import java.io.\*;

class P1

{

public static void main(String ar[])throws IOException

{

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

int i;

String a[][]={{"","START","101",""},

{"","MOVER","BREG","ONE"},

{"AGAIN","MULT","BREG","TERM"},

{"","MOVER","CREG","TERM"},

{"","ADD","CREG","N"},

{"","MOVEM","CREG","TERM"},

{"N","DS","2",""},

{"RESULT","DS","2",""},

{"ONE","DC","1",""},

{"TERM","DS","1",""},

{"","END","",""}};

int lc=Integer.parseInt(a[0][2]);

String st[][]=new String[5][2];

int cnt=0,l;

for (i=1;i<11;i++)

{

if (a[i][0]!="")

{

st [cnt][0]=a[i][0];

st[cnt][1]=Integer.toString(lc);

cnt++;

if(a[i][1]=="DS")

{

int d=Integer.parseInt(a[i][2]);

lc=lc+d;

}

else

{

lc++;

}

}

else

{

lc++;

}

}

System.out.print("\*\*\*SYMBOL TABLE\*\*\*\*\n");

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

for(i=0;i<5;i++)

{

for(cnt=0;cnt<2;cnt++)

{

System.out.print(st[i][cnt]+"\t");

}

System.out.println();

}

String inst[]={"STOP","ADD","SUB","MULT","MOVER","MOVEM","COMP","BC","DIV","READ","PRINT"};

String reg[]={"NULL","AREG","BREG","CREG","DREG"};

int op[][]=new int[12][3];

int j,k,p=1,cnt1=0;

for(i=1;i<11;i++)

{

for(j=0;j<11;j++)

{

if(a[i][1].equalsIgnoreCase(inst[j]))

{

op[cnt1][0]=j;

}

else

if(a[i][1].equalsIgnoreCase("DS"))

{

p=Integer.parseInt(a[i][2]);

}

else if(a[i][1].equalsIgnoreCase("DC"))

{

op[cnt1][2]=Integer.parseInt(a[i][2]);

}

}

for(k=0;k<5;k++)

{

if(a[i][2].equalsIgnoreCase(reg[k]))

{

op[cnt1][1]=k;

}

}

for(l=0;l<5;l++)

{

if(a[i][3].equalsIgnoreCase(st[l][0]))

{

int mn=Integer.parseInt(st[l][1]);

op[cnt1][2]=mn;

}

}

cnt1=cnt1+p;

}

System.out.println("\n \*\*\*\*\*OUTPUT\*\*\*\*\*\n");

System.out.println("\*\*\*\*\*\*\*\*\*\*MOT TABLE\*\*\*\*\*\*\*\*\*\*");

int dlc=Integer.parseInt(a[0][2]);

for(i=0;i<12;i++)

{

System.out.print(dlc+++"\t");

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

{

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

}

System.out.println();

}

System.out.println("");

}

}