#include<stdio.h>

#include<string.h>

void main()

{

char reg[20];

int q[20][3]={0},i=0,j=1,len,a,b;

printf("Enter regular expression: ");

scanf("%s",reg);

len=strlen(reg);

while(i<len)

{

if(reg[i]=='a'&&reg[i+1]!='|'&&reg[i+1]!='\*')

{

q[j][0]=j+1;

j++;

}

if(reg[i]=='b'&&reg[i+1]!='|'&&reg[i+1]!='\*')

{

q[j][1]=j+1;

j++;

}

if(reg[i]=='e'&&reg[i+1]!='|'&&reg[i+1]!='\*')

{

q[j][2]=j+1;

j++;

}

if(reg[i]=='a'&&reg[i+1]=='|'&&reg[i+2]=='b')

{

q[j][2]=((j+1)\*10)+(j+3);

j++;

q[j][0]=j+1;

j++;

q[j][2]=j+3;

j++;

q[j][1]=j+1;

j++;

q[j][2]=j+1;

j++;

**i=i+2;**

}

if(reg[i]=='b'&&reg[i+1]=='|'&&reg[i+2]=='a')

{

q[j][2]=((j+1)\*10)+(j+3);

j++;

q[j][1]=j+1;

j++;

q[j][2]=j+3;

j++;

q[j][0]=j+1;

j++;

q[j][2]=j+1;

j++;

**i=i+2;**

}

if(reg[i]=='a'&&reg[i+1]=='\*')

{

q[j][2]=((j+1)\*10)+(j+3);

j++;

q[j][0]=j+1;

j++;

q[j][2]=((j+1)\*10)+(j-1);

j++;

}

if(reg[i]=='b'&&reg[i+1]=='\*')

{

q[j][2]=((j+1)\*10)+(j+3);

j++;

q[j][1]=j+1;

j++;

q[j][2]=((j+1)\*10)+(j-1);

j++;

}

if(reg[i]==')'&&reg[i+1]=='\*')

{

q[0][2]=((j+1)\*10)+1;

q[j][2]=((j+1)\*10)+1;

j++;

}

**i++;**

}

printf("\n\tTransition Table \n");

printf("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n");

printf("Current State |\tInput |\tNext State");

printf("\n\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n");

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

{

if(q[i][0]!=0)

printf("\n Q[%d]\t | a | q[%d]",i,Q[i][0]);

if(q[i][1]!=0)

printf("\n Q[%d]\t | b | Q[%d]",i,q[i][1]);

if(q[i][2]!=0)

{

if(q[i][2]<10)

printf("\n Q[%d]\t | e | Q[%d]",i,q[i][2]);

else

printf("\n Q[%d]\t | e | Q[%d] , Q[%d]",i,q[i][2]/10,q[i][2]%10);

}

}

}