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#include<stdio.h>

#include<string.h>

int k=0,z=0,i=0,j=0,c=0;

char a[16],ac[20],stk[15],act[10];

void check();

int main()

{

    puts("GRAMMAR is E->E+E \n E->E*E \n E->(E) \n E->id");

    puts("enter input string ");

    gets(a);

    c=strlen(a);

    strcpy(act,"SHIFT->");

    puts("stack \t input \t action");

    for(k=0,i=0; j<c; k++,i++,j++)

    {

        if(a[j]=='i' && a[j+1]=='d')

        {

            stk[i]=a[j];

            stk[i+1]=a[j+1];

            stk[i+2]='\0';

            a[j]=' ';

            a[j+1]=' ';

            printf("\n%s\t\t%s\t\t%s",stk,a,act);

            check();

```

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    }
else
{
    stk[i]=a[j];
    stk[i+1]='\0';
    a[j]=' '; printf("\n$%s\t%s$\t%ssymbols",stk,a,act);
    check();
}
}
return 0;
}

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void check() {
    strcpy(ac,"REDUCE TO E");
    for(z=0; z<c; z++)
        if(stk[z]=='i' && stk[z+1]=='d')
        {
            stk[z]='E';
            stk[z+1]='\0';
            printf("\n$%s\t%s$\t%s",stk,a,ac);
            j++;
        }
    for(z=0; z<c; z++)
        if(stk[z]=='E' && stk[z+1]=='+' && stk[z+2]=='E')

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{
    stk[z]='E';

    stk[z+1]='\0';

    stk[z+2]='\0';

    printf("\n$%s\t%s$\t%s",stk,a,ac);

    i=i-2;

}

for(z=0; z<c; z++)

if(stk[z]=='E' && stk[z+1]=='*' && stk[z+2]=='E') {

    stk[z]='E';

    stk[z+1]='\0';

    stk[z+2]='\0';

    printf("\n$%s\t%s$\t%s",stk,a,ac);

    i=i-2;

}

for(z=0; z<c; z++)

if(stk[z]=='(' && stk[z+1]=='E' && stk[z+2]==')'){

    stk[z]='E';

    stk[z+1]='\0';

    stk[z+1]='\0';

printf("\n$%s\t%s$\t%s",stk,a,ac);

    i=i-2;

}

}

```

