#include<stdio.h>

#include<string.h>

#include<stdlib.h>

void LReliminator(char prod[]);

void main()

{

char stmt[50];

FILE \*fp = fopen("test\_file.c", "r");

if(fp == NULL)

{

perror("Unable to open file!");

exit(1);

}

while(fgets(stmt, sizeof(stmt), fp) != NULL)

{

LReliminator(stmt);

strcpy(stmt,"\0");

}

fclose(fp);

}

void LReliminator(char prod[])

{

int i,j=0,c=0;

char \* token = strtok(prod,"->"),lhs[20]="",rhs[20]="";

char tokens[20][20],alpha[20];

while( token != NULL )

{

strcpy(tokens[c++],token);

token = strtok(NULL, "->");

}

//printf("%s\n%s\n",tokens[0],tokens[1]);

strcpy(lhs,tokens[0]);

strcpy(rhs,tokens[1]);

for(i=0;i<strlen(lhs);i++)

{

if(lhs[i]==rhs[i])

{

continue;

}

else

{

j=1;

break;

}

}

if(j==1)

{

printf("%s->%s\n",lhs,rhs);

return;

}

for(j=0;rhs[i]!='|';i++,j++)

{

alpha[j]=rhs[i];

}

alpha[i]='\0';

j=-1;

for(i=0;i<strlen(rhs);i++)

{

if(rhs[i]=='|')

{

j=i;

break;

}

}

if(j==-1)

{

printf("LR cant be eliminated\n");

return;

}

c=0;

char \*tok=strtok(rhs,"|");

while( tok != NULL )

{

strcpy(tokens[c++],tok);

tok = strtok(NULL,"|");

}

if(tokens[c-1][strlen(tokens[c-1])-1]=='\n')

{

tokens[c-1][strlen(tokens[c-1])-1]='\0';

}

printf("%s->",lhs);

i=1;

while(i<c)

{

if(i!=c-1)

printf("%s%s'|",tokens[i],lhs);

else

printf("%s%s'",tokens[i],lhs);

i++;

}

printf("\n%s'->(epsilon)|%s%s'\n",lhs,alpha,lhs);

}

/\*

Input File:

E->E+T|T

T->T\*F|F

F->i

Output:

E->TE'

E'->(epsilon)|+TE'

T->FT'

T'->(epsilon)|\*FT'

F->i

\*/