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## Programming Staff Note 8

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SUBJECT: Specifications for Command Printf in Accordance  
with the Projected Standardization of File  
Names (Staff Note 7)

As described in Staff Note 7, standardizing the forms by reinforcing the significance of class names would allow a single command to operate meaningfully on several file formats. Modifications are proposed here for the command printf; the command would produce different forms of output depending on the secondary name of the specified file.

```
printf  $\alpha$   $\beta$   $\gamma$   $\delta$ 
```

would type out file  $\alpha$ ,  $\beta$  starting at  $\gamma$ , where  $\gamma$  has the following meaning depending on the form of the file as indicated by  $\beta$ :

- a. BCD card images -  $\gamma$  is sequence number
- b. BSS card images -  $\gamma$  is entry point of desired subprogram
- c. BCD variable length records -  $\gamma$  is physical record number
- d. BINARY words -  $\gamma$  is physical word number.

In all cases, if  $\gamma$  is omitted, printing will start from the beginning of the file. If  $\beta$  does not correspond to one of the standard class names, form d. will be assumed.

The argument  $\delta$  specifies the maximum number of characters to be printed from each card image, record, etc. For example, if the fap command creates a listing file, each record of the listing would probably be more than 72 characters long; to abbreviate the on-line printing to one record per line, the user might specify  $\delta$  as 72.

It might be helpful to allow a fifth parameter, as

```
printf  $\alpha$   $\beta$   $\gamma$   $\delta$  omit
```

which would allow the user to suppress the printing of line numbers, physical record and word numbers, or entry points in a particular listing.

The following format is suggested for each of the four types of files:

a. BCD card images - lists card images with seq. field first.

```
printf foo fap
SEQ. FIELD FPT00010
00010 BEGIN CLA = 1
00020
.
.
00830
SEQ. FIELD TIM00100
00100
```

The SEQ. FIELD comment should come out whenever the alphabetic part of the sequence field changes. If sequence field is all blank, print 5 blanks. Otherwise treat blanks as equivalent to zeroes. If  $\delta$  is specified, only  $\delta$  characters are printed.

b. BSS card images - lists program length, entry points, and transfer vector.

```
printf foo bss
LENGTH 274 OCT
E. P. F00 00004 GAMMER 00027 DELTER 00177
T. V. EXIT SIGMER EPSILN SPH
LENGTH 23 OCT
E. P. FIP 00000
T. V.
LENGTH 5 OCT
MAIN PROGRAM
T. V. SUB EXIT
```

When "omit" is specified, only the lengths are printed. If  $\delta$  is present, only  $\delta$  characters will be printed per line.

c. Variable length BCD records.

```
printf foo bcd
00001 OUTPUT DATA FOR RUN 5
00002 TIME DISTANCE
00003 2.0 50 METERS
00004 THIS RECORD HAS MORE THAN 74 CHARACTERS IN
IT.
```

If "omit" is specified, the lines would be shifted 6 characters to the left. If 8 is omitted, all the characters in the record will be printed using as many lines as necessary. Otherwise 8 characters will be printed, using as many lines as necessary.

d. binary words - prints all words in file with a physical word number, 5 words per line.

```
printf foo saved
00001 050000 402320 040000 402321 ...
00006 ...
00011 ...
```

Whenever "omit" is specified, output would be shifted six columns to the left. If 8 is present, only 8 characters will be printed per line.