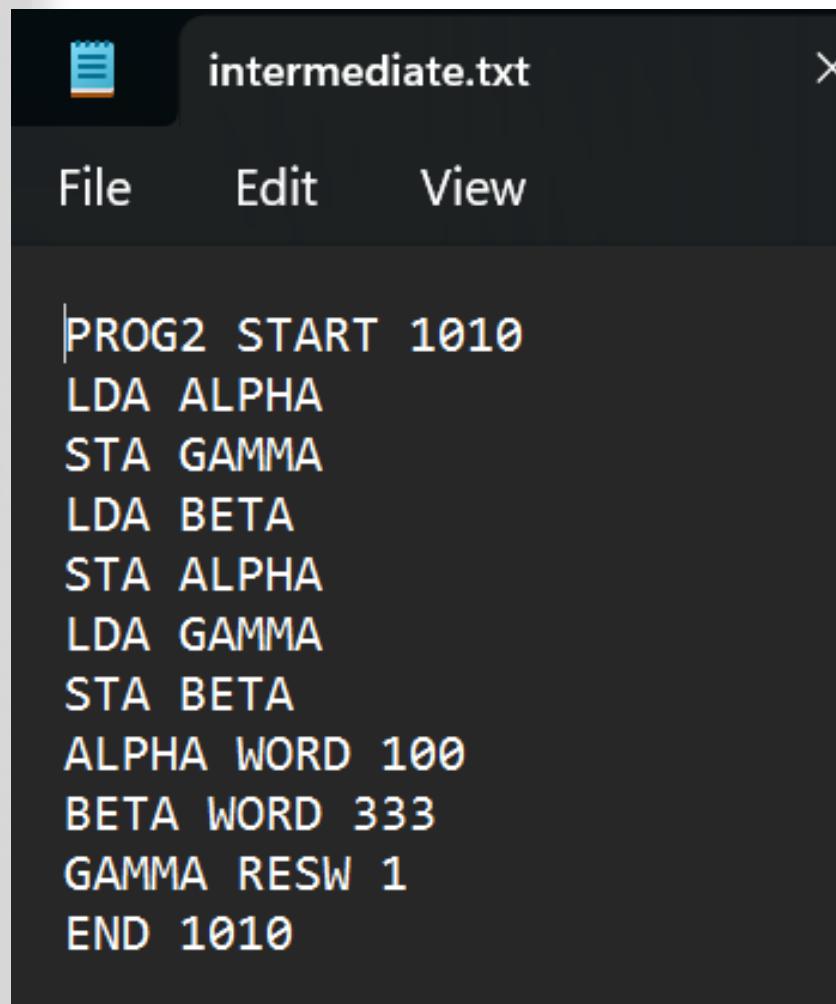
INPUT FILE



The image shows a screenshot of a text editor window titled "in.txt". The window has a dark theme with white text. At the top, there is a menu bar with "File", "Edit", and "View" options. Below the menu, the file content is displayed in a monospaced font. The code consists of several assembly-like instructions and labels:

```
PROG2 START 1010
LDA ALPHA
STA GAMMA
LDA BETA
STA ALPHA
LDA GAMMA
STA BETA
ALPHA WORD 100
BETA WORD 333
GAMMA RESW 1
END 1010
```

