

MATRIX AUGMENT

PURPOSE

Append the columns of one matrix onto another matrix.

DESCRIPTION

This command is most typically used to create a large matrix from a series of smaller ones. For example, when creating a large system of linear equations, the variables may be stored in multiple files. This command is currently limited to appending a matrix (as opposed to a variable) to another matrix. To append a variable, define a 1 column matrix (see the MATRIX DEFINITION command). The matrices being combined must contain the same number of rows. An error message is printed if they do not.

SYNTAX

LET <mat3> = MATRIX AUGMENT <mat1> <mat2>
 where <mat1> is a matrix with N1 columns;
 <mat2> is a matrix whose N2 columns will be appended to <mat1>;
 and <mat3> is a matrix with N1+N2 columns where the resulting matrix is saved (it typically is the same name as <mat1>, but this is not required).

EXAMPLES

LET A = MATRIX AUGMENT A B; . Both A and B are matrices

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

MATRIX DEFINITION = Set a matrix definition.
 MATRIX SUBMATRIX = Define a matrix submatrix.

APPLICATIONS

Linear Algebra

IMPLEMENTATION DATE

93/10

PROGRAM

```

READ MATRIX MA
1 2 3
4 5 6
END OF DATA
READ MATRIX MB
7 8
9 10
END OF DATA
LET MA = MATRIX AUGMENT MA MB
PRINT MA
    
```

The following output is generated.

```

          MATRIX MA      --          2 ROWS
          --              --          5 COLUMNS

VARIABLES--MA1          MA2          MA3          MA4          MA5

0.1000000E+01  0.2000000E+01  0.3000000E+01  0.7000000E+01  0.8000000E+01
0.4000000E+01  0.5000000E+01  0.6000000E+01  0.9000000E+01  0.1000000E+02
    
```