

DIM

PURPOSE

Compute a positive difference of two numbers.

DESCRIPTION

The positive difference for two numbers x1 and x2 is the first number minus the minimum of the two numbers. If the smaller number comes first, the positive difference is returned as zero. For example, DIM(14,23) returns a value of 0 while DIM(23,14) returns a value of 9.

SYNTAX

LET <y2> = DIM(<x1>,<x2>) <SUBSET/EXCEPT/FOR qualification>
 where <x1> is a variable or parameter;
 <x2> is a variable or parameter of the same length as <x1>;
 <y2> is a variable or a parameter (depending on what <x1> is) where the computed positive differences are stored;
 and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

```
LET A = DIM(14,23)
LET A = DIM(23,14)
LET X2 = DIM(X1,X2)
```

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

- ABS = Compute the absolute value of a number.
- MOD = Compute the modulo (i.e., the remainder of x/y) of two numbers.
- MIN = Compute the minimum of two numbers.
- MAX = Compute the maximum of two numbers.

APPLICATIONS

Data transformation

IMPLEMENTATION DATE

Pre-1987

PROGRAM

```
LET X = SEQUENCE 1 1 9
LET Y1 = X**2
LET Y2 = X**1.5
LET Y3 = DIM(Y1,Y2)
SET WRITE DECIMALS 3; PRINT X Y1 Y2 Y3
```

The following output is generated.

1.000	1.000	1.000	0.000
2.000	4.000	2.828	1.172
3.000	9.000	5.196	3.804
4.000	16.000	8.000	8.000
5.000	25.000	11.180	13.820
6.000	36.000	14.697	21.303
7.000	49.000	18.520	30.480
8.000	64.000	22.627	41.373
9.000	81.000	27.000	54.000