

numlist — Parse numeric lists

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Description

The `numlist` command expands the numeric list supplied as a string argument and performs error checking based on the options specified. Any numeric sequence operators in the *numlist* string are evaluated, and the expanded list of numbers is returned in `r(numlist)`. See [U] 11.1.8 [numlist](#) for a discussion of numeric lists.

Syntax

```
numlist "numlist" [ , ascending descending integer missingokay min(#) max(#)
    range(operator# [operator#]) sort ]
```

*numlist* consists of one or more *numlist\_elements* shown below.

*operator* is as follows: < | <= | > | >=.

There is no space between *operator* and #; for example,

```
range(>=0)
range(>0 <=50)
```

<i>numlist_element</i>	Example	Expands to	Definition
#	3.82	3.82	a number
.	.	.	a missing value
# <sub>1</sub> /# <sub>2</sub>	4/6 2.3/5.7	4 5 6 2.3 3.3 4.3 5.3	starting at # <sub>1</sub> , increment by 1 to # <sub>2</sub>
# <sub>1</sub> (# <sub>2</sub> )# <sub>3</sub>	2(3)10 4.8(2.1)9.9	2 5 8 4.8 6.9 9	starting at # <sub>1</sub> , increment by # <sub>2</sub> to # <sub>3</sub>
# <sub>1</sub> [# <sub>2</sub> ]# <sub>3</sub>	2[3]10 4.8[2.1]9.9	2 5 8 4.8 6.9 9	starting at # <sub>1</sub> , increment by # <sub>2</sub> to # <sub>3</sub>
# <sub>1</sub> # <sub>2</sub> : # <sub>3</sub>	5 7 : 13 1.1 2.4 : 5.8	5 7 9 11 13 1.1 2.4 3.7 5	starting at # <sub>1</sub> , increment by (# <sub>2</sub> − # <sub>1</sub> ) to # <sub>3</sub>
# <sub>1</sub> # <sub>2</sub> to # <sub>3</sub>	5 7 to 13 1.1 2.4 to 5.8	same	same

collect is allowed; see [U] 11.1.10 [Prefix commands](#).

## Options

**ascending** indicates that the user must give the numeric list in ascending order without repeated values. This is different from the **sort** option.

**descending** indicates that the numeric list must be given in descending order without repeated values.

**integer** specifies that the user may give only integer values in the numeric list.

**missingokay** indicates that missing values are allowed in the numeric list. By default, missing values are not allowed.

**min(#)** specifies the minimum number of elements allowed in the numeric list. The default is **min(1)**. If you want to allow empty numeric lists, specify **min(0)**.

**max(#)** specifies the maximum number of elements allowed in the numeric list. The default is **max(1600)**, which is the largest allowed maximum.

**range(operator# [operator#])** specifies the acceptable range for the values in the numeric list. The *operators* are < (less than), <= (less than or equal to), > (greater than), and >= (greater than or equal to). No space is allowed between the *operator* and the *#*.

**sort** specifies that the returned numeric list be sorted. This is different from the **ascending** option, which places the responsibility for providing a sorted list on the user who will not be allowed to enter a nonsorted list. **sort**, on the other hand, puts no restriction on the user and takes care of sorting the list. Repeated values are also allowed with **sort**.

## Remarks and examples

[stata.com](https://www.stata.com)

Programmers rarely use the **numlist** command because **syntax** also expands numeric lists, and it handles the rest of the parsing problem, too, at least if the command being parsed follows standard syntax. **numlist** is used for expanding numeric lists when what