

..., A(0,3), A(1,0), ..., A(1,3), A(2,0), ..., A(2,3). Each element is a floating point value, and is therefore stored in four bytes.

The following routines illustrate the use of GTPAR. They move the values of XYBASIC variables to and from memory. They could be used to save and load variable values on a mass storage device such as a digital cassette drive which communicates with memory. They could also be used to save variables during a power failure if a portion of the computer's memory had battery backup.

The routine STOVAR expects two parameters, an integer variable giving the memory location to be used as the storage destination and the variable to be saved. Similarly, the routine RCLVAR expects two parameters, an integer variable giving the memory location used and the variable to be recalled. The machine language routines are as follows:

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0100 =      XYBASIC EQU      100H      ;START OF XYBASIC
0103 =      GTPAR EQU      XYBASIC+3  ;GTPAR ENTRY POINT
0168 =      ERROR EQU      XYBASIC+68H ;ERROR ENTRY POINT
FC00      ORG      0FC00H

;STORE VARIABLE
FC00 CD3CFC  STOVAR: CALL  GETIP  ;STORE ADDRESS IN DE
FC03 D5      PUSH  D      ;SAVE STORE ADDRESS
FC04 CD0301  CALL  GTPAR  ;POINTERS TO VARIABLE
FC07 D1      POP   D      ;RESTORE STORE ADDRESS
FC08 B7      ORA   A      ;PARAMETER PRESENT?
FC09 CA6801  JZ     ERROR  ;NO - TAKE ERROR EXIT
FC0C FE03    CPI    2      ;STRING VARIABLE?
FC0E C230FC  JNZ    MOVER  ;NO - ALL SET TO MOVE
FC11 46      MOV   B,M     ;LENGTH OF STRING TO B
FC12 23      INX   H      ;POINT TO STRING ADDRESS
FC13 7E      MOV   A,M     ;LOW STRING ADDRESS
FC14 23      INX   H
FC15 66      MOV   H,M     ;HIGH STRING ADDRESS
FC16 6F      MOV   L,A     ;STRING ADDRESS TO HL
FC17 C330FC  JMP    MOVER  ;STORE IT

;RECALL VARIABLE
FC1A CD3CFC  RCLVAR: CALL  GETIP  ;RECALL ADDRESS TO DE
FC1D D5      PUSH  D      ;SAVE RECALL ADDRESS
FC1E CD0301  CALL  GTPAR  ;POINTERS TO VARIABLE
FC21 D1      POP   D      ;RESTORE RECALL ADDRESS
FC22 EB      XCHG        ;RECALL ADDRESS TO HL,
                        ;VARIABLE ADDRESS TO DE
FC23 FE03    CPI    2      ;STRING VARIABLE?
FC25 C230FC  JNZ    MOVER  ;NO - ALL SET TO MOVE
FC28 EB      XCHG        ;VARIABLE ADDRESS TO HL
FC29 46      MOV   B,M     ;STRING LENGTH TO B
FC2A 23      INX   H
FC2B 7E      MOV   A,M     ;LOW STRING ADDRESS
FC2C 23      INX   H
FC2D 66      MOV   H,M     ;HIGH STRING ADDRESS
FC2E 6F      MOV   L,A     ;STRING ADDRESS TO HL
FC2F EB      XCHG        ;RECALL ADDRESS TO HL,
                        ;STRING ADDRESS TO DE
                        ;MOVE FROM RECALL ADDRESS
                        ;TO STRING AND RETURN

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