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Programming Languages Division

FORTRAN NOTE 17

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Source and Semi-compiled Program Formats on Magnetic Tape

This note describes the structure of a composite magnetic tape file from which the FORTRAN 4 compiler can select specified subfiles as input.

Source and Semi-compiled Program

Formats on Magnetic Tape

The first versions of the FORTRAN 4 compiler will accept only single-reel files and single record blocks. The layout is compatible with the proposed standard composite file formats (PDCC/171).

Tape Layout

The tape starts with a standard header label. The name may contain only the characters

Letters

Digits

Space

Hyphen

and must start with a letter.

The tape should end with an end-of-composite file Trailer Label, which is a tape mark followed by a 20 word qualifier block as follows:

Word	Contents or Use
0	// 00000007
1-19	Zero

Subfiles Between the labels may appear 0 or more subfiles. These must be simple subfiles, i.e. must not themselves contain subfiles. Each subfile starts with a subfile sentinel and ends with an end-of-subfile sentinel. The qualifier blocks are as follows. (The letter I indicates that the contents of the word are at present ignored by the FORTRAN compiler. They should be set as in PDCC 171 or left zero.)

Subfile Sentinel

Word	Contents or Use
0	// 00000006
1	I
2-4	Subfile name. May contain letters, digits, spaces and hyphens, and must start with a letter.
5-11	I
12	Indicates whether source or semi-compiled subfile as follows.

Word	Contents or Use
	B2F4: Source
	A200: Consolidated semi-compiled program; i.e. preceded by GPL etc.
	A300: Semi-compiled program
13	I
14	21 (source)
	20 (semi-compiled)
15	1
16	I Intended to specify position of sequencing information in record. Likely possibilities for FORTRAN are # 00100107 Sequencing in columns 73-80.
	0 No sequencing
17-19	I

End-of-subfile Sentinel

Word	Contents or Use
0	# 40000000
1	Count of blocks in subfile (excluding sentinels).
2-3	Zero
4-19	User information.

Source Subfiles

Within a source subfile may appear one or more segments and/or any steering statements allowed by the compiler. Each line of source is held by a record of between 2 and 21 words. The first word contains a count of the number of words in the record. Each record is a block (which is zero-filled up to five words if necessary).

Semi-compiled Subfiles

Within a semi-compiled subfile may appear one or more segments and/or any other records of semi-compiled allowed by the FORTRAN consolidator.

Each record is in standard semi-compiled form with between 1 and 20 words.

Not more than 18 words can contain useful information; another two may hold sequencing information. Each record is a block.

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