LL(1) parser:

#include<stdio.h>

#include<string.h>

void main(){

char str[25],st[25],\*temp,v,ch,ch1;

char t[5][6][10]={"$","$","TX","TX","$","$",

"+TX","$","$","$","e","e",

"$","$","FY","FY","$","$",

"e","\*FY","$","$","e","e",

"$","$","i","(E)","$","$"};

int i,k,n,top=-1,r,c,m,flag=0;

void push(char t)

{

top++;

st[top]=t;

}

char pop()

{

ch1=st[top];

top--;

return ch1;

}

}

int main()

{

printf("enter the string:\n");

scanf("%s",str);

n=strlen(str);

str[n++]='$';

i=0;

push('$');

push('E');

printf("stack\tinput\toperation\n");

while(i<n)

{

for(k=0;k<=top;k++)

printf("%c",st[k]);

printf("\t");

for(k=i;k<n;k++)

printf("%c",str[k]);

printf("\t");

if(flag==1)

printf("pop");

if(flag==2)

printf("%c->%s",ch,t[r][c]);

if(str[i]==st[top])

{

flag=1;

ch=pop();

i++;

}

else

{

flag=2;

if(st[top]=='E')

r=0;

else if(st[top]=='X')

r=1;

else if(st[top]=='T')

r=2;

else if(st[top]=='Y')

r=3;

else if(st[top]=='F')

r=4;

else

break;

if(str[i]=='+')

c=0;

else if(str[i]=='\*')

c=1;

else if(str[i]=='i')

c=2;

else if(str[i]=='(')

c=3;

else if(str[i]==')')

c=4;

else if(str[i]=='$')

c=5;

else

break;

if(strcmp(t[r][c],"$")==0)

break;

ch=pop();

temp=t[r][c];

m=strlen(temp);

if(strcmp(t[r][c],"e")!=0)

{

for(k=m-1;k>=0;k--)

push(temp[k]);

}

}

printf("\n");

}

if(i==n)

printf("\nparsed successfully");

else

printf("\nnot parsed");

}

Output:

