LOGICAL NOR

PURPOSE

Carry out the logical negative disjunction of 2 variables where true values are coded as 1 and false values are coded as 0.

DESCRIPTION

Logical nor means that the result is true if both the input values are false. Otherwise, the result is false. For example, the logical nor of the 4-element variable 1 1 0 0 and the 4-element variable 1 0 1 0 is the 4-element variable 0 0 0 1. The logical sequence T F T F T T F F F T F T (T = true, F = false) can be coded as a "logical" variable as follows:

```
LET Y = DATA 1 0 1 0 1 1 0 0 0 1 0 1
```

For long sequences, you can use the SERIAL READ command. The IND function can be helpful in converting a numeric variable that is not coded with 0 and 1's to one that is.

SYNTAX

```
LET <v3> = LOGICAL NOR <v1> <v2>                    <SUBSET/EXCEPT/FOR/qualification>
```

where <v1> is the first variable;
<v2> is the second variable;
<v3> is the resultant variable;
and where the <SUBSET/EXCEPT/FOR qualification> is optional and rarely used in this context.

EXAMPLES

```
LET Y3 = LOGICAL NOR Y1 Y2
```

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

LOGICAL AND	=	Carries out a logical and.
LOGICAL OR	=	Carries out a logical or.
LOGICAL NAND	=	Carries out a logical negative and.
LOGICAL XOR	=	Carries out a logical xor.
LOGICAL IFF (LET)	=	Carries out a logical if-and-only-if.
LOGICAL NOT (LET)	=	Carries out a logical not.

REFERENCE

"Handbook of Mathematical Tables and Functions," Edition 5, Burington, McGraw-Hill, 1973 (page 132).

APPLICATIONS

Mathematics

IMPLEMENTATION DATE

87/10

PROGRAM

```
LET Y1 = DATA 1 1 0 0
LET Y2 = DATA 1 0 1 0
LET Y3 = LOGICAL NOR Y1 Y2
SET WRITE DECIMALS 0
WRITE Y1 Y2 Y3
```