LISTING 1

```
10 MODE 1:BORDER 10
20 ' **************************
30 ' *                        *
40 ' *    REVISION CHIMIE     *
50 ' *                        *
60 ' *    Par CARIN J-Marie   *
70 ' *                        *
80 ' **************************
90 FOR r=1 TO 55:READ x,y,z:LOCATE
 x+5,y:PRINT CHR$(z)
100 DATA 5,10,214,6,10,143,7,10,14
3,5,11,143,5,12,143,5,13,143,5,14,
213,6,14,143,7,14,143,9,14,143,9,1
3,143,9,12,143,9,11,143,9,10,143,1
1,10,143,11,11,143,11,12,143,11,13
,143,11,14,143,13,8,231,13,10,143,
13,11,143,13,12,143,13,13,143,13,1
4,143,10,12,131
110 DATA 15,10,143,15,11,143,15,12
,143,15,13,143,15,14,143,16,10,215
,17,11,215,18,11,214,19,10,214,20,
10,143,20,11,143,20,12,143,20,13,1
43,20,14,143,22,10,143,22,11,143,2
2,12,143,22,13,143,22,14,143,24,10
,143,24,11,143,24,12,143,24,13,143
,24,14,143
120 DATA 25,10,143,26,10,143,25,14
,143,26,14,143,25,12,133
200 NEXT
210 FOR t=1 TO 24:LOCATE 8+t,16:PR
INT CHR$(127):NEXT
220 LOCATE 9,20:PRINT"Realise Par
CARIN J-Marie":PRINT:PRINT:PRINT
230 RUN"chimie
```

LISTING 2

```
10  CLS:MODE 1:BORDER 12
50 '
120 ' REDEF DES CARACTERES
122 '
125 SYMBOL AFTER 32
126 SYMBOL 65,60,36,36,126,98,98,9
8,0:SYMBOL 66,124,68,68,126,98,98,
126,0:SYMBOL 67,126,66,64,96,96,98
,126,0:SYMBOL 68,126,66,66,98,98,9
8,126,0
127 SYMBOL 69,126,64,64,124,96,96,
126,0:SYMBOL 70,126,96,96,120,64,6
4,64,0:SYMBOL 71,126,66,64,102,98,
98,126,0:SYMBOL 72,66,66,66,126,98
,98,98,0:SYMBOL 73,32,32,32,48,48,
48,48,0
128 SYMBOL 74,4,4,4,6,70,102,126,0
:SYMBOL 75,66,70,76,126,98,98,98,0
:SYMBOL 76,64,64,64,96,96,96,124,0
:SYMBOL 77,126,74,74,106,106,106,1
06,0:SYMBOL 78,126,66,66,98,98,98,
98,0:SYMBOL 79,126,70,70,66,66,66,
126,0:SYMBOL 80,126,66,70,126,96,9
6,96,0:
129 SYMBOL 81,126,66,66,106,66,70,
127,3:SYMBOL 82,124,68,68,126,98,9
8,98,0:SYMBOL 83,126,70,64,126,6,7
0,126,0:SYMBOL 84,126,16,16,16,24,
24,24,0:SYMBOL 85,66,66,66,98,98,9
8,126,0:SYMBOL 86,98,98,98,98,36,3
6,60,0:SYMBOL 87,106,106,74,74,74,
74,126,0:
130 SYMBOL 88,70,70,44,56,52,98,98
,0:SYMBOL 89,70,70,66,126,24,24,24
,0:SYMBOL 90,126,6,8,16,32,102,126
,0
131 SYMBOL 91,0,0,0,64,192,64,64,6
4:SYMBOL 92,0,0,0,96,144,32,64,240
:SYMBOL 93,0,0,0,224,16,96,16,224:
SYMBOL 94,0,0,0,32,96,160,224,32
