MATRIX SUBMATRIX

PURPOSE

Create a new matrix with row i and column j of the original matrix removed.

SYNTAX

LET <mat2> = MATRIX SUBMATRIX <mat1> <rowid> <colid> <SUBSET/EXCEPT/FOR qualification>
where <mat1> is the original matrix;
<mat2> is a matrix where the desired submatrix is saved;
<rowid> is the row of the original matrix to remove;
<colid> is the column of the original matrix to remove;
and where the <SUBSET/EXCEPT/FOR qualification> is optional and rarely used in this context.

Values for <rowid> (or <colid>) outside the range 1 to the number of rows (or columns) result in no row (or column) being deleted. Thus to delete a column only, specify the <rowid> to be 0. Likewise, to delete a row only, specify the <colid> to be 0.

EXAMPLES

LET C = MATRIX SUBMATRIX A 2 3

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

MATRIX ADJOINT	=	Compute the adjoint matrix of a matrix.
MATRIX DEFINITION	=	Set a matrix definition.
MATRIX MINOR	=	Compute a matrix minor.

APPLICATIONS

Linear Algebra

IMPLEMENTATION DATE

87/10 (versions prior to 95/2 are restricted to square matrices)

PROGRAM

```
READ MATRIX X
16 16 19 21 20
14 17 15 22 18
24 23 21 24 20
18 17 16 15 20
18 11 9 18 7
END OF DATA
LET A = MATRIX SUBMATRIX X 2 3
PRINT A
```

The following output is generated.

```
     MATRIX A      --          4 ROWS
                   --          4 COLUMNS

VARIABLES--A1          A2          A3          A4

 0.1600000E+02  0.1600000E+02  0.2100000E+02  0.2000000E+02
 0.2400000E+02  0.2300000E+02  0.2400000E+02  0.2000000E+02
 0.1800000E+02  0.1700000E+02  0.1500000E+02  0.2000000E+02
 0.1800000E+02  0.1100000E+02  0.1800000E+02  0.7000000E+01
```