

**GEC THRISSUR
SYSTEM SOFTWARE LAB
EXPERIMENT 08**

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EXPERIMENT 08

AIM:

Implement pass one of a two pass assembler

README:

*Two input files are provided:

1.input.txt:

This contains the assembly program

```
input.txt — Kate
File Edit View Projects Bookmarks Sessions Tools Settings Help
New Open... Save Save As Close Undo Redo
Documents
syntab.txt copy.txt input.txt optab.txt
COPY START 1000
LDA ALPHA
ADD ONE
SUB TWO
STA BETA
ALPHA RESW 1
ONE WORD 2
TWO WORD 5
BETA RESW 1
END --
Line 11, Column 1
INSERT Soft Tabs: 4 UTF-8 Normal
Search and Replace
```

2.optab.txt

```
optab.txt — Kate
File Edit View Projects Bookmarks Sessions Tools Settings Help
New Open... Save Save As Close Undo Redo
Documents
syntab.txt copy.txt input.txt optab.txt
LDA 0
STA 23
ADD 1
SUB 5
Line 5, Column 1
INSERT Soft Tabs: 4 UTF-8 Normal
Search and Replace
```

*To compile the program, the file path of the input.txt should be specified inside readme() and optab should be specified in searchOptab().

*The cfiles have the following names:

prgm8.c

*the input files have the following names:

input.txt

optab.txt

*the output files have the following names:

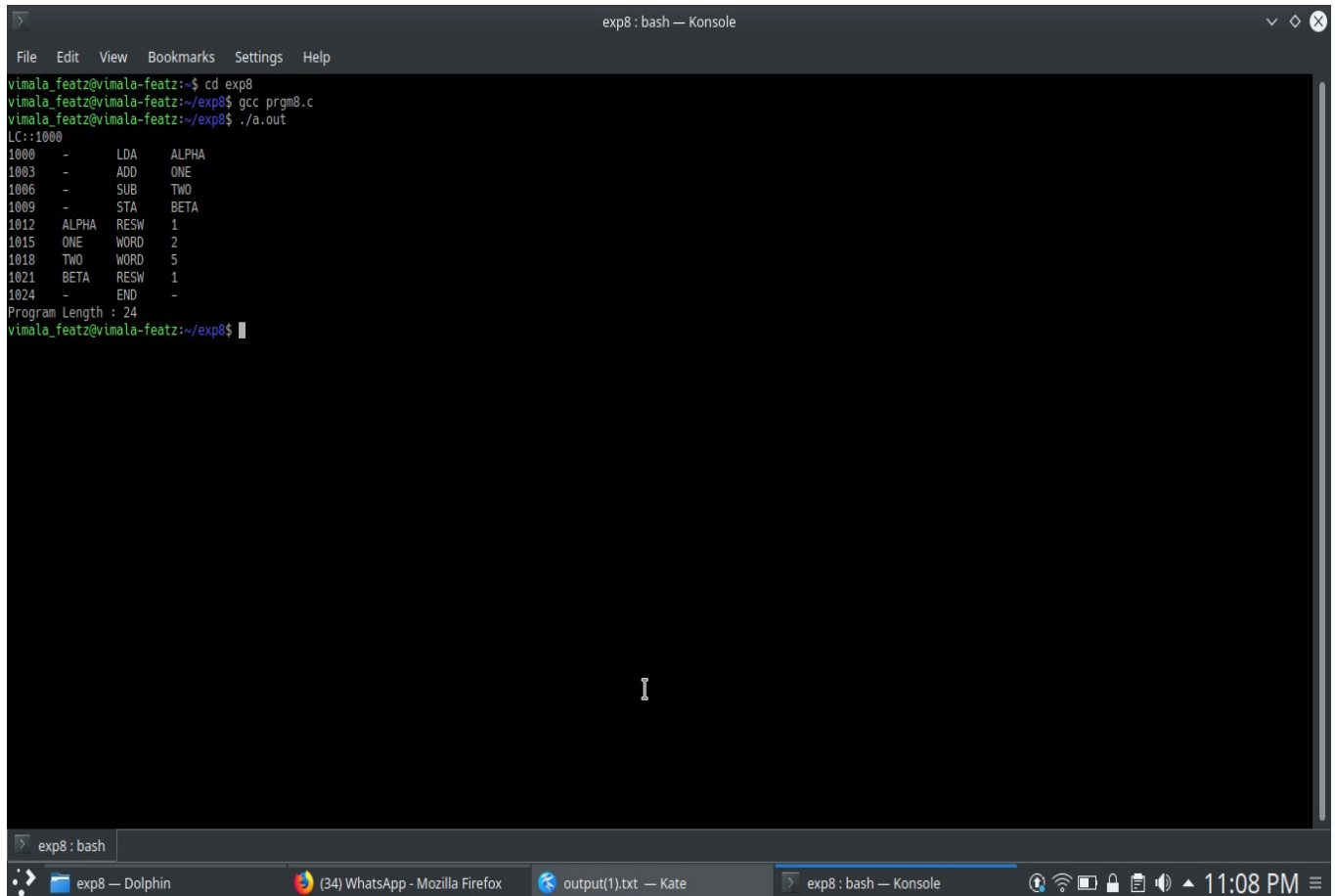
symtab.txt

stores address of variables and labels

copy.txt

stores the copy of input program and address.

OUTPUT:



```
exp8 : bash — Konsole
File Edit View Bookmarks Settings Help
vimala_featz@vimala-featz:~$ cd exp8
vimala_featz@vimala-featz:~/exp8$ gcc prgm8.c
vimala_featz@vimala-featz:~/exp8$ ./a.out
LC::1000
1000 - LDA ALPHA
1003 - ADD ONE
1006 - SUB TWO
1009 - STA BETA
1012 ALPHA RESW 1
1015 ONE WORD 2
1018 TWO WORD 5
1021 BETA RESW 1
1024 - END -
Program Length : 24
vimala_featz@vimala-featz:~/exp8$
```

symtab.txt:

```
1012> ALPHA
1015> ONE
1018> TWO
1021> BETA
```

Line 5, Column 1

copy.txt:

```
COPY> START> 1000
1000> -> LDA ALPHA
1003> -> ADD ONE
1006> -> SUB TWO
1009> -> STA BETA
1012> ALPHA> RESW> 1
1015> ONE> WORD> 2
1018> TWO> WORD> 5
1021> BETA> RESW> 1
1024> -> END>-
```

Line 1, Column 1