132 SYMBOL 130,32,32,248,32,32,0,0
,0:SYMBOL 129,0,0,248,0,0,0,0,0:SY
MBOL 255,2,2,2,2,2,2,2,2:SYMBOL 25
4,128,128,128,128,128,128,128,128:
SYMBOL 253,255,0,0,0,0,0,0,0
5010 CLS:BORDER 10
5015 '
5020 ' DEFINITIONS DES FENETRES
5025 '
5030 MODE 1:PAPER 12:WINDOW #1,3,3
7,3,12:PAPER #1,10:CLS #1
5040 WINDOW #2,3,12,17,23:PAPER #2
,10:CLS #2
5050 WINDOW#3,17,37,17,23:PAPER#3,
3:CLS #3
5100 FOR T=1 TO 37:LOCATE 1+T,1:PR
INT "_":NEXT T:FOR T1=1 TO 12:LOCA
TE 1,1+T1:PRINT CHR$(255):NEXT T1:
FOR T=1 TO 12:LOCATE 39,T+1:PRINT
CHR$(254):NEXT T:FOR U=1 TO 37:LOC
ATE 1+U,14:PRINT CHR$(253):NEXT U
5110 FOR T=1 TO 12:LOCATE 1+T,15:P
RINT"_":LOCATE 1+T,25:PRINT CHR$(2
53):NEXT T:FOR T1=1 TO 9:LOCATE 1,
15+T1:PRINT CHR$(255):LOCATE 14,15
+T1:PRINT CHR$(254):NEXT T1
5120 FOR T=1 TO 23:LOCATE 15+T,15:
PRINT "_":LOCATE 15+T,25:PRINT CHR
$(253):NEXT T:FOR T1=1 TO 9:LOCATE
 15,15+T1:PRINT CHR$(255):LOCATE 3
9,15+T1:PRINT CHR$(254):NEXT T1
5199 '
5200 ' MENU
5201 '
5205 PEN #1,4
5210 CLS #1::BORDER 10,12:LOCATE #
1,1,3:PRINT #1,"--1- EXPLICATIONS"

5220 LOCATE #1,1,5:PRINT #1,"--2-
EQUILIBRAGE D'EQUATIONS"
5235 LOCATE #1,10,8:INPUT #1,"VOTR
E CHOIX";CH
5240 IF CH<1 OR CH>2 THEN 5230
5250 ON CH GOSUB 7010,10000
6999 '
7000 ' COURS SUR L'EQUILIBRAGE D'E
QUATIONS
7001 '
7010 MODE 1:CLS
7020 PRINT"

IL VOUS FAUDRA AU COURS DE CE LOGI
CIEL, FAIRE APPEL A  VOS SOUVENIRS
 DE CLASSE. VOTRE ROLE  EST  SIMPL
E, EQUILIBRER LES EQUATIONS CHIMIQ
UES . CET EXERCICE TRES UTILE,DOIT
 ETRE PARFAITEMENT MAITRISE   POUR
 ENTRER EN 6eme.
7030 PRINT "
MAIS VOICI D'ABORD UN PETIT RAPPEL
 . POUR EQUILIBRER  UNE EQUATION ,
IL FAUT  QUE LE NOMBRE DE MOLES DE
 CHAQUE ESPECE SOIT  IDENTIQUE  DE
 CHAQUE COTE  DE LA  FLECHE."
7040 FOR T=1 TO 9000:NEXT T
7050 CLS:PRINT "
VOICI UN EXEMPLE:"
7060 PRINT "

XH + YO"+CHR$(92)+" --> 2H"+CHR$(9
2)+"O"
7070 PRINT "

COMME NOUS POUVONS LE VOIR X ET Y
SONT  LES COEFFICIENTS DE H ET DE
O"+CHR$(92)+"."
7080 PRINT "
 COMBIEN  NOUS  FAUT-IL DE  MOLES
 D'HYDROGENE ET DE MOLES D'OXYGENE
 POUR  FORMER DEUX MOLES D'EAU."
7090 PRINT"
ESSAYONS LE RAISONNEMENT SUIVANT .
 NOUS  AVONS  4 MOLES  D'HYDROGENE
  ET 2 MOLES D'OXYGENE A DROITE, I
L NOUS FAUT  DONC LE MEME NOMBRE D
E MOLES A GAUCHE.X SERA DONC EGAL
A 4 ET Y A 1.SIMPLE NON! !!!."
