

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Project MAC

Artificial Intelligence Project
Memo 82

Memorandum MAC-M-249
July 1, 1965

To: Project MAC Participants
From: Peter Samson
Subject: MAC PDP-6 DECTape FILE STRUCTURE

*All numbers below are octal.

The MAC system programs, MACDMP, TECO, and MIDAS, assume a certain data structure on DECTapes which they handle. Each DECTape has 1100 blocks of 200 words, numbered 0 through 1077. Block 0 and blocks 1070 through 1077 are not used by the MAC system. Block 100 of each tape contains the File Directory: a 200-word table describing the current contents of blocks 1 through 1067. The data on the tape is organized into files, each file consisting of one or more blocks. Each file has a name and a mode: the name is composed of 2 six-character subnames, and the mode is a two-bit number. The File Directory has space for 27 files.

The subnames are stored as six sixbit characters, left-justified. Blanks fill out subnames. If either subname is not given, it is set to @. If one subname is given it is the second. For each usable block there is a 5-bit code in the block area telling its current use, as follows:

- ∅ block is free
- 1 part of file 1
- 27 part of file 27
- 3∅-32 unused codes
- 33 file directory block
- 34 unused code
- 35 unfiled output (TECO, MIDAS)
- 36 reserved block
- 37 end of block area

Marked on the sketch are the permanent contents of every file directory; the system tape directory has, in addition, 36 codes for blocks 75, 76, and 77.

M∅	M ₁	MODE #	MODE CHARACTER	Name of Mode	Written by
∅	∅	∅		ASCII	TECO (can be directed to mark as any mode)
∅	1	1	!	DUMP	MACDMP
1	∅	2	"	SBLK	MIDAS (absolute format)
1	1	3	#	RELOC	MIDAS (relocatable format)

The order of blocks within a file is from the beginning of the tape towards the end, i.e., in order of increasing block numbers. A file may have an extension, which has a unique file number and name. File number n would have an extension whose first subname is all blanks (binary ∅) and whose second subname is the binary number n. The order of blocks in the extension file is from the end of the tape back towards the beginning. It may in turn have an extension, which is in forward order, etc.

NAME AREA

56

Subname 1
Subname 2 Name of File 1

BLOCK AND

MODE AREA

27

36	36	36	36	36	36		

Subname 1
Subname 2 Name of File 27

Blocks 1-7; M₁ for File 1
Blocks 10-16; M₁ for File 2

33							

Blocks 10-17; M₁ for File 12

Blocks 233-241; M₁ for File 27
Blocks 242-250; M₁ for File 1

27

Blocks 474-502; M₁ for File 27
Blocks 503-511

43

Blocks 1061-1067
end marker

1

37	37	37	37	37	37	37	1
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