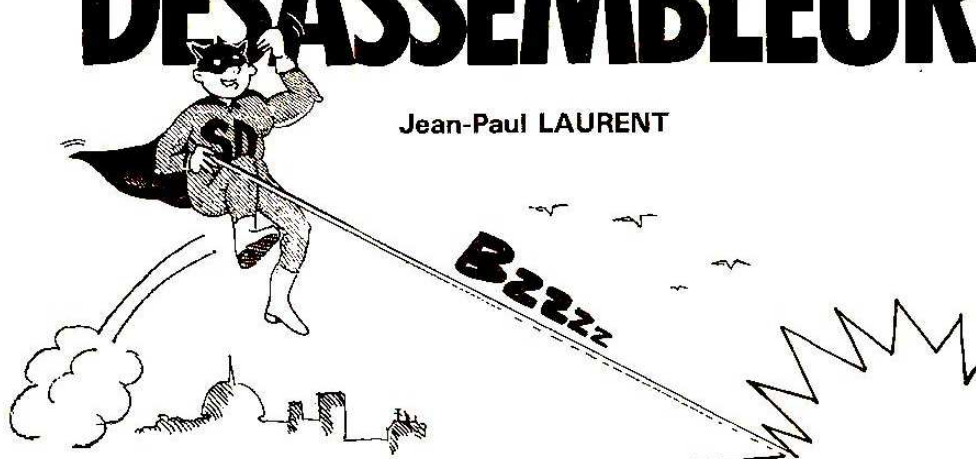


# SUPER DÉSASSEMBLEUR

Jean-Paul LAURENT



**Suite au logiciel précédent (MONITEUR/ASSEMBLEUR), voici un désassembleur capable de générer des étiquettes.**

## PRESENTATION

Désassembleur 3 passes fournissant un "source" compatible avec l'assembleur proposé dans le n° 12 de THEORIC. Le code source occupera la mémoire du Basic, c'est-à-dire que le désassembleur crée des lignes du même format que les lignes d'un programme Basic.

Dans la version ci-après, le désassembleur est logé entre # 9B00 et # A830. Il pourrait être transposé ailleurs, mais cela nécessiterait de l'écrire, en source, sous le contrôle de l'Assembleur. Il occupe # D3F octets.

## FORMAT D'UNE LIGNE

Exemple : 100 LDA # 20  
tient en 12 octets.

1 & 2 = lien  
3 & 4 = n° ligne (1000)

5	= L
6	= D
7	= A
8	= espace
9	= #
10	= 2
11	= 0
12	= fin de ligne (octet nul)

## ETIQUETTES

Tel qu'il est, ce désassembleur peut traiter jusqu'à 126 étiquettes. Un dépassement de ce nombre stoppe l'assemblage et délivre un message d'erreur "Trop d'étiquettes".

Il est possible d'augmenter ce nombre en changeant tous les 7E que l'on rencontre, mais expliquer un "source" de 126 étiquettes est déjà suffisamment ardu. L'utilisateur choisit la première lettre des étiquettes. Ainsi, s'il prend X, il aura X000, X001, X002, etc.

## MACRO-INSTRUCTIONS

Le désassembleur crée quelques macro-instructions dont voici la liste :

- 1) .E fin d'assemblage
- 2) " pour un code ASCII
- 3) .B pour une valeur non représentable à l'écran.
- 4) .\* (- ou +) pour les sauts de pointeur
- 5) .O pour les étiquettes hors champ.

Pour plus d'information, se reporter aux explications sur l'assembleur car c'est entièrement compatible.

## LANCEMENT

— Faire CALL # 9B00.

Tapez...

- adresse de début
- adresse de fin
- Return si pas de partie à "dumper", sinon :
  - adresse de début de la partie à dumper,
  - adresse de fin de la partie à dumper
- première lettre des étiquettes de A à Z
- titre de votre source
- attendre le ready
- faire LIST et votre programme désassemblé se déroulera devant vos yeux éblouis !

## LIMITATIONS

Outre le nombre d'étiquettes qui n'est pas infini...

— Il faut que le PGM en langage machine et le désassembleur soient à des adresses où le code source généré ne risque pas de les détruire.

— Le désassembleur n'étant pas un devin patenté, il ne pourra pas toujours créer des étiquettes où il en faudrait. Par exemple :

Programme L.M.  
# 5000 LDA # 4B  
# 5002 LDY # 50  
# 5004 JSR CCB0  
# 5007 ...  
... etc.  
# B04B 41 42 43 (ABC)  
# 504E...

Le source que vous seriez amené à créer pour cela serait :

100 LDA <ETIQ



```
110 LDY >ETIQ
120 JSR CCBO
```

```
...
500 ETIQ
510 "ABC"
...
```

Mais le désassembleur ne peut pas savoir que les opérandes des LDA # et LDY # sont une adresse en deux morceaux !

