

Government Engineering College **Thrissur**

CS331 – System Software Lab Documentation **Exp12 – 2 Pass Macro Assembler**

Date of Submission: 23 November 2020

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Experiment 12:

To implement a 2 Pass Macro Assembler Compilation of Code Prerequisite

- The code is provided in the **program.c** file along with its documentation. You just need to run it on any compiler.
- Compile like *gcc program.c*
.la.exe
- The program 2 parts **Pass1** and **Pass2**.
- In the Pass 1 it scans the program and certain output files are generated. In pass 2 it takes outputs from pass 1 are taken as inputs and generate output.
- In **Pass1** program takes *minp2.txt* as input and generate *dtab2.txt* and *ntab.txt* as output.
- In **Pass2** input and output files from **Pass1** as inputs and generates *atab2.txt* and *op2.txt* as output.
- Output will be displayed in the terminal also.

at

Output Screenshots

Output of Pass 1

dtab.txt

```
E12 > upload > ≡ dtab2.txt
1    EX1  &A,&B
2    LDA  &A
3    STA  &B
4    MEND
```

ntab2.txt

```
E12 > upload > ≡ ntab2.txt
1    EX1
2
```

Output of Pass 2

atab2.txt

```
E12 > upload > ≡ atab2.txt
1    N1
2    N2
```

op2.txt

```
E12 > upload > ≡ op2.txt
1    SAMPLE  START  1000
2    .      EX1  N1,N2
3    -      LDA  N1
4    -      STA  N2
5    N1     RESW   1
6    N2     RESW   1
7    -      END   -
8
```

Terminal

```
PS C:\Users\rejat\Desktop\Assignment\ss lab\e12\upload> gcc .\program.c
PS C:\Users\rejat\Desktop\Assignment\ss lab\e12\upload> .\a.exe
PASS 1 completed
PASS 2 completed
Output
SAMPLE  START  1000
.      EX1    N1,N2
-      LDA    N1
-      STA    N2
N1     RESW   1
N2     RESW   1
-      END    -
PS C:\Users\rejat\Desktop\Assignment\ss lab\e12\upload> █
```