8000 FOR t=1 TO 10000:NEXT t
8010 FOR t=1 TO 10000:NEXT t:CLS:
8020 PRINT"


POUR LES EQUATIONS ELECTRONIQUES,L
E RAISONNEMENT EST IDENTIQUE.SAUF
QU'IL   VOUS FAUDRA  EQUILIBRER  L
E  NOMBRE  DE MOLES D'ELECTRONS.VO
ICI UN EXEMPLE."
8030 PRINT "


M9 --> M92";+CHR$(129);" +2e";CHR$
(130)
8040 PRINT "
DANS CE CAS LES 2 POSITIFS ANNULEN
T  LES 2 NEGATIFS."
8060 FOR T=1 TO 10000:NEXT T
8090 PRINT"


IL VOUS SERA TRES FACILE DE CRER
VOUS MEMES VOS EXERCICES.DANS LES
DATAS SE TROUVENT LES COORDONNEES
ET LA VALEURASCII  DU CARACTERE .P
OUR  VOUS  AIDER  SUIVEZ LE MODELE
 QUI VOUS EST PRESENTE."
8095 FOR T=1 TO 10000:NEXT T
8100   CLS:PRINT"


VOICI UN TABLEAU DES CARACTERES.
      A->CHR$(65):B->CHR$(66)...ET
C            CHR$(91)= ";CHR$(91);"
:CHR$(92)= ";CHR$(92)+"..ETC";"  E
T CHR$(129)= ";CHR$(129);":CHR$(13
0)= ";CHR$(130)
9999 FOR t=1 TO 10000:NEXT t:GOTO
5020
10000 '
10001 ' EQUILIBRAGE D'EQUATIONS
10002 '
10005 sc=0
10010 CLS #1
10015 CLS #2:PEN #2,4:LOCATE #2,1,
2:PRINT #2,"RETOUR=123":LOCATE #2,
1,4:PRINT #2,"SCORE:"
10017 '
10018 ' 1ER EXERCICE
10019 '
10020 V=15:S1=2:S2=4:CH1$=CHR$(79)
+CHR$(92):CH2$=CHR$(72)+CHR$(92)+C
HR$(79):LOCATE #1,2,2:PRINT #1,"FO
RMATION DE LA MOLECULE D'EAU":GOSU
B 20000
10040 DATA 5,4,52,6,4,72,7,4,92,9,
4,43,11,4,88,12,4,79,13,4,92,15,4,
154,16,4,154,17,4,154,18,4,197,20,
4,89,21,4,72,22,4,92,23,4,79
10050 GOSUB 30000
10060 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
2em EXERCICE"
10065 FOR t=1 TO 50:NEXT t
10069 '
10070 ' 2EM EXERCICE
10071 '
10075 CLS #3:CLS #1:V=13:S1=3:S2=3
:CH1$=CHR$(79)+CHR$(92):CH2$=CHR$(
67)+CHR$(79)+CHR$(92):LOCATE #1,2,
2:PRINT #1,"FORMATION DE GAZ CARBO
NIQUE":GOSUB 20000
10080 DATA 5,4,51,6,4,67,8,4,43,10
,4,88,11,4,79,12,4,92,14,4,154,15,
4,154,16,4,197,18,4,89,19,4,67,20,
4,79,21,4,92
10085 GOSUB 30000
10090 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
3em EXERCICE"
10095 FOR t=1 TO 50:NEXT t
10099 '
10100 ' 3EM EXERCICE
10101 '
10110 CLS #3:CLS #1:V=14:S1=1:S2=2
:CH1$=CHR$(79)+CHR$(92):ch2$=CHR$(
77)+CHR$(103)+CHR$(79):LOCATE #1,2
,2:PRINT #1,"FORMATION D'OXYDE DE
MAGNESIUM":GOSUB 20000
10120 DATA 5,4,50,6,4,77,7,4,103,9
,4,43,11,4,88,12,4,79,13,4,92,15,4
,154,16,4,154,17,4,197,19,4,89,20,
4,77,21,4,103,22,4,79
