

BUBBLE SORT

The following was suggested by the write-up in HP Keynotes, V1B2P6. I had tinkered with a sort routine, but was challenged by the 69 steps. As usual, I found that a much shorter routine was possible.

BUBBLE SORT ROUTINE

67

001 f LBL A	31 25 11	017 g x y	32 71
002 h SF 1	35 51 01	018 h x y	35 52
003 h ST I	35 33	019 h FT 1	35 71 01
004 GTO 1	22 01	020 h x y	35 52
005 g LBL a	32 25 11	021 STO (1)	33 24
006 h CF 1	35 61 01	022 h x y	35 52
007 h ST I	35 33	023 h FT 0	35 71 00
008 f LBL 1	31 25 01	024 GTO 2	22 02
009 h BC I	35 34	025 RCL E	34 15
010 STO E	33 15	026 h ST I	35 33
011 RCL (1)	34 24	027 h x y	35 52
012 f LBL 2	31 25 02	028 STO (1)	33 24
013 h CF 0	35 61 00	029 f DSZ	31 33
014 f DSZ	31 33	030 GTO 1	22 01
015 h SF 0	35 51 00	031 h RTN	35 22
016 RCL (1)	34 24		

Numbers to be sorted are stored in registers R_0 to R_n where $n \leq 23$. Key number of registers to be sorted (i.e. "n+1") and key A for ascending sort or f a for a descending sort. "n+1" is destroyed and must be re-entered for each sort. Gus Kutsko(1481)

67 MAGIC

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The following is based on an old magic trick. Make up a set of cards as follows:

16 17 18 19	8 9 10 11	4 5 6 7
20 21 22 23	12 13 14 15	12 13 14 15
24 25 26 27	24 25 26 27	20 21 22 23
28 29 30 31	28 29 30 31	28 29 30 31
A	B	C
2 3 6 7		1 3 5 7
10 11 14 15		9 11 13 15
18 19 22 23		17 19 21 23
26 27 30 31		25 27 29 31
D		E

Instructions: Load in the program below.

Choose any number from 0 to 31. Examine the cards, and if your number appears on card A, press A. If your number is on card B, press B, examining each card in turn and pressing the corresponding letter key only if your number is on the card. After checking card E and pressing E if your number is on card E, press R/S... The magician (H.P. 67) has guessed your number! What's more, the trick can be repeated as often as you wish (program is "self-initializing").

Example: You choose 23. Press A,C,D,E (not B), R/S

Program: 001 A 008 C 015 1
 002 1 009 4 016 LBL 0
 003 6 010 GTO 0 017 STO + 0
 004 GTO 0 011 D 018 CLX
 005 B 012 2 019 RTN
 006 8 013 GTO 0 020 RCL 0
 007 GTO 0 014 E 021 STO - 0
 022 R/S

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