

BasicII/PC – a semicompiling language

Basic II/PC is a compiler/interpreter program using an interactive language. In contrast to other Basic's which interpret the source program at each execution, Basic II/PC checks and compiles your source program as you enter it, line by line. A syntax error will therefore result in an immediate error message on the screen. While Basic II/PC contains elementary statements to write simple programs, it is designed to grow with the user to encompass more complex and efficient programs through easily added techniques. Basic II/PC allows the use of multicharacter variable names which aid in creating programs that are self-documenting and maintainable.

Features

- o Fast! Written in assembly language
- o Generates very compact program code
- o Conforms to ANSI X3.60-78 standard with many extensions
- o Long variable names
- o Multiline recursive functions with local variables
- o WHILE...WEND statements
- o IEEE standard floating point arithmetic with trigonometric functions
- o Extended precision fixed and floating point decimal string arithmetics
- o Automatic indentation for loops and functions
- o Program chaining with common statements
- o Formatted print commands
- o Date and time function
- o Extended EDIT functions
- o Running under MS-DOS, PC-DOS
- o ISAM option
- o GRAPHICS option
- o Uses 8087 arithmetic processor if installed
- o Easy setup for: Prompt, function keys, modes, PATH and startup program
- o Prepared for extension of new instructions and device drivers
- o Compatible with Basic II/806 on source level with very few limitations but a lot of 'add-on'

Program development

All programming is interactive with immediate syntax control and error monitoring. Multi-line functions permit both parameters and results to be transferred for easy program structure. Automatically indented loops provide for easy readability. Every type of error can be handled without stopping the program, promoting very stable program execution. Trace and single step functions simplify debugging.

With the aid of optional instructions, advanced database systems can also be utilized. User-written ASSEMBLER routines can be called up from the Basic II/PC program.

ISAM (option)

Isam is a database handling tool which is optional to Basic II/PC. Special instructions are used to create anything from simple telephone lists to advanced database systems. The ISAM is working in a B-tree way and permits the user to work with one or more databases at the same time. Index-sequential access with fixed record length allows up to 10 indices in the same database. All indices and keys are updated during writing, eliminating the need for sorting.

Graphics (option)

The graphics option supports Basic II/806 graphic commands.

Communication with other programs

Basic II/PC programs can co-operate with assembly routines located in internal memory areas. With the REQUEST statement direct use can be made of the MS-DOS system calls.

Data types and variables

Basic II/PC has 16 bit integers, 32 or 64 bit floats. Variables names can be of any length. All datatypes can be used in vectors and matrices with any number of dimensions.

Operations

Arithmetics: Exponential functions (**), Multiplication (*), Division (/), Addition (+), Subtraction (-).

Logic: and, eqv, imp, not, or, xor.

Relations: =, <>, >, <, >=, <=.

ASCII: String arithmetics with up to 125 character precision.

Commands

RUN, CLEAR, CON, NEW, AUTO, RENUMBER, ERASE, ED, LOAD, MERGE, LIST, SCR, SAVE, UNSAVE, STAT, CD, CHDIR, RMDIR, MKDIR, CAT, SCAN, SYSTEM, CHANGE

DATA INSTRUCTIONS

LET, READ, RESTORE, DIM, COMMON, DATA, SINGLE, DOUBLE, EXTEND, NO EXTEND, INTEGER, FLOAT, OPTION BASE, RANDOMIZE

Program flow instructions

STOP, END, BYE, CHAIN, DEF FN, RETURN, FNEND, FOR, FOR...TO...STEP, NEXT, GOSUB, GOTO, ON...GOSUB, ON...GOTO, IF...THEN...ELSE, WHILE, WEND, ON ERROR GOTO, RESUME, ON...RESTORE, TRACE, NO TRACE

I/O instructions

DIGITS, INPUT, INPUT LINE, POSIT, PRINT, GET, PUT, PRINT USING, NAME, KILL, OPEN, EOF, PREPARE, CLOSE, CLS, CRT, (CURUP, CURDN, CURLT, CURRT, HOME, DL, BEL, BOLDON, BOLDOFF, FLASH, OFF, REVON, REVOFF, UNDON, UNDOFF)

Mathematical functions

ABS(x), FIX(x), INT(x), MOD(x,y), PI, RND, SGN(x), SQR(x), EXP(x), LOG(x), LOG10(x), ATN(x), COS(x), TAN(x), SIN(x), HEX\$(x), OCT\$(x)

String handling functions

ADD\$, DIV\$, MUL\$, SUB\$, COMP%, NUM\$, VAL, ASCII, INSTR, LEN, MID\$, LEFT\$, RIGHT\$, CHR\$, SPACE\$, STRING\$, FIELD

Miscellaneous instructions and functions

CUR, ERRCODE, FN, REM or !, SLEEP, TAB, TIMES\$, REQUEST, SET TIME

Advanced instructions and functions

CALL, CVT, OUT, INP, PEEK, PEEK2, POKE, SWAP%, SYS, VAROOT, VARPTR, DEF SEG

ISAM functions(option)

ISAM OPEN, ISAM READ, ISAM WRITE, ISAM UPDATE, ISAM DELETE

Graphics instructions (option)

FGCTL, FGFILL, FGLINE, FGPAINT, FGPOINT, FGPICTURE, FGCSEG