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//Roll No:25 Batch:T2

// Macro Pass I Program

#include<stdio.h>

#include<conio.h>

#include<string.h>

struct mnt

{

char mnm[50];

int index;

}mnt[50];

FILE \*fp,\*fp1,\*fp2,\*fp3;

void read(char ch,FILE \*fp);

void callmac() ;

int mntc=0,mdtc=0,flag=0;

char instr[50][50];

char buff[50];

void main()

{

int i,j;

char ch;

clrscr();

fp=fopen("in.txt","r");

fp1=fopen("inter.dat","w");

fp2=fopen("mdt.dat","w");

fp3=fopen("mnt.dat","w");

printf("\n\n Input File\n");

printf("\n ======================================\n");

while(!feof(fp))

{

ch=fgetc(fp);

printf("%c",ch);

}

rewind(fp);

do

{

read(getc(fp),fp);

if(strcmp(buff,"MACRO")!=0)

{

fprintf(fp1,"\n%s",buff);

}

else

{

callmac();

}

}while(strcmp(buff,"END")!=0);

printf("\n\n MNT TABLE");

printf("\n ======================================");

printf("\nMacro Name\tStarting index");

for(i=0;i<mntc;i++)

{

printf("\n %s \t \t%d",mnt[i].mnm,mnt[i].index);

}

printf("\n\n MDT TABLE");

printf("\n ======================================");

printf("\nopcode\t\tIndex\n");

for(i=0;i<mdtc;i++)

{

printf("\n %s\t\t%d ",instr[i],i);

}

fclose(fp);

fclose(fp1);

fclose(fp2);

fclose(fp3);

fp1=fopen("inter.dat","r");

printf("\n \nIntermidete code");

printf("\n ======================================");

while(!feof(fp))

{

ch=fgetc(fp1);

printf("%c",ch);

}

fclose(fp1);

printf("\n");

getch();

}

void read(char ch,FILE \*fp)

{

// char buff[50];

int i=0;

while(ch!='\n' && ch!=EOF)

{

buff[i++]=ch;

ch=getc(fp);

}

buff[i]='\0';

}

void callmac()

{

read(getc(fp),fp) ;

strcpy(mnt[mntc].mnm,buff);

fprintf(fp3,"\n%s",buff);

mnt[mntc].index=mdtc;

mntc++;

strcpy(instr[mdtc],buff);

mdtc++;

do

{

read(getc(fp),fp) ;

strcpy(instr[mdtc],buff);

fprintf(fp2,"\n%s",buff);

mdtc++;

}while(strcmp(buff,"MEND")!=0);

}

//----------------------------------------------------------------------------------

// OUTPUT

Input File

======================================

START 101

ABC

MNO

COMP CREG,N

MACRO

ABC

MOVEM AREG,A

MEND

MACRO

MNO

ADD AREG,A

MEND

END

MNT TABLE

======================================

Macro Name Starting index

ABC 0

MNO 3

MDT TABLE

======================================

opcode Index

ABC 0

MOVEM AREG,A 1

MEND 2

MNO 3

ADD AREG,A 4

MEND 5

Intermediate code

======================================

START 101

ABC

MNO

COMP CREG,N

END