//Intermediatecode

import java.util.\*;

import java.io.\*;

class imCode{

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

String str;

int i,j,top,index=0,max=48,n,top2=0;

System.out.println("Enter the code line:");

str = sc.nextLine();

top = str.length();

char ip[] = new char[top];

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

ip[i] = str.charAt(i);

top--;

char addr3[][] = new char[15][5];

for( i=0; i<15; i++ )

addr3[i][1] = '=';

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

if( ip[i]>='0' && ip[i]<='9' ) {

addr3[top2][2] = ip[i];

ip[i] = (char)max++;

addr3[top2][0] = ip[i];

top2++;

}

while( top > 3 ){

for( i=0; i<=top; i++ ) {

if( ip[i]==')' ) {

if(ip[i-2]=='(' ) {

top--;

for( j=i; j<=top; j++)

ip[j] = ip[j+1];

top--;

for( j=i-2; j<=top; j++ )

ip[j] = ip[j+1];

i=i-2; index = -1;

break;

}

else {

index = i-2;

for( j=i-1; j>=0; j-- )

if( ip[j] == '(' )

break;

else if( ip[j] == '\*' ) {

index = j;

break;

}

}

if(i<=top) break;

}

}

if( i > top ){

index = top-1;

for( j=top; j>=0; j-- )

if( ip[j] == '\*' ){

index = j;

break;

}

}

if( index >0) {

addr3[top2][2] = ip[index-1];

addr3[top2][3] = ip[index];

addr3[top2][4] = ip[index+1];

ip[index-1] = (char)max;

addr3[top2][0] = ip[index-1];

top2++;

max++;

top = top-2;

for( i=index; i<=top; i++ )

ip[i] = ip[i+2];

}

}

for( i=0; i<3; i++ )

addr3[top2][i] = ip[i];

top2++;

System.out.println("\nThree address code is:");

for( i=0; i<3; i++ )

for( i=0; i<top2; i++ ) {

if( ( addr3[i][0]>='0' && addr3[i][0]<='9' ) && ( addr3[i][2]>='0' && addr3[i][2]<='9' ) && (addr3[i][3]=='\0'))

System.out.print("temp"+addr3[i][0]+" "+addr3[i][1]+" "+addr3[i][2]);

else

for( j=0; j<5; j++ ) {

if( addr3[i][j]>='0' && addr3[i][j]<='9' )

System.out.print("temp");

System.out.print(addr3[i][j]+" ");

}

System.out.println("");

}

}

}



/\*

OUTPUT

Enter the code line:

a=(b+c)\*(d+e)

Three address code is:

temp0 = b + c

temp1 = d + e

temp2 = temp0 \* temp1

a = temp2

\*/