**Experiment No.**

**Aim: Implementation of Macro processor**

**Pass 1**

#include<stdio.h>

#include<conio.h>

#include<string.h>

#include<stdlib.h>

void main() {

FILE \*f1,\*f2,\*f3;

char mne[20],opnd[20],la[20],ch;

clrscr();

f1=fopen("macro\_in.txt","r");

f2=fopen("mnt.txt","w+");

f3=fopen("mdt.txt","w+");

fscanf(f1,"%s %s %s",la,mne,opnd);

while(strcmp(mne,"MEND")!=0) {

if(strcmp(mne,"MACRO")==0) {

fprintf(f2,"%s\n",la);

fprintf(f3,"%s\t%s\n",la,opnd); }

else

fprintf(f3,"%s\t%s\n",mne,opnd);

fscanf(f1,"%s %s %s",la,mne,opnd); }

fprintf(f3,"%s",mne);

fclose(f1);

fclose(f2);

fclose(f3);

printf("Input File\n");

f1=fopen("macro\_in.txt","r");

while((ch=fgetc(f1))!=EOF)

printf("%c",ch);

fclose(f1);

printf("\nMacro Name Table\n");

f2=fopen("mnt.txt","r");

while((ch=fgetc(f2))!=EOF)

printf("%c",ch);

fclose(f2);

printf("\nMacro Definition Table\n");

f3=fopen("mdt.txt","r");

while((ch=fgetc(f3))!=EOF)

printf("%c",ch);

fclose(f3);

getch();

}

Output

Input File

DISP MACRO &A,&B

- L &A

- ST &B

- MEND -

SAMPLE START 1000

- DISP N1,N2

N1 DC F'1'

N2 DC F'1'

- END -

Macro Name Table

DISP

Macro Definition Table

DISP &A,&B

L &A

ST &B

MEND

**Pass 2**

#include<stdio.h>

#include<conio.h>

#include<string.h>

#include<stdlib.h>

void main() {

FILE \*f1,\*f2,\*f3,\*f4,\*f5;

int i,len;

char mne[20],opnd[20],la[20],name[20],mne1[20],opnd1[20],arg[20],ch;

clrscr();

f1=fopen("macro\_in.txt","r");

f2=fopen("mnt.txt","r");

f3=fopen("mdt.txt","r");

f4=fopen("ala.txt","w+");

f5=fopen("op.txt","w");

fscanf(f1,"%s %s %s",la,mne,opnd);

while(strcmp(mne,"END")!=0) {

if(strcmp(mne,"MACRO")==0) {

fscanf(f1,"%s %s %s",la,mne,opnd);

while(strcmp(mne,"MEND")!=0)

fscanf(f1,"%s %s %s",la,mne,opnd); }

else {

fscanf(f2,"%s",name);

if(strcmp(mne,name)==0) {

len=strlen(opnd);

for(i=0;i<len;i++) {

if(opnd[i]!=',')

fprintf(f4,"%c",opnd[i]);

else

fprintf(f4,"\n"); }

fseek(f2,SEEK\_SET,0);

fseek(f4,SEEK\_SET,0);

fscanf(f3,"%s%s",mne1,opnd1);

fprintf(f5,".\t%s\t%s\n",mne1,opnd);

fscanf(f3,"%s%s",mne1,opnd1);

while(strcmp(mne1,"MEND")!=0) {

if((opnd1[0]=='&')) {

fscanf(f4,"%s",arg);

fprintf(f5,"-\t%s\t%s\n",mne1,arg); }

else

fprintf(f5,"-\t%s\t%s\n",mne1,opnd1);

fscanf(f3,"%s%s",mne1,opnd1); } }

else

fprintf(f5,"%s\t%s\t%s\n",la,mne,opnd); }

fscanf(f1,"%s %s %s",la,mne,opnd); }

fprintf(f5,"%s\t%s\t%s\n",la,mne,opnd);

fclose(f1);

fclose(f2);

fclose(f3);

fclose(f4);

fclose(f5);

f4=fopen("ala.txt","r");

printf("\nArgument List Array\n");

while((ch=fgetc(f4))!=EOF)

printf("%c",ch);

fclose(f4);

printf("\nExpanded Code\n");

f5=fopen("op.txt","r");

while((ch=fgetc(f5))!=EOF)

printf("%c",ch);

fclose(f5);

getch(); }

Output

Argument List Array

N1

N2

Expanded Code

SAMPLE START 1000

. DISP N1,N2

- L N1

- ST N2

N1 DC F'1'

N2 DC F'1'

- END -