



REVISION NOTICE

This publication replaces previous descriptions of "Matrix Add-Subtract 2," program D1-329.0. Program designations have been changed to current usage.

FUNCTION

"Matrix Add-Subtract 2" enables the user to add or subtract two matrices, A_{ij} and B_{ij} , which are the same size but not necessarily square.

$$A \pm B = C$$

INPUT

The following data must be supplied to the computer :

1. Matrices A and B, each consisting of i rows and j columns of elements, are stored in consecutive memory locations in floating point form. Both matrices must be the same sort, i.e., both row major, column minor; or both column major, row minor.
2. The Floating Point Interpretive System 1, program H1-24.0, is stored beginning in location F.
3. A calling sequence consisting of the following information:
 - a. The initial location of program H1-24.0.
 - b. The initial location of matrix A (A_0).
 - c. The number of rows (i) at $q = 23$, and the number of columns (j) at $q = 29$, in each matrix.
 - d. The initial location of matrix B (B_0).
 - e. The initial location for matrix C (C_0).

MATRIX ADD-SUBTRACT 2

CALLING SEQUENCE

<u>Location</u>	<u>Order</u>	<u>Address</u>	<u>Notes</u>
XXXX	R	L_0	Initial location of program D1-339.3
XXXX + 1	U	L_0	
XXXX + 2	Z	F	Initial location of program H1-24.0
XXXX + 3	Z	A_0	
XXXX + 4	Z	ij	i in track; j in sector
XXXX + 5	A or S	B_0	A for A + B; S for A - B
XXXX + 6	Z	C_0	
XXXX + 7	etc.		

OUTPUT

Matrix C_{ij} , in floating point format, is stored in consecutive memory locations beginning in location C_0 .

TIME

Approximately $.9_{ij}$ seconds are required.

STORAGE

64 locations (1 track) are required in memory for storage of instructions and constants. No temporary storage is needed except as used by program H1-24.0.

NOTES

Reserve $i \times j$ locations for each matrix. It is possible to store the computed elements of matrix C in locations A or B as well as in non - A or non - B.

29.3

D1-329.3

b0000'y0037'y0036'b0000'a0047'y0014'
a0047'y0026'a0044'y0021'a0047'y0017'
a0047'y0056'b0000'h0048'y0038'b0000'
y0040's0048'h0046'b0000'h0039'e0052'
s0040'h0048'b0000'h0049'e0050'h0051'
b0049'e0043'n0051'm0045'a0039'y0026'
r0000'u0000'b0000'h0000'xe0000'
u0057',0000010'3w00'4'800000'4''
wj''j3wj'y0039's0026't0036'u0000'
b0038'a0044'y0038'a0046'y0040'a0048'
u0053'.0000000'