

RECOMP II USERS' PROGRAM NO. 1017

PROGRAM TITLE: AFIT 023 MATRIX ROW AND COLUMN ADDITION

PROGRAM CLASSIFICATION: Service Routine

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PURPOSE: To form and to type out the sum of each row and the sum of each column of an  $m \times n$  matrix, together with the total of the row sums, and, as a check, the total of the column sums.

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DISCLAIMER

Although it is assumed that all the instructions have been taken to check out the program, the user assumes responsibility for any errors in the results, and the user assumes responsibility for any damage to the program or to the computer system. The user assumes responsibility for any damage to the program or to the computer system. The user assumes responsibility for any damage to the program or to the computer system.

Matrix Row and Column Addition (contd)

OPERATION: 9. contd.

where  $n n$  is a two digit octal number which specifies the number of digits to be typed in the characteristic of each summation. This number may be as large as desired but will have little significance if it exceeds  $11_{10}$ .

10. Press photoreader FILL button. The machine will compute, and type its results in the following format:

Sum of elements in Column 1

Sum of elements in Column 2

-----

Sum of elements in Last Column

Sum of the Column Sums

Sum of Elements in Row 1

Sum of Elements in Row 2

-----

Sum of the Row Sums.

Each answer is typed as a floating decimal number, that is, a characteristic followed by an exponent. AFIT 019 is used for output.

LOCATIONS OCCUPIED:

0000

0007 - 0134

0400 - 0430

0434 - 0765

6715 - 6717

7000 - 7012

1000 --- for storage of matrix elements.

**PURPOSE:** To form and to type out the sum of each row and the sum of each column of an  $m \times n$  matrix, together with the total of the row sums, and, as a check, the total of the column sums.

The matrix may have any number of elements up to 832, and may range in size from  $2 \times 416$  to  $416 \times 2$ .

- OPERATION:**
1. Set typewriter spacing, and left margin, as desired. Place the TAB DEFEAT SWITCH (under the typewriter cover) in the forward position (toward operator).
  2. Place the tape in the photoreader and press the photoreader FILL button. The tape will stop with the Location Counter set at 0024.0.
  3. On the console, enter  $m$ , the number of rows in the matrix, in the form:

(N) (+) (m) (Decimal) (ENTER)  
(Point)

4. The location counter now reads 0025.0. Enter  $n$ , the number of columns in the matrix, in the same manner as in step (4).
5. Press photoreader FILL button. The tape will stop with the Location Counter set at 1000.0.
6. Press N on the console, and enter the first matrix element into locations 1000, 1001, in the form

(Sign) (Integer Digits) (Decimal) (Fractional digits) (ENTER).  
or zero (Point) (or zero)

7. Continue to enter the matrix elements in the same manner, taking them in order from top to bottom of the leftmost column, then from top to bottom of the second column, and so on until all are entered.
8. Press photoreader FILL button. The tape will stop with the Location Counter set at 0022. If the desired number of digits in the typed summations is different from eight, proceed to step 9. If eight digits is satisfactory, proceed to step 10.
9. On the console, press C, and enter the command word

+00 0000 0 + 00 00 n n 0

**PURPOSE:** To form and to type out the sum of each row and the sum of each column of an  $m \times n$  matrix, together with the total of the row sums, and, as a check, the total of the column sums.

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9. On the console, press C, and enter the command word

+00 0000 0 + 00 00 n n 0

Matrix Row and Column Addition (contd)

OPERATION: 9. contd.

where  $nn$  is a two digit octal number which specifies the number of digits to be typed in the characteristic of each summation. This number may be as large as desired but will have little significance if it exceeds  $11_{10}$ .

10. Press photoreader FILL button. The machine will compute, and type its results in the following format:

```
Sum of elements in Column 1
Sum of elements in Column 2
-----
Sum of elements in Last Column
Sum of the Column Sums
Sum of Elements in Row 1
Sum of Elements in Row 2
-----
Sum of the Row Sums.
```

Each answer is typed as a floating decimal number, that is, a characteristic followed by an exponent. AFTT 019 is used for output.

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