10130 GOSUB 30000
10140 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
4em EXERCICE"
10145 FOR t=1 TO 50:NEXT t
10149 '
10150 ' 4EM EXERCICE
10151 '
10160 CLS #3:CLS #1:V=18:S1=3:S2=2
:CH1$=CHR$(83):ch2$=CHR$(72)+CHR$(
92)+CHR$(79):LOCATE #1,2,2:PRINT #
1,"FORMATION D'EAU ET DE SOUFRE":G
OSUB 20000
10170 DATA 5,4,50,6,4,72,7,4,92,8,
4,83,10,4,43,12,4,83,13,4,79,14,4,
92,16,4,154,17,4,154,18,4,197,20,4
,88,21,4,83,23,4,43,25,4,89,26,4,7
2,27,4,92,28,4,79
10180 GOSUB 30000
10190 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
5em EXERCICE"
10195 FOR t=1 TO 50:NEXT t
10199 '
10200 ' 5EM EXERCICE
10201 '
10210 CLS #3:CLS #1:V=18:S1=3:s2=2
:CH1$=CHR$(67)+CHR$(111):ch2$=CHR$
(70)+CHR$(101):LOCATE #1,2,2:PRINT
 #1,"FORMATION DE FER ET D'OXYDE "
:GOSUB 20000
10220 DATA 5,4,70,6,4,101,7,4,92,8
,4,79,9,4,93,11,4,43,13,4,51,14,4,
67,16,4,154,17,4,154,18,4,197,20,4
,88,21,4,67,22,4,111,24,4,43,26,4,
89,27,4,70,28,4,101
10230 GOSUB 30000
10240 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
6em EXERCICE"
10245 FOR t=1 TO 50:NEXT t
10299 '
10300 ' 6EM EXERCICE
10301 '
10310 CLS #3:CLS #1:V=19:S1=4:S2=6
:CH1$=CHR$(78)+CHR$(72)+CHR$(93):c
h2$=CHR$(72)+CHR$(92)+CHR$(79):LOC
ATE #1,2,2:PRINT #1,"FORMATION D'A
ZOTE ET D'EAU":GOSUB 20000
10320 DATA 5,4,88,6,4,78,7,4,72,8,
4,93,10,4,43,12,4,51,13,4,79,14,4,
92,16,4,154,17,4,154,18,4,197,20,4
,50,21,4,78,22,4,92,24,4,43,26,4,8
9,27,4,72,28,4,92,29,4,79
10330 GOSUB 30000
10340 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
7em EXERCICE"
10345 FOR T=1 TO 50:NEXT T
10349 '
10350 ' 7EM EXERCICE
10351 '
10360 CLS #3:CLS #1:V=21:S1=2:S2=2
:CH1$=CHR$(65)+CHR$(108):ch2$=CHR$
(70)+CHR$(101):LOCATE #1,2,2:PRINT
 #1,"FORMATION DE FER ET D'OXYDE D
'ALU.":GOSUB 20000
10370 DATA 5,4,70,6,4,101,7,4,92,8
,4,79,9,4,93,11,4,43,13,4,88,15,4,
65,16,4,108,18,4,154,19,4,154,20,4
,197,22,4,89,23,4,70,24,4,101,26,4
,43,28,4,65,29,4,108,30,4,92,31,4,
79,32,4,93
10380 GOSUB 30000
10390 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
8em EXERCICE"
10395 FOR T=1 TO 50:NEXT T
10399 '
10400 ' 8EM EXERCICE
10401 '
10410 CLS #3:CLS #1:V=27:S1=8:S2=4
:CH1$=CHR$(72)+CHR$(92)+CHR$(79):c
h2$=CHR$(67)+CHR$(92)+CHR$(72)+CHR
$(92):GOSUB 20000