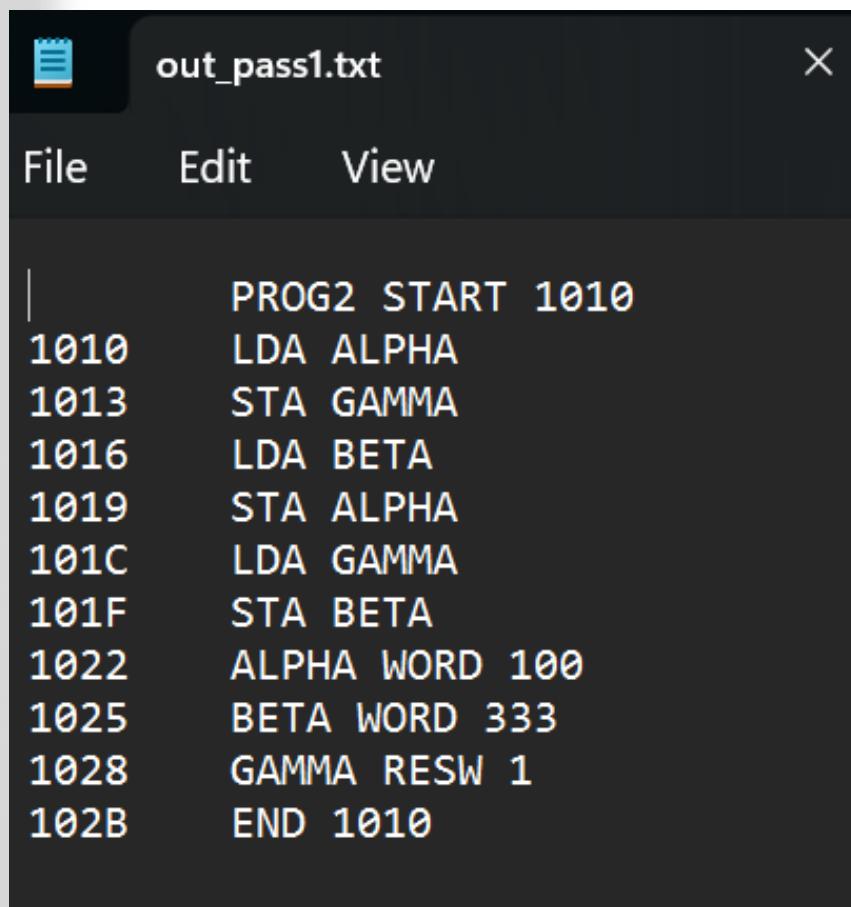
INTERMEDIATE ASSEMBLY CODE



A screenshot of a dark-themed text editor window titled "intermediate.txt". The window contains the following assembly code:

```
PROG2 START 1010
LDA ALPHA
STA GAMMA
LDA BETA
STA ALPHA
LDA GAMMA
STA BETA
ALPHA WORD 100
BETA WORD 333
GAMMA RESW 1
END 1010
```

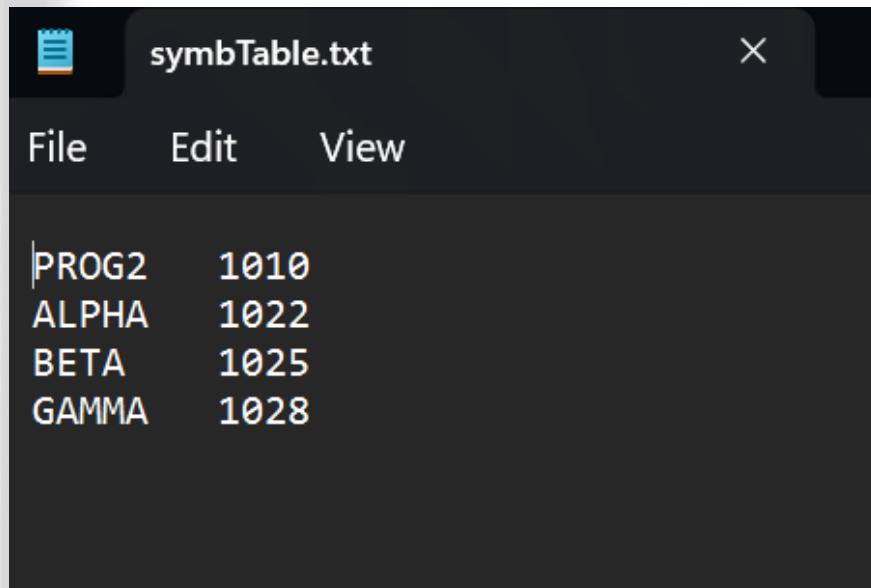
LOCATION COUNTER



A screenshot of a text editor window titled "out_pass1.txt". The window has a dark theme with a light gray header bar. The header contains a file icon, the title "out_pass1.txt", and a close button (X). Below the header is a menu bar with "File", "Edit", and "View" items. The main area of the window displays assembly code:

```
PROG2 START 1010
1010      LDA ALPHA
1013      STA GAMMA
1016      LDA BETA
1019      STA ALPHA
101C      LDA GAMMA
101F      STA BETA
1022      ALPHA WORD 100
1025      BETA WORD 333
1028      GAMMA RESW 1
102B      END 1010
```

