Government Engineering College, Thrissur

CS331 – System Software Lab

Documentation -

Exp 12 – Two Pass Macro Processor

Date of Submission
23 November 2020

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Experiment 12

AIM

Implement a two pass macro processor

Compiling of Code

Prerequisite

- The code is provided in **pass1.c** and **pass2.c** along with this documentation. You can open the terminal in Linux (Ubuntu 18.04 tested). Then run the command

  gcc pass1.c

  ./a.out

- Compile and run **pass1.c** using the above code.
- Input is given as text file. The text file contain the SIC or SIC/XE code. This input should be entered in ***minp2.txt*** file.
- We will get a success message in console if the code was executed without errors.
- After pass1 we will get some intermediate files as output – ***dtab2.txt, ntab2.txt***

  Here dtab2 is the definition tab and ntab is the name tab. Definition tab contains the definition of the macro code and the name tab contains the name of the macro

- Now Compile and run the **pass2.c,** same as the **pass1.c**
- Input for the pass 2 are – ***minp2.txt, dtab2.txt, ntab2.txt.*** *These files are the input files used in pass 1 and the intermediate files generated by the pass 2*
- We will get a success message in console if the code was executed without errors.
- We will get 2 output put files – ***op2.txt*** and ***atab2.txt***
- In ***op2.txt*** we get the EXPANDED code
- In ***atab2.txt*** we get the positional argument names used in the macro invocation

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Output / Screenshots

Pass1.c

Input –

minp2.txt

Exp12 > Uploads > minp2.txt

```
1   EX1 MACRO   &A,&B
2   -   LDA &A
3   -   STA &B
4   -   MEND    -
5   SAMPLE  START   1000
6   -   EX1 N1,N2
7   N1  RESW    1
8   N2  RESW    1
9   -   END -
10
```

Ouput

dtab2.txt

Exp12 > Uploads > dtab2.txt

```
1   EX1 &A,&B
2   LDA &A
3   STA &B
4   MEND
```

ntab2.txt

Exp12 > Uploads > ntab2.txt

```
1   EX1
2
```

Pass2.c
Input – Same as above input and output

Output
atab2.txt

```
Exp12 > Uploads > atab2.txt
1   N1
2   N2
```

op2.txt

```
Exp12 > Uploads > 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
```

Console

```
[hp@localhost Uploads]$ gcc pass1.c
[hp@localhost Uploads]$ ./a.out
PASS 1 is successful
[hp@localhost Uploads]$ gcc pass2.c
[hp@localhost Uploads]$ ./a.out
Pass 2 is succesful
[hp@localhost Uploads]$
```