## VARIABLES

36/37	contient le numéro de ligne
38	flag
44	nombre d'étiquettes
45/46	Tampon calcul
45/46/47	fournit le code ASCII des numéros d'étiquettes
48	pointeur dans la table d'étiquettes
49	sauvegarde de Y pour écriture ligne
4A/4B	sauvegarde de 5F/60
59/5A	sauvegarde de X pour recherche

5D

5E

5F/60

61/62

65/66

67/68

69/6A

7F

80

d'étiquettes dans l'opcode (3 octets)  
stockage intermédiaire pour saisie d'un chiffre au clavier  
stockage de A avant écriture dans la ligne en cours  
sauvegarde de l'adresse de début du programme à désassembler  
sauvegarde de l'adresse de fin de programme à désassembler  
sauvegarde de 5F/60  
adresse de début de "DUMPING",  
# FFFF par défaut  
adresse de fin de "DUMPING"  
sauvegarde de Y contenant la première lettre des étiquettes

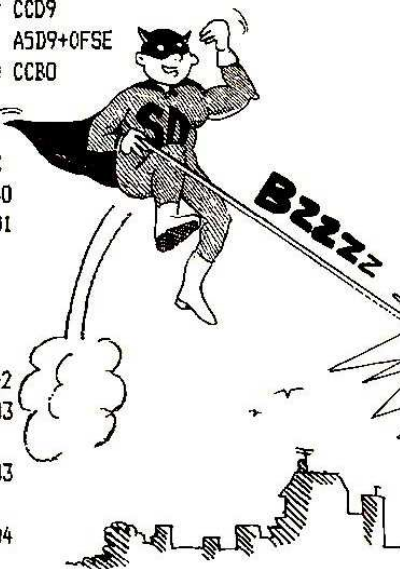

Avec l'assembleur 3 passes, le désassembleur fait un ensemble de grande utilité.

**EXAMPLE.**

```

100 ;*DESAS de #9B00 a #9B20*
110 ;
120 ;*Desassemble par 'SUPER
    DESASSEMBLEUR' C.
    (84) j.p. LAURENT*
130 ;
140 .0 OFSE 0000
150 .0 W004 CCD4
160 .0 W003 A347+0F5E
170 .0 W002 CCD9
180 .0 W001 A5D9+0F5E
190 .0 W000 CC80
200 ;
210 LDA #F8
220 LDY #9C
230 JSR W000
240 JSR W001
250 LDX #FF
260 STX 68
270 STX 67
280 LDA '>'
290 JSR W002
300 JSR W003
310 STA 6D
320 JSR W003
330 STA 5F
340 JSR W004
350 .E

