

Notes on Starting FORTH for the fig-Forth User

A very popular book on the FORTH language called Starting FORTH has recently been published. The author, Leo Brodie, gives an excellent description of the FORTH language as implemented at FORTH, Inc. fig-FORTH differs from that implementation in some areas, and this document explains those differences. All comments that apply to fig-FORTH also apply to valForth.

BLANK = BLANKS (page 285)

Brodie describes the word BLANK. In fig-FORTH, this word is BLANKS.

EMPTY-BUFFERS vs. EMPTY-BUFFERS (page 283)

Brodie's word EMPTY-BUFFERS does not necessarily change the buffers. In fig-FORTH, EMPTY-BUFFERS zero fills the buffers.

CONTEXT vs. CONTEXT (page 247)

These two words are not synonymous in the two versions. fig-FORTH uses a system of VOC-LINKS with CONTEXT, while FORTH, Inc. does not.

EXIT = ;S (page 246)

The word EXIT, as Brodie describes it, is identical in function to ;S in fig-FORTH.

'S = SP@ (page 247)

The word 'S in FORTH, Inc.'s is SP@ in fig-FORTH.

EMPTY (page 84)

Not yet implemented in fig-FORTH.

WIPE vs. CLEAR (page 84)

CLEAR requires a screen number while WIPE clears the last screen edited.

ABORT" (page 103)

Not implemented in fig-FORTH.

?DUP = -DUP (page 103)

The word ?DUP in FORTH, Inc.'s is -DUP in fig-FORTH.

?STACK vs. ?STACK (page 103)

?STACK as described by Brodie as incorrect for fig-FORTH. ?STACK in fig-FORTH automatically aborts if there is a stack error.

NEGATE = MINUS, DNEGATE = DMINUS (pages 123, 178)

The words NEGATE and DNEGATE in FORTH, Inc.'s are MINUS and DMINUS respectively in fig-FORTH.

+LOOP vs. +LOOP (page 143)

The word +LOOP, as Brodie describes it, works differently for negative stepping than the +LOOP in fig-FORTH. fig-FORTH always ends if the index equals the limit, even for negative stepping.

PAGE = CLS (page 143)

Brodie's PAGE is called CLS in valForth. It has no equivalent in fig-FORTH.

U/MOD = U/ (page 177)

Brodie's U/MOD is U/ in fig-FORTH.

CREATE vs. CREATE (page 209)

Brodie's CREATE works differently from CREATE in fig-FORTH. A word using CREATE in fig-FORTH must unSMUDGE the header before the word can be used. The ";" unsmudges headers automatically. In addition, Brodie's CREATE and fig-FORTH CREATE move different default values in the CFA of the created header (see below).

CREATE = <BUILDS (page 209)

In Brodie's chapter 11 on extending the compiler, he uses the series CREATE... DOES>. In fig-FORTH, this should be <BUILDS...DOES>.

NUMBER vs. NUMBER (page 285)

Brodie's NUMBER only converts numbers to double length if the double word set is loaded. fig-FORTH always converts numbers to double length.

>IN = IN, H = DP (page 247)

The variable >IN and H in Brodie's FORTH are IN and DP respectively in fig-FORTH.

VARIABLE vs. VARIABLE (page 209)

The word VARIABLE, as Brodie describes it, accepts no value from the stack. fig-FORTH, on the other hand, does expect an initialization value from the stack.

' vs. ' (page 215)

These words are not synonymous. ' in Brodie is the same as ' 2- in fig-FORTH (or, more properly, ' CFA).