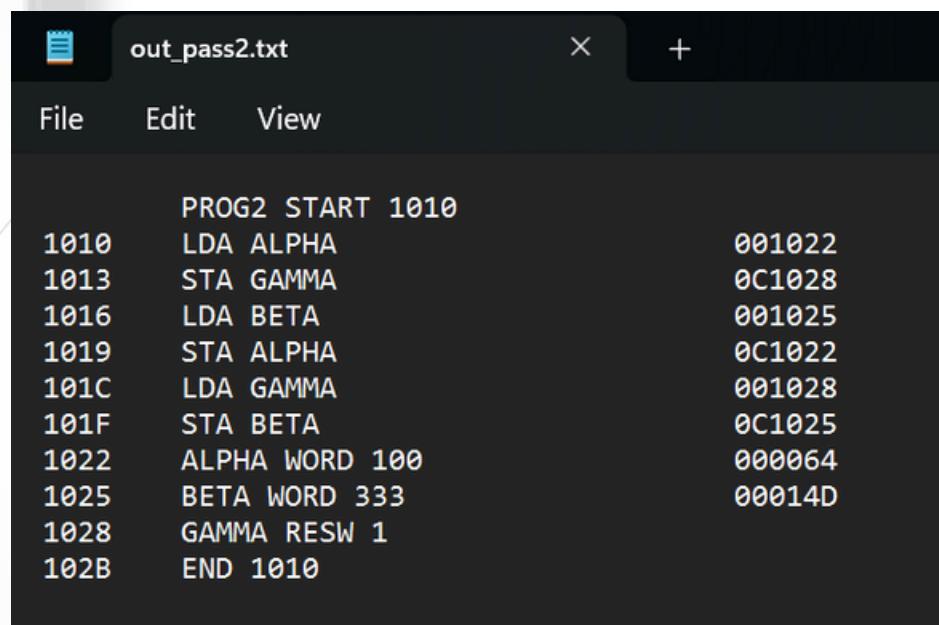
SYMBOL TABLE



A screenshot of a terminal window titled "symbTable.txt". The window has a dark theme. The title bar shows the file name "symbTable.txt". The menu bar includes "File", "Edit", and "View". The main area displays the following text:

PROG2	1010
ALPHA	1022
BETA	1025
GAMMA	1028

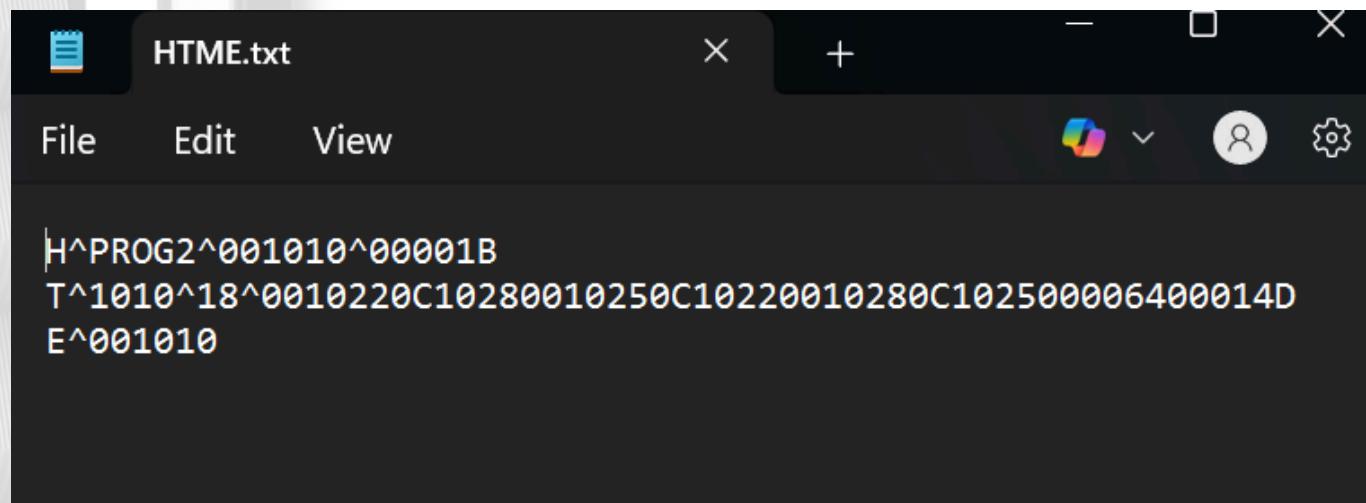
OBJECT CODE AFTER PASS 2



The screenshot shows a terminal window titled "out_pass2.txt". The window has a dark background and contains assembly language code. The code starts with a label "PROG2 START 1010" followed by several instructions. Each instruction consists of an address, an operation code, a source operand, a destination operand, and a 4-digit hex value. The addresses range from 1010 to 102B. The hex values range from 001022 to 00014D.

Address	Op Code	Source	Dest	Value
1010	LDA	ALPHA		001022
1013	STA	GAMMA		0C1028
1016	LDA	BETA		001025
1019	STA	ALPHA		0C1022
101C	LDA	GAMMA		001028
101F	STA	BETA		0C1025
1022		ALPHA WORD	100	000064
1025		BETA WORD	333	00014D
1028		GAMMA RESW	1	
102B		END	1010	

HTME RECORD



A screenshot of a dark-themed text editor window. The title bar reads "HTME.txt". The menu bar includes "File", "Edit", "View", and icons for undo/redo, a color palette, user profile, and settings. The main text area contains the following binary-like data:

```
H^PROG2^001010^00001B  
T^1010^18^0010220C10280010250C10220010280C102500006400014D  
E^001010
```

**THANK
YOU**

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