```



# atmos

```

10000 FORM=H9ROOT0HAB30:HEAD03:D=VAL("HAB30:POKEN,D: NEXT
10100 DATA A9,FB,AD,9C,20,B0,CC,20,D9,A5,A2,FF,B6,68,86,67,A9,3E,20,D9
10200 DATA CC,20,47,A3,85,60,20,47,A3,85,5F,20,D4,CC,20,47,A3,85,62,20
10300 DATA 47,A3,85,61,20,D4,CC,20,E8,C5,C9,0D,F0,1A,20,1A,A3,20,4A,A3
10400 DATA B5,68,20,47,A3,85,67,20,D4,CC,20,47,A3,85,6A,20,47,A3,85,69
10500 DATA 20,F0,CB,A9,F5,A0,20,30,CC,20,E8,C5,C9,41,30,F9,C9,5B,10
10600 DATA F5,85,80,20,D9,CC,A2,00,86,37,A2,64,86,36,A9,05,85,90,A9,01
10700 DATA 85,9C,A9,ED,A0,9C,20,30,CC,20,3F,A6,20,A7,A6,84,7F,20,E8,C5
10800 DATA 48,20,D9,CC,68,A4,7F,C9,14,F0,FD,C9,0D,F0,05,91,9C,C8,0D,E8
10900 DATA 20,68,A6,20,6E,A6,20,71,A6,20,68,A6,20,AD,A6,A5,5F,85,A5,A5
11000 DATA 60,85,A6,20,E3,A5,20,68,A6,20,74,A6,20,68,A6,20,AD,A6,A5,61
11100 DATA 85,A5,A5,62,85,46,20,E3,A5,20,A7,A6,20,34,A6,20,BF,A6,20,34
11200 DATA A6,20,BF,A6,20,A7,A6,A2,00,B0,B1,A2,F0,D6,91,9C,C8,E8,0D,F5
11300 DATA 20,A7,A6,20,34,A6,20,BF,A6,20,34,A6,A2,00,A0,2F,84,45,C8,84
11400 DATA 46,84,47,E6,A5,A5,45,C9,3A,D0,6E,84,45,E6,A5,A6,C9,3A,D0
11500 DATA 04,84,46,E6,47,A5,45,9D,4A,9E,A5,46,9D,C6,9D,A5,47,9D,48,9D
11600 DATA E8,0D,7E,D0,D6,A5,5F,65,A5,60,85,66,20,20,A7,ED,97,0D,20
11700 DATA 20,97,A5,AD,00,A5,3B,0D,0F,20,19,A8,9D,0A,A5,69,85,5F,A5,6A
11800 DATA 85,60,E6,38,20,D9,C9,9C,0C,4C,57,A3,A5,43,C9,2C,F0,2E,B0,1A
11900 DATA A2,29,F0,C9,1D,F0,D1,C9,30,F0,1B,BD,1A,A2,29,0F,C9,09,F0,06
12000 DATA 20,97,A5,4C,40,9C,20,5B,A6,20,3A,A6,20,9A,9C,4C,43,20,5B
210 DATA A6,20,9A,9C,20,97,A5,4C,7C,9C,20,A5,9C,ED,FF,D0,03,20,A8,9C
2200 DATA 60,A6,44,CA,1D,16,60,A6,44,A5,46,9D,40,9F,A5,45,9D,C2,9E,E6
2300 DATA 44,A6,44,E0,7E,F0,1D,60,A5,46,DD,40,9F,D0,E0,A5,45,DD,C2,9E
2400 DATA 0D,D9,60,A9,3E,A6,9D,20,B0,CC,4C,A8,C4,A5,60,C5,62,F0,04,B0
2500 DATA 0B,D0,08,A5,5F,C5,61,F0,D2,B0,01,1B,60,0A,0D,54,69,74,72,65
2600 DATA 20,3A,20,0D,C0,0A,09,09,09,09,09,09,09,09,04,1B,41,18,4E
2700 DATA 53,55,50,45,52,20,44,45,53,41,53,53,45,40,42,4C,45,55,52,04
2800 DATA 0A,0A,0A,0D,50,61,72,20,6A,2E,70,2E,4C,41,55,52,45,4E,54,0A
2900 DATA 0D,0D,0A,0D,54,52,4F,50,20,44,27,45,54,49,51,55,45,54,54,45
3000 DATA 53,0A,0D,0D,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30
3100 DATA 30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30
3200 DATA 30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30,30

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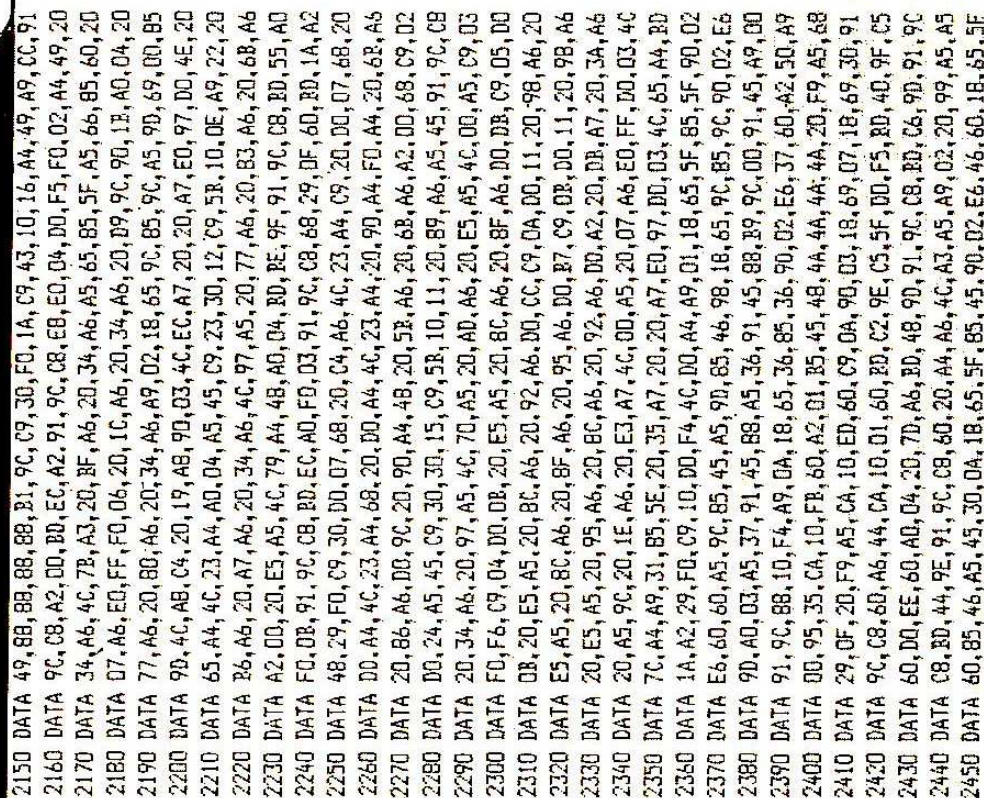
# atmos



2

3





5

100

