RECOMP II USERS' PROGRAM NO. 1087

PROGRAM TITLE:	BLOCK PRINTOUT OF A MATRIX, FLOATING POINT ARITHMETIC (PRMATRIX)
PROGRAM CLASSIFICATION:	General
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PURPOSE:	To print out a matrix in the proper row and column conformation in floating point mode. In the case where the matrix is too large to be printed in exact form, it is divided into blocks.
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PROGRAM NO. W.H.O.I. 18

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PROGRAM DESCRIPTION

PROGRAMMER Elizabeth L. Curl

PROGRAM TITLE: BLOCK PRINTOUT OF A MATRIX, FLOATING POINT ARITH. (PRMATRIX)

1. PURPOSE

1.1 To print out a matrix in the proper row and column conformation in floating point mode. In the case where the matrix is too large to be printed in exact form it is divided into blocks.

2. RESTRICTIONS

2.1 This subroutine uses W.H.O.I. 19 (PRØUT) and AN-014; therefore all restrictions of AN-014 apply.

2.2 The data for the matrix must be in floating point format and sequentually row-wise.

2.3 The Prout routine is set to double space between lines and tab between numbers. The significant figures and number of numbers per line should be planned and the typewriter margins and tabs set accordingly.

3. METHOD

3.1)
) The accuracy and range are limited by AN.014
3.2)

4. USAGE

4.1 Prout and AN-014 are not included as part of the subroutine tape. Prout must be provided in location X+140.0 and AN.014 in X+210 where X is the first

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location occupied by this subroutine or Prout and AN-014 may be located anywhere the user desires by inserting in locations:

X+0003.0, X+0100.0 and X+0104.0

+57 XXXX.0 and 000000.0

where XXXX.0 is the desired location of Prout - see Prout and write up for adjustment of AN-014.

4.2)
) Calling sequence and explanation of symbols

4.3)

SLL

α	+TRA	PRMATRIX
	+SF	$\overline{NR}$ $\overline{NC}$
α+1	+W	Loc TM

Normal

where SF is the number of significant figures to be output

$2 \leq SF \leq 13_8$

NR is the number of rows in the matrix,
NC is the number of columns in the matrix,
W is the number of words per line,
LOC TM is the location of the first floating point number in the matrix (R1, C1).

All of these should be given in octal.

4.4 There are no error provisions.

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4.5 This routine occupies 96 full words (0000 - 0137).

4.6 The subroutine is relocatable (see 4.1)

4.7 The L and V loops are used throughout but cleared before transference to Prout and AN-014.

4.8,10 For options and output format) See Prout section 4.8

5. CODING INFORMATION

5.1 Location of constants

0007 Spacer = 1.s C/R C/R f.s.

0021 1 at 39

0022 zero

0036 MASK 2 + 00 0000.00 - 007700.0

0037 MASK 1 + 00 0000.00 - 770000.0

0047 MASK 3 + 00 0000.00 - 000077.8

0065 1 at 38

5.2 There is one erasable location 0130.

5.3 Timing: The time taken to type out a matrix is approximately that of PRØUT (28 00 + 150 NN) NW in milliseconds. The time will be slightly increased if the matrix is typed in more than one block.