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early work

Mr Fabris,

Enclosed is the descriptions, listing, documentation,
initial data, and an ad.

Not only is it slow but addicting. I let it run
over night.

Every time I've tried to improve the program
~~to make some mistake~~ there is some error in
functioning that is traceable to the cursor. w/o
the cursor the game is less interesting.

A machine language version is needed.

Note I use a 30×35
~~60 x 70~~ array and a 60 x 70
is possible. The entire display array could
be used to store 1s and 0s.

Regards

Matt Griner

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The Game of LIFE

Re: Scientific American 10/70, 2/71, 1/72
BYTE (I think) in early 1978

The screen is split left and right to display the present and future generation. The current generation is scanned at each location (cursor provided for reference)

The $PX(X, Y)$ does the scanning.

The screen is used for a mass memory of 1s and 0s. Also this gets around the need for arrays.

Lines ~~101~~¹² to 997 are available for initial conditions

X locations must be even
Y locations must be odd

Every other location (STEP 2) is used.

To remove and save initial conditions the instruction

:PRINT;LIST 101, XX

where XX is the number of lines to be saved.

→ thus BOX even, odd, 1, 1, 1
 BOX even+2, odd+2, 1, 1, 1

OR
 BOX -22, -13, 1, 1, 1
 -20, -11, 1, 1, 1
 -20, -13, 1, 1, 1

SE = tott 1021

~~1007~~

This is always added by me for reference

```
1 NT=0
2 M=0
5 CLR
10 BC=80
11 FC=15
100 X=0; Y=0
998 M=M+1
999 CX=-75; CY=40; PRT #1, M
1000 FOR X=-66 TO -6 STEP 2
1010 FOR Y=-35 TO 35 STEP 2
1015 IF TR(1) GOTO 1026
1025 IF Y=-35 GOTO 7000
1026 GOSUB 4026
1140 NEXT Y
1150 Y=-35
1160 BOX X, Y, 1, 1, 2
1165 NEXT X
1998 M=M+1
1999 CX=0; CY=40; PRT #1, M
2000 FOR X=6 TO 66 STEP 2
2010 FOR Y=-35 TO 35 STEP 2
2015 IF TR(1) GOTO 2026
2025 IF Y=-35 GOTO 7000
2026 GOSUB 4026
2140 NEXT Y
2150 Y=-35
2160 BOX X, Y, 1, 1, 2
2165 NEXT X
3000 GOTO 998
```

3. LIFE IV, ARCADIAN VOLZ,
PG .
4. M. GIWER

4026 A = 0
 4028 BOX X, Y, 1, 1, 3
 4030 IF PX(X-2, Y) A = A + 1
 4040 IF PY(X+2, Y) A = A + 1
 4050 IF PX(X-2, Y+2) A = A + 1
 4060 IF PX(X, Y+2) A = A + 1
 4070 IF PY(X+2, Y+2) A = A + 1
 4080 IF PX(X-2, Y-2) A = A + 1
 4090 IF PX(X, Y-2) A = A + 1
 4100 IF PY(X+2, Y-2) A = A + 1
 4105 BOX X, Y, 1, 1, 3
 4200 IF X < 0 D = X + 70
 4210 IF X > 0 D = X - 70
 4220 IF PX(X, Y) = 1 IF (A = 2) + (A = 3) = 2 BOX D, Y, 1, 1, 2
 4230 IF PX(X, Y) = 1 IF (A = 2) + (A = 3) = 1 BOX D, Y, 1, 1, 1
 4240 IF PX(X, Y) = 0 A = 3 BOX D, Y, 1, 1, 1
 4250 IF PY(X, Y) = 0 A = 3 BOX D, Y, 1, 1, 2
 4260 RETURN

7000 FOR S = -35 TO 35 STEP 2
 7005 BOX X, Y, 1, 1, 3
 7010 IF (X+2, S) = 1 GOTO 9000
 7013 IF (X, S+2) = 1 GOTO 9000
 7015 IF (X-2, S) = 1 GOTO 9000
 7017 BOX X, Y, 1, 1, 3
 7019 NEXT S
 7020 IF X < 0 GOTO 1160
 7030 IF X > 0 GOTO 2160
~~9000 Y = S; GOTO 1026~~
 9000 Y = S - 2; GOTO 1026

998 - 1165 left side of screen
1998 - 2165 right side of screen
these lines control the game

4026 - 4260 SBR

4028 and 4105 provide ^{horizontal} cursor, if you fool with
it you will spell it curser.

4030 - 4100 Search around the location

4220 - 4250 rules of life & death
(There should be a simpler way to state these)
4200 - 4210 put life/death decision on
correct side of screen

7000 - 7019
Search routine to cut run time

1015 and 2015

the routine fails for single and vertical double
points. pull trigger at the same column on the
opposite side of the screen =

Line 1025 and 2025 can be deleted for accurate correct but
= ~~to~~ longer functioning

4220 and 4230

on my machine there must be spaces
between multiple IF statements
also the =1 is not necessary in the $IF P_X(x, y)$ condition

7005 and 7015 provide vertical cursor, don't fool
with it, be warned

DATA

FORMAT 200 BOX X, Y, 1, 1, 1

	X	Y
200	-52	21
210	-52	23
220	-52	25
230	-52	27
240	-52	29
250	-50	27
260	-48	25
270	-46	23
280	-44	21
290	-44	23
300	-44	25
310	-44	27
320	-44	29
400	-22	-21
410	-20	-19
420	-18	-19
430	-18	-17
440	-18	-23
450	-20	-23
500	-22	19
510	-22	17
520	-22	15
530	-20	15
540	-18	15
550	-16	17
560	-18	19
800	-52	-21
810	-50	-23
820	-50	-21
830	-50	-19

	X	Y
910	-32	1
920	-30	3
930	-28	3
940	-28	1
950	-28	-1



e.g. 950 BOX -28, -1, 1, 1, 1

Try these data sets separately or on one screen

Simple shapes go in the upper half ~~right hand quadrant~~ to make max. use of the time reducing cursor