```

1000 FORM=H9900T0HAB30:READD$;D=VAL1!*+D$):POKEN,D,NEXT
1010 DATA A9,F8,AD,9C,20,ED,C8,20,D9,A5,A2,FF,86,68,86,67,A9,3E,20,12
1020 DATA CC,20,47,A3,85,60,20,47,A3,95,5F,20,0D,CC,20,47,A3,85,A2,20
1030 DATA 47,A3,85,61,20,0D,CC,20,F8,C5,C9,0D,F0,1A,20,1A,A3,20,4A,A3
1040 DATA 95,68,20,47,A3,85,67,20,0D,CC,20,47,A3,85,6A,20,47,A3,85,69
1050 DATA 20,9F,C8,A9,F5,AE,A2,20,ED,C8,20,F8,C5,C9,41,30,C9,C9,38,10
1060 DATA F5,85,B0,20,12,CC,A2,B0,86,37,A2,64,86,36,A9,05,85,90,A9,01
1070 DATA 85,9C,A9,ED,AD,9C,20,ED,C8,20,8F,A6,20,A7,A6,84,7F,20,FB,C5
1080 DATA 48,20,12,CC,68,A4,7F,C9,14,F0,C0,0D,F0,D5,91,9C,C8,0D,E7
1090 DATA 20,38,A6,20,65,A6,20,71,A6,20,68,A6,20,AD,A6,A5,5F,85,A5,A5

```



1500 DATA 28,30,2E,24,29,30,1F,20,5A,D4,FD,D3,B6,D4,A6,B6,A4,B7,2D,5A  
 1510 DATA D4,A5,DE,AD,DE,AD,00,20,6F,D4,FD,05,C8,C9,2C,FD,C8,60,98,AD  
 1520 DATA 01,91,B6,88,98,91,B6,FD,E8,98,20,5A,D4,FD,D4,A8,D5,A6,D0,FD  
 1530 DATA 08,AD,00,20,F7,F8,91,D1,C8,CA,D0,F7,AD,02,B9,D0,00,91,B6,88  
 1540 DATA 10,F8,30,C5,AD,5B,C1,FD,BF,20,56,FE,20,5A,D4,B2,CE,17,CF,24  
 1550 DATA 28,10,26,20,5A,D4,15,D7,D0,D7,AA,20,07,FD,8A,FD,08,AD,00,B1  
 1560 DATA 91,20,07,FD,CB,CA,D0,F7,AD,00,20,6F,D4,FD,05,C8,C9,2C,FD,CD  
 1570 DATA 60,20,5A,D4,10,D8,C8,D8,8A,20,07,FD,4C,54,FF,20,6F,D4,C8,C9  
 1580 DATA B4,FD,17,C9,4F,D0,20,B1,E9,C9,46,D0,1A,C8,B1,E9,C9,46,D0,13  
 1590 DATA C8,4E,F1,02,10,05,A9,80,8D,F1,02,20,6F,D4,D0,03,4C,69,D4,A2  
 1600 DATA 01,4C,18,D4,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00  
 1610 DATA 00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,00  
 1620 DATA 41,41,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1,D1  
 1630 DATA 42,42,42,42,42,42,42,42,42,42,42,42,42,42,42,42,42,42,42,42  
 1640 DATA 43,43,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44  
 1650 DATA 49,49,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A,4A  
 1660 DATA 4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C  
 1670 DATA 50,52,52,52,52,52,52,52,52,52,52,52,52,52,52,52,52,52,52,52  
 1680 DATA 53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53  
 1690 DATA 54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54  
 1700 DATA 00,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53,53  
 1710 DATA 4C,40,40,40,40,40,40,40,40,40,40,40,40,40,40,40,40,40,40,40  
 1720 DATA D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2  
 1730 DATA 44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44,44  
 1740 DATA 41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,41,41  
 1750 DATA D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2,D2  
 1760 DATA 54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54,54  
 1770 DATA 43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43  