10420 DATA 2,4,52,3,4,67,4,4,97,5,
4,67,6,4,92,8,4,43,10,4,88,11,4,72
,12,4,92,13,4,79,15,4,154,16,4,154
,17,4,197,19,4,52,20,4,67,21,4,97,
22,4,40,23,4,79,24,4,72,25,4,41,26
,4,92,28,4,43,30,4,89,31,4,67,32,4
,92,33,4,72,34,4,92
10430 GOSUB 30000
10440 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
9em EXERCICE"
10445 FOR t=1 TO 50:NEXT t
10449 '
10450 ' 9EM EXERCICE
10451 '
10460 CLS #3:CLS #1:V=24:S1=3:S2=2
:CH1$=CHR$(79)+CHR$(92):ch2$=CHR$(
67)+CHR$(79)+CHR$(92):LOCATE #1,2,
2:PRINT #1,"COMBUSTION DE L'ALCOOL
":GOSUB 20000
10470 DATA 2,4,67,3,4,72,4,4,93,5,
4,67,6,4,72,7,4,92,8,4,79,9,4,72,1
1,4,43,13,4,88,14,4,79,15,4,92,17,
4,154,18,4,154,19,4,197,21,4,51,22
,4,72,23,4,92,24,4,79,26,4,43,28,4
,89,29,4,67,30,4,79,31,4,92
10480 GOSUB 30000
10490 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3:LOCATE #1,3,4:PRINT #1,"
10em EXERCICE"
10495 FOR t=1 TO 50:NEXT t
10499 '
10500 ' 10EM EXERCICE
10501 '
10510 CLS #3:CLS #1:V=18:S1=2:S2=2
:CH1$=CHR$(79)+CHR$(92):ch2$=CHR$(
72)+CHR$(92)+CHR$(79):LOCATE #1,2,
2:PRINT #1,"COMBUSTION DU METHANE"
:GOSUB 20000
10520 DATA 5,4,67,6,4,72,7,4,94,9,
4,43,11,4,88,12,4,79,13,4,92,15,4,
154,16,4,154,17,4,197,19,4,67,20,4
,79,21,4,92,23,4,43,25,4,89,26,4,7
2,27,4,92,28,4,79
10530 GOSUB 30000
10540 FOR T=1 TO 5000:NEXT T: CLS
#1:CLS #3
19999 CLS #1:LOCATE #1,2,4:PRINT #
1,"LE TEST EST TERMINE":END:GOTO 5
200
20000 FOR S=1 TO V:READ A,B,C
20010 IF C=88 OR C=89 THEN PEN #1,
3:LOCATE #1,A,B:PRINT #1,CHR$(C) E
LSE PEN #1,4:LOCATE #1,A,B:PRINT #
1,CHR$(C)
20015 LOCATE #3,2,2:PRINT #3,"COEF
FICIENTS"
20020 NEXT :RETURN
29999 '
30000 ' VERIFICATION
30001 '
30010 LOCATE #3,2,4:INPUT #3,"X=";
W1:IF S1=W1 THEN LOCATE #3,9,4:PRI
NT #3,"OUI" ELSE LOCATE #3,9,4:PRI
NT #3,"NON"
30015 LOCATE #3,2,6:INPUT #3,"Y=";
W2:IF S2=W2 THEN LOCATE #3,9,6:PRI
NT #3,"OUI" ELSE LOCATE #3,9,6:PRI
NT #3,"NON"
30017 IF W1=123 AND W2=123 THEN GO
TO 5020
30020 LOCATE #1,3,7:PRINT #1,"IL Y
 A ";S1;"MOLES DE ";CH1$;" ET ";S2
;"
  MOLES DE ";CH2$
30021 '
30022 ' SCORE
30023 '
30024 IF W1=S1 THEN SC=SC+1:LOCATE
 #2,7,4:PRINT #2,SC ELSE SC=SC-1
30025 IF W2=S2 THEN SC=SC+1:LOCATE
 #2,7,4:PRINT #2,SC ELSE LOCATE #2
,7,4:PRINT #2,SC-1
30030 IF SC<0 THEN SC=0:LOCATE #2,
7,4:PRINT #2,0
30040 RETURN
```