Specification of Floating Point Computation Interpreter CI-2

For V.1.1.0   **Sep. 04, 2021   Mitsuru Yamada**

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(1) Mode: direct execution like calculator and program execution.

(2) Line number: 0 to 9999   [Example, 100: A=1.23E-15]

(3) Numeric range: -9.99999E38 to 9.99999E38, Minimum absolute value: 1.00000E-39

(4) Number of input digits: Mantissa should be within 6 digits.

(5) Variables:

Normal variable: single alphabet: A to Z, a to z.

Array variables:)X,)Y,)Z   [Argument range : 0 to 255]

Pointer variables: $ [Argument range: 0 to 65535,   example: A=B$, B$=C]

(6) Notation: Reverse Polish Notation   [' D=C A B+/ ' means D=C/(A+B) .]

(7) Four arithmetic operation: addition +, subtraction -, multiplication *, division /

(8) Elementary functions:

square root)Q, **sine**)S, **cosine**)C, **tangent**)T, **arcsine**)M, **arccosine**)N, **arctangent**)O,

exponential)E, **natural logarithm**)L, **exponentiation**)P,

hyperbolic sine)U, **hyperbolic cosine**)V, **hyperbolic tangent**)W, **absolute**)A, **integer**)I,

Example, 'A=B)S' means A=sin(B) .

(9) Condition statement: ?=, ?>, ?>=, ?<, ?<=   [Example, 100: A B?> 200!   (If A>B then go to line 200)]

(10) Jump statement: !   [Example, 100: C!   (C is a number or variable)]

(11) Input statement: &   [Example, 100: &   (Waiting for one line input)]

(12) Comment statement: #   [Example, 100: #TEST;]

(13) End statement: [Example, 100: 80$=0;   (Clear RUN_FLAG.)]

(14) Display format: ;

If there is no ';' at the end of the line, evaluation value of the line is output and the line break.

If there is ';', no output. If there is ';;', output and no line break.

(15) Display program list: @

Push '@' and 'CR' then display the first line. Push the spacebar to display the next line.

Pushing 'CR' again will display all the lines that follow it. Push 'LF' to exit.

'N@' will be displayed starting from line number N.

(16) Load program from serial interface: "

Push ' " ' and 'CR', then waiting to load user program from serial interface.

If you push 'CR' after loading the program, the end code '%' will be placed at the end of the program

and it will exit.

(17) Execute a program: !   Type in '!' in direct mode then execute program.

(18) Clear program: Type in, 4096$=37   (Set 25h to the head address 1000h of program area.)