 1780 DATA 54,54,49,45,46,48,10,53,43,44,49,56,50,50,50,50,50,50,50,50  
 1790 DATA 58,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59  
 1800 DATA 43,43,58,59,50,52,41,41,41,41,41,41,41,41,41,41,41,41,41,41  
 1810 DATA 59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59,59  
 1820 DATA 50,41,50,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C,4C  
 1830 DATA 43,43,43,43,44,49,41,41,41,41,41,41,41,41,41,41,41,41,41,41  
 1840 DATA 59,58,41,53,41,50,50,69,65,75,6D,7D,79,61,71,29,25,35,2D,3D  
 1850 DATA 39,21,31,0A,06,16,DE,1E,9D,30,FD,24,2C,30,8D,10,00,50,7D,18  
 1860 DATA D8,58,38,C9,C5,D0,D9,C1,D1,E0,E4,EC,CD,C4,CC,C6,D6,CE,DE,CA  
 1870 DATA 88,49,45,55,AD,5D,59,41,51,E6,F6,EE,FE,E8,C8,4C,6C,2D,A9,A5  
 1880 DATA 35,AD,2D,3F,A1,B1,A2,A6,B6,AE,BE,AD,A4,B4,AC,3C,4A,46,56,4E  
 1890 DATA 5E,EA,09,05,15,0D,1D,19,01,11,48,08,68,28,2A,26,36,2E,3E,6A

1100 DATA 60,85,46,20,E3,A5,2D,6B,A6,20,74,A6,20,6B,A6,20,AD,A6,A5,61  
 1110 DATA 85,45,A5,62,85,46,20,E3,A5,2D,A7,A6,20,34,A6,20,BF,A6,20,34  
 1120 DATA A6,2D,BF,A6,2D,A7,A6,A2,D0,BD,B1,A2,FD,D6,91,9C,C8,E8,D0,F5  
 1130 DATA 2D,A7,A6,2D,34,A6,2D,BF,A6,2D,34,A6,A2,D0,AD,2F,84,45,CB,84  
 1140 DATA 46,84,47,E6,45,A5,45,C9,3A,D0,DE,84,45,E6,46,A5,46,C9,3A,00  
 1150 DATA 04,84,46,E6,47,A5,45,9D,44,9E,A5,46,9D,C6,9D,A5,47,9D,48,9D  
 1160 DATA E8,ED,7E,00,D6,A5,5F,85,A5,6D,85,66,20,2D,A7,ED,97,D0,20  
 1170 DATA 2D,97,A5,AD,00,A5,38,D0,0F,2D,19,A8,9D,0A,A5,69,85,5F,A5,6A  
 1180 DATA 85,6D,E6,38,2D,09,9C,9D,DC,4C,57,A3,A5,45,C9,2C,FD,2E,3D,1A  
 1190 DATA A2,29,FD,C9,1D,FD,D1,C9,3D,FD,1A,A2,29,0F,C9,09,FD,06  
 1200 DATA 2D,97,A5,4C,4D,9C,2D,5E,A6,2D,3A,A6,2D,9A,9C,4C,43,9C,2D,5E  
 1210 DATA A6,2D,9A,9C,2D,97,A5,4C,7C,9C,2D,A5,9C,ED,FF,D0,03,2D,AB,9C  
 1220 DATA 6D,A6,44,CA,1D,16,6D,A6,44,A5,46,9D,40,9F,A5,45,9D,C2,9E,E6  
 1230 DATA 44,A6,44,ED,7E,FD,1D,6D,A5,46,D0,4D,9F,D0,ED,A5,45,D0,C2,9E  
 1240 DATA D0,D9,6D,A9,32,AD,9D,2D,ED,C8,4C,35,C4,A5,6D,C5,62,FD,D4,B0  
 1250 DATA 03,D0,08,A5,5F,C5,61,FD,02,3D,01,18,6D,0A,0D,54,69,74,72,65  
 1260 DATA 2D,3A,2D,00,0C,0A,09,09,09,09,09,09,09,09,09,09,09,09,09,09  
 1270 DATA 53,53,5D,45,52,2D,44,45,53,41,53,53,45,4D,42,4C,45,55,52,04  
 1280 DATA 0A,0A,0A,0D,5D,61,72,2D,6A,2E,7D,2E,4C,41,55,52,45,4E,54,0A  
 1290 DATA 0D,0D,0A,0D,54,52,4F,5D,2D,44,27,45,54,49,51,55,45,54,45  
 1300 DATA 53,0A,0D,0D,68,99,0D,02,C8,8C,5C,C1,D0,03,2D,E8,FC,68,AB,68  
 1310 DATA AA,68,6D,A2,1C,8D,23,C1,9D,5D,C1,CA,1D,F7,6D,A2,1C,8D,5D,C1  
 1320 DATA 9D,23,C1,CA,1D,F7,6D,A9,0D,85,28,85,29,2D,6D,D4,2D,47,FE,9D  
 1330 DATA 05,A2,01,4C,1B,D4,85,B4,C8,2D,47,FE,8D,08,85,B5,C8,2D,47,FE  
 1340 DATA 9D,FA,C9,25,D0,13,A9,8D,85,29,05,B4,85,B4,C8,A9,8D,85,28,05  
 1350 DATA 35,85,B5,3D,D4,C9,24,FD,F1,2D,6D,D4,C9,2C,D0,C9,08,2D,FD,FD  
