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9.C program for LL(1) PARSING

#include<stdio.h>

#include<string.h>

char s[20],stack[20];

int main()

{

char m[5][6][3]={"tb"," "," ","tb"," "," "," ","+tb"," "," ","n","n","fc"," "," ","fc"," "," "," ","n","\*fc"," a ","n","n","i"," "," ","(e)"," "," "};

int size[5][6]={2,0,0,2,0,0,0,3,0,0,1,1,2,0,0,2,0,0,0,1,3,0,1,1,1,0,0,3,0,0};

int i,j,k,n,str1,str2;

printf("\n Enter the input string: ");

scanf("%s",s);

strcat(s,"$");

n=strlen(s);

stack[0]='$';

stack[1]='e';

i=1;

j=0;

printf("\nStack Input\n");

printf(" \n");

while((stack[i]!='$')&&(s[j]!='$'))

{

if(stack[i]==s[j])

{

i--;

j++;

}

switch(stack[i])

{

case 'e':

str1=0; break; case 'b':

str1=1; break; case 't':

str1=2; break; case 'c':

str1=3; break; case 'f':

str1=4; break;

}

switch(s[j])

{ case 'i':

str2=0; break; case '+':

str2=1; break;

case '\*': str2=2; break;

case '(': str2=3; break;

case ')': str2=4; break;

case '$': str2=5; break;

}

if(m[str1][str2][0]=='\0')

{

printf("\nERROR");

exit(0);

}

else if(m[str1][str2][0]=='n') i--;

else if(m[str1][str2][0]=='i') stack[i]='i';

else

{

for(k=size[str1][str2]-1;k>=0;k--)

{

stack[i]=m[str1][str2][k]; i++;

}

i--;

}

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

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

printf(" "); for(k=j;k<=n;k++);

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

printf(" \n ");

}

printf("\n SUCCESS");

}

