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DECUS NO.	8-427
TITLE	MEMO - A TEXT FORMATTING PROGRAM
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SOURCE LANGUAGE	PAL 8

MEMO

TO: THE DECUS COMMUNITY

FROM: G. RUTH

DATE: MAY 12, 1971

SUBJECT: "MEMO"

INTRODUCTION

MEMO IS A PROGRAM WRITTEN FOR THE PS/8 SYSTEM TO PRODUCE PAGED TEXT WITH MARGINS FROM FREE FORM TEXT. THE INTENTION IS TO PERMIT THE USER TO PRODUCE A READABLE AND NEATLY FORMATTED COPY OF TEXT WITH MINIMAL EFFORT. THE IDEA FOR THIS PROGRAM IS BORROWED FROM A PROGRAM NAMED RUNOFF WHICH RUNS ON CTSS AND MULTICS (LARGE COMMUNITY TIME SHARING SYSTEMS AT M.I.T.) THE PROGRAM HERE USES SIMILAR, BUT NOT IDENTICAL, COMMANDS AND UNDERLYING PRINCIPLES. IT IS NECESSARILY SIMPLER THAN RUNOFF BECAUSE THE LATTER RAN ON MUCH MORE SOPHISTOCATED MACHINES (IBM 7094 AND GE 645) AND HAD A FULL CHARACTER SET AVAILABLE (OUTPUT WAS ONTO IMB 2741'S) INSTEAD OF THAT OF THE ASR 33. MY PROGRAM IS GIVEN THE NAME MEMO RATHER THAN RUNOFF, THEN, TO EMPHASIZE THAT IT IS BUT A TOY IN COMPARISON.

REQUIREMENTS

MEMO, TOGETHER WITH ITS BUFFERS, OCCUPIES LOCATIONS 0-3377. THE MINIMUM EQUIPMENT IS THAT FOR THE PS/8 PROGRAMMING SYSTEM, VIZ. A PDP-8 OR 8/I, ASR-33, AND EITHER DECTAPE OR DISK (IF THE SYSTEM DEVICE IS A DISK, IT MUST HAVE AT LEAST 96K WORDS AND EITHER A DECTAPE OR A HIGH SPEED PATERTAPE READER/PUNCH).

USAGE

THE STARTING ADDRESS IS 200. IT IS NOT ADVISABLE TO RESTART THE PROGRAM AS THE RESULTS WOULD BE UNPREDICTABLE. MEMO USES THE USR (USER SERVICE ROUTINE) TO CALL THE COMMAND DECODER. THE CD PRINTS AN ASTERISK ('*') AND THE USER TYPES THE INPUT FILE NAME AS USUAL, WITH OPTIONS AS EXPLAINED BELOW. THE DEVICE HANDLER CORRESPONDING TO THE INPUT FILE IS THEN READ IN, VIA THE USR. TWO PAGES IN CORE ARE PROVIDED FOR THIS HANDLER.

THE FILE IS READ IN, TWO PAGES (ONE BLOCK) AT A TIME, AS TEXT IS NEEDED. OUTPUT IS ALWAYS ONTO THE ASR 33.

DESCRIPTION

MEMO ACCEPTS AS INPUT AN ANSCII FILE CREATED BY EDIT (OR A FILE WITH EXACTLY THE SAME INTERNAL FORMAT). THE INPUT FILE CONSISTS OF COMMANDS, TEXT, AND AN END OF FILE MARKER. THE PURPOSE OF THE COMMANDS IS TO SPECIFY FORMATTING INFORMATION TO MEMO. ONLY ONE COMMAND OR A COMMAND AND ITS ARGUMENT MAY APPEAR

ON EACH LINE, AT THE BEGINNING OF THAT LINE (THE REST OF THE LINE
IS IGNORED). EACH COMMAND MUST BE IMMEDIATELY PRECEDED BY A
PERIOD ('.'). SOME COMMANDS HAVE OPTIONAL ARGUMENTS. IF
PRESENT, THE ARGUMENT MAY DIRECTLY FOLLOW THE COMMAND OR ANY
NUMBER OF SPACES MAY INTERVENE. IF THE ARGUMENT IS NOT PRESENT,
THE DEFAULT VALUE IS USED. THE COMMANDS, THEIR ARGUMENTS, AND
THEIR DEFAULT VALUES ARE LISTED BELOW.

UNLESS OTHERWISE SPECIFIED (BY COMMANDS), TEXT IS PRINTED
RIGHT AND LEFT JUSTIFIED AND PACKED AS DENSELY IN LINES AS POS-
SIBLE. THE USER MAY INSERT THE CHARACTER "↑" IN ANY WORD TO SHOW
WHERE SYLLABICATION IS POSSIBLE. THE UP-ARROW WILL NOT APPEAR IN
THE OUTPUT. THIS IS ESPECIALLY USEFUL FOR LARGE WORDS (OTHERWISE
THEY MIGHT NOT FIT ON THE END OF A LINE AND THUS CAUSE THE DIS-
TRIBUTION OF WORDS IN THAT LINE TO BE VERY SPARSE). THIS FEATURE
MAY BE USED EXTENSIVELY (E.G. FOR SHORT LINE LENGTHS) OR NOT AT
ALL (E.G. FOR TYPICAL LINE LENGTHS AND FEW LONG WORDS).

AN EMPTY LINE OR LINES OR A LINE BEGINNING WITH INDENTA-
TION (SPACES OR A TAB) WILL CAUSE A BREAK IN THE PRECEDING TEXT,
AND THE START OF A NEW LINE. PAGING IS AUTOMATIC.

THE END OF FILE MARKER, (SHIFT-L) MUST APPEAR AS THE ONLY
CHARACTER ON THE LAST LINE OF THE TEXT FILE. PAGINATION OF THE
INPUT FILE MAY BE USED FREELY.

AS THE READER MIGHT ALREADY HAVE SURMISED, THIS MEMO WAS
PRODUCED BY THE PROGRAM.

Table 1   Options.

Option	Meaning
/W	Wait before typing output; the user types carriage return when ready.
/S	Stop and wait after each page; the user types carriage return when ready.

Table 2   In-Text Commands.

Command	Default	Meaning
.BP		Begin new page.
.BR		Break (begin new line).
.CEn	n = 1	Center the next n lines.
.DS	no	Double space.
.LLn	n = 65	Line length = n
.PF	no	Type page number at bottom of each page.
.PF2	no	Type page number at bottom of each page, starting with page 2.
.PH	no	Type page number at top of each page.
.PH2	no	Type page number at top of each page, starting with page 2.
.SS	yes	Single space.
.TBn	n = 7	Translate tab to n spaces (n ≠ 0).
.TRab		Replace every occurrence of a by b in the output.