 1360 DATA 2D,6F,D4,D0,0D,A5,9F,A6,9E,86,CE,B5,CF,C5,A1,D0,09,E4,AD,0D  
 1370 DATA 05,A2,1D,4C,1B,D4,AD,02,18,8A,71,CE,8D,AE,02,AA,C8,B1,CE,65  
 1380 DATA CF,8D,AC,02,AD,0D,B1,CE,C8,C5,B4,D0,06,A5,35,D1,CE,FD,28,AD  
 1390 DATA AC,02,4C,C5,FD,A5,28,48,A5,29,48,2D,48,D4,68,85,29,48,85,28  
 1400 DATA AD,32,C1,C9,2D,D0,02,A2,02,8D,53,FE,9D,32,C1,CA,1D,F7,6D,AD  
 1410 DATA 04,B1,CE,2D,5A,D4,F6,1D,88,D2,38,A2,0D,2D,31,FE,E8,8D,AE,02  
 1420 DATA F5,C7,9D,A9,02,6D,AD,AE,D2,C5,C7,D0,05,AD,AC,02,C5,C8,6D,B1  
 1430 DATA E9,C9,41,9D,D4,C9,5E,9D,01,38,6D,44,41,54,98,18,45,E9,85,E9  
 1440 DATA 9D,02,E6,EA,6D,2D,6D,D4,C9,2C,FD,05,A2,01,4C,1B,D4,C8,4C,6F  
 1450 DATA D4,2D,FD,FD,2D,61,FE,48,C8,2D,6F,D4,D0,EA,68,C9,52,FD,0A,C9  
 1460 DATA 57,D0,E1,2D,5D,FC,4C,69,D4,2D,C8,F8,4C,69,D4,2D,6F,D4,D0,09  
 1470 DATA 2D,98,FC,2D,F1,F8,4C,69,D4,48,C8,2D,6F,D4,D0,C0,68,C9,52,FD  
 1480 DATA EE,C9,57,D0,37,2D,98,FC,4C,69,D4,AD,59,C1,D0,05,A2,1B,4C,1B  
 1490 DATA D4,2D,56,FE,2D,5A,D4,FC,D0,88,D1,2D,57,FB,AB,A2,1C,2D,EB,24



1900 DATA 66, 76, 6E, 7E, 40, 60, E9, E5, F5, ED, FD, F9, E1, F1, 38, F8, 78, 85, 95, BD  
 1910 DATA 90, 99, 81, 91, 86, 96, 8E, 84, 94, 8C, AA, BA, 8A, 9A, 98, D5, CD, 22, 23  
 1920 DATA 24, 36, 37, 38, 2A, 2B, 22, 23, 24, 36, 37, 38, 2A, 2B, 11, 23, 24, 36, 37, 29  
 1930 DATA 29, 29, 23, 36, 29, 29, 10, 29, 29, 10, 10, 10, 10, 22, 23, 37, 38, 2A, 2B  
 1940 DATA 22, 23, 36, 22, 23, 36, 23, 24, 36, 37, 10, 10, 22, 23, 24, 36, 37, 38, 2A, 2B  
 1950 DATA 23, 24, 36, 37, 10, 10, 36, 36, 22, 23, 24, 36, 37, 38, 2A, 2B, 22, 23, 25  
 1960 DATA 36, 38, 22, 23, 24, 36, 37, 11, 23, 24, 36, 37, 10, 22, 23, 24, 36, 37, 38, 2A  
 1970 DATA 28, 10, 10, 10, 11, 23, 24, 36, 37, 11, 23, 24, 36, 37, 10, 10, 22, 23, 24  
 1980 DATA 36, 37, 38, 2A, 28, 10, 10, 10, 23, 24, 36, 37, 38, 2A, 28, 23, 25, 36, 23, 24  
 1990 DATA 36, 10, 10, 10, 10, 10, 24, 36, 44, 65, 73, 61, 73, 73, 65, 60, 62, 6C, 65  
 2000 DATA 20, 70, 61, 72, 20, 27, 53, 55, 50, 45, 52, 20, 44, 45, 53, 41, 53, 53, 45, 40  
 2010 DATA 42, 4C, 45, 55, 52, 27, 20, 43, 2E, 20, 28, 38, 34, 29, 20, 6A, 2E, 70, 2E, 20  
 2020 DATA 4C, 41, 55, 52, 45, 4E, 54, 00, 4F, 46, 53, 45, 20, 30, 30, 30, 50, 72, 65  
 2030 DATA 60, 69, 65, 72, 65, 20, 6C, 65, 74, 74, 72, 65, 20, 64, 65, 73, 20, 65, 74, 69  
 2040 DATA 71, 75, 65, 74, 74, 65, 73, 20, 3A, 20, 00, 20, F8, C5, 20, 12, CC, C9, 30, 30  
 2050 DATA 1A, C9, 3A, 90, 08, C9, 47, 20, 12, C9, 41, 90, DE, 48, 29, 40, F0, 05, 68, 38  
 2060 DATA E9, 07, 48, 68, 49, 30, 60, 20, 00, CC, 20, 10, CC, 20, 9F, C8, 4C, B5, C4, 20  
 2070 DATA 17, A3, 0A, 0A, 0A, 85, 5D, 20, 17, A3, 19, 65, 5D, 60, A0, 04, 20, 77, A6  
 2080 DATA 20, 7A, A6, 20, 68, A6, A2, 00, BD, EC, A2, 91, 9C, C8, E8, ED, 09, 00, F5, 20  
 2090 DATA 34, A6, A5, 44, 00, 03, 4C, 15, A4, 85, 48, C6, 48, 30, F7, A6, 48, BD, C2, 9E  
 2100 DATA 85, 45, BD, 40, 9F, 85, 46, C5, 62, F0, 04, 30, 08, 00, 08, A5, 45, C5, 61, F0  
 2110 DATA 02, 30, 01, 18, 90, 03, 4C, E7, A3, A5, 46, C5, 66, F0, 04, 30, 09, 00, 06, A5  
 2120 DATA 45, C5, 65, BD, 01, 19, 90, 03, 4C, 7B, A3, A0, 04, 20, 77, A6, 20, 7A, A6, 20  
 2130 DATA 68, A6, 20, 7D, A6, BD, 48, 90, 91, 9C, C8, BD, C6, 9D, 91, 9C, C8, BD, 44, 9E  
 2140 DATA 91, 9C, C8, 20, 68, A6, BD, C2, 9E, 85, 45, 30, 40, 9F, 85, 46, 20, E3, A5, 84  
 2150 DATA 49, 88, 88, 88, B1, 9C, C9, 30, F0, 1A, C9, 43, 10, 16, A4, 49, A9, CC, 91  
 2160 DATA 9C, C8, A2, 00, BD, EC, A2, 91, 9C, C8, EB, ED, 04, D0, F5, F0, 02, A4, 49, 20  
 2170 DATA 34, A6, 4C, 7B, A3, 20, BF, A6, 20, 34, A6, A5, 65, 85, 5F, A5, 66, 85, 60, 20  
 2180 DATA 07, A6, ED, FF, F0, 06, 20, 1C, A6, 20, 34, A6, 20, D9, 9C, 90, 1B, A0, 04, 20  
 2190 DATA 77, A6, 20, 80, A6, 20, 34, A6, A9, 02, 18, 65, 9C, B5, 9C, A5, 90, 69, 00, 85  
 2200 DATA 90, 4C, B5, C4, 20, 19, A8, 90, 03, 4C, EC, A7, 20, 20, A7, ED, 97, 00, 4E, 20  
 2210 DATA 65, A4, 4C, 23, A4, AD, 04, A5, 45, C9, 23, 30, 12, C9, 58, 10, 0E, A9, 22, 20  
 2220 DATA B6, A6, 20, A7, A6, 20, 34, A6, 4C, 97, A5, 20, 77, A6, 20, 83, A6, 20, 68, A6  
 2230 DATA A2, 00, 20, E5, A5, 4C, 79, A4, 48, A0, 04, BD, BE, 9F, 91, 9C, C8, BD, 55, A0  
 2240 DATA F0, 0B, 91, 9C, C8, BD, EC, A0, F0, 03, 91, 9C, C8, 68, 29, 0F, 60, BD, 1A, A2  
 2250 DATA 48, 29, F0, C9, 30, 00, 07, 68, 20, C4, A6, 4C, 23, A4, C9, 20, 00, 07, 68, 20  
 2260 DATA D0, A4, 4C, 23, A4, 68, 20, D0, A4, 4C, 23, A4, 23, 90, A4, FD, A4, 20, 68, A6  
 2270 DATA 20, 86, A6, 00, 9C, 20, 90, A4, 48, 20, 58, A6, 20, 63, A6, A2, 00, 68, C9, 02  
 2280 DATA D0, 24, A5, 45, C9, 30, 30, 15, C9, 58, 10, 11, 23, B9, A6, A5, 45, 91, 9C, C8  
 2290 DATA 20, 34, A6, 20, 97, A5, 4C, 70, A5, 20, AD, A6, 20, E5, A5, 4C, 00, A5, C9, 03

2300 DATA F0, F6, C9, 04, D0, DB, 20, E5, A5, 20, 8C, A6, 20, 8F, A6, 20, DB, C9, 05, D0  
 2310 DATA 08, 20, E5, A5, 20, 8C, A6, 20, 92, A6, D0, CC, C9, DA, D0, 11, 20, 98, A6, 20  
 2320 DATA E5, A5, 20, 8C, A6, 20, 8F, A6, 20, 95, A6, D0, 87, C9, DB, D0, 11, 20, 98, A6  
 2330 DATA 20, E5, A5, 20, 95, A6, 20, 8C, A6, 20, 92, A6, D0, A2, 20, DB, A7, 20, 3A, A6  
 2340 DATA 20, A5, 9C, 20, 1E, A6, 20, E3, A7, 4C, 00, A5, 20, 07, A6, ED, FF, D0, 03, 4C  
 2350 DATA 7C, 44, A9, 31, 85, 5E, 20, 35, A7, 20, 20, A7, ED, 97, D0, 03, 4C, 65, A4, BD  
 2360 DATA 1A, A2, 29, F0, C9, 10, D0, F4, 4C, D0, A4, A9, 01, 18, 65, 5F, 85, 5F, 90, 02  
 2370 DATA E6, 60, 60, A5, 9C, 85, 45, 9D, 85, 46, 98, 18, 65, 9C, 85, 9C, 90, 02, E6  
 2380 DATA 9D, A0, 03, A5, 37, 91, 45, 88, A5, 36, 91, 45, 88, 89, 9C, D0, 91, 45, A9, 00  
 2390 DATA 91, 9C, 88, 10, F4, A9, DA, 18, 65, 36, 85, 36, 90, 02, E6, 37, 60, A2, 50, A9  
 2400 DATA 00, 95, 35, CA, 10, FB, 60, A2, 01, 85, 45, 48, 4A, 4A, 4A, 20, F9, A5, 68  
 2410 DATA 29, 0F, 20, F9, A5, CA, 10, ED, 60, C9, 0A, 90, 03, 18, 69, 07, 18, 69, 30, 91  
 2420 DATA 9C, C8, 60, A6, 44, CA, 10, 01, 60, BD, C2, 9E, C5, 5F, D0, F5, BD, 40, 9F, C5  
 2430 DATA 60, D0, EE, 60, A0, 04, 20, 7D, A6, BD, 48, 9D, 91, 9C, C8, BD, C6, 9D, 91, 9C  
 2440 DATA C8, BD, 44, 9E, 91, 9C, C8, 60, 20, A4, A6, 4C, A3, A5, A9, 02, 20, 99, A5, A5  
 2450 DATA 60, 85, 46, A5, 45, 30, 0A, 18, 65, 5F, 85, 45, 90, 02, E6, 46, 60, 18, 65, 5F  
 2460 DATA 85, 45, 30, 02, C6, 46, 60, 84, 49, A0, D1, B1, 5F, 85, 45, C8, B1, 5F, 85, 46  
 2470 DATA A4, 49, 60, A9, 20, 2C, A9, 64, 2C, A9, 65, 2C, A9, 61, 2C, A9, 2E, 2C, A9, 4F  
 2480 DATA 2C, A5, BD, 20, C9, 45, 2C, A9, 42, 2C, A9, 41, 2C, A9, 27, 2C, A9, 2C, 2C, A9  
 2490 DATA 58, 2C, A9, 59, 2C, A9, 28, 2C, A9, 28, 2C, A9, CE, 2C, A9, CE, 2C, A9, 30, 2C  
 2500 DATA A9, 00, 2C, A9, 22, 2C, A9, 3B, 2C, A9, 23, 2C, A5, 5E, 91, 9C, C8, 60, 91, 9C  
 2510 DATA C8, A5, 45, 91, 9C, C8, 60, A0, 04, 4C, AA, A6, 20, 90, A4, 48, 20, 58, A6, 20  
 2520 DATA 68, A6, 20, 97, A5, 68, 29, 0F, C9, 06, D0, 19, A5, 5D, C9, 2C, D0, 06, 20, E3  
 2530 DATA A5, 4C, E7, A6, 20, 1A, A7, 20, 34, A6, A0, 00, 84, 49, 4C, 51, A7, C9, 07, D0  
 2540 DATA 08, 20, 1A, A7, 20, 8C, A6, 20, 8F, A6, D0, E7, C9, 08, D0, 08, 20, 1A, A7, 20  
 2550 DATA 8C, A6, 20, 92, A6, D0, D8, 20, 98, A6, 20, 1A, A7, 20, 95, A6, D0, CD, 20, A5  
 2560 DATA 9C, 4C, 1E, A6, A0, D0, A2, 00, B1, 5F, 85, 45, 85, 5D, DD, B3, A1, F0, 05, E8  
 2570 DATA ED, 97, D0, F6, 60, A0, 04, 20, 77, A6, 20, 98, A6, 20, 9E, A6, 20, A1, A6, 20  
 2580 DATA 80, A6, 20, 34, A6, A0, 04, 20, 1E, A6, 4C, 34, A6, 20, DB, A7, 20, 07, A6, B6  
 2590 DATA 59, 20, 97, A5, 20, 07, A6, 86, 5A, ED, FF, D0, 09, A5, 59, ED, FF, D0, 03, 4C  
 2600 DATA 97, A5, 20, E3, A7, A9, 32, 85, 5E, A0, 04, 20, 77, A6, 20, 98, A6, 20, 9E, A6  
 2610 DATA 20, A1, A6, 20, BD, A6, 20, 34, A6, A6, 59, E8, F0, 07, CA, 20, 1C, A6, 20, 34  
 2620 DATA A6, A6, 5A, E8, F0, 1F, D0, 01, 68, A0, 00, 20, 5F, A6, 20, 65, A4, A6, 5A, E8  
 2630 DATA F0, 07, CA, 20, 1C, A6, 20, 34, A6, A0, 00, 20, 5F, A6, 4C, 65, A4, 20, A7  
 2640 DATA ED, 97, F0, D0, BD, 1A, A2, 48, 29, F0, C9, 20, D0, D2, 20, 58, A6, 68, 20, 90  
 2650 DATA A4, 48, 20, 68, A6, A2, 00, 68, 4C, EA, A4, A5, 5F, 85, 4A, A5, 60, 85, 48, A5  
 2660 DATA 4A, 85, 5F, A5, 48, 85, 60, 60, A5, 60, C5, 6A, F0, 04, 80, 0A, D0, 08, A5, 5F  
 2670 DATA C5, 69, F0, 05, 90, 03, 4C, 58, A4, 20, 07, A6, ED, FF, F0, 06, 20, 1C, A6, 20  
 2680 DATA 34, A6, A0, D0, 20, 5F, A6, 20, 65, A4, 4C, EC, A7, A5, 60, C5, 68, F0, 04, BD  
 2690 DATA DA, D0, 0A, A5, 5F, C5, 67, F0, 04, 90, 02, 38, 24, 18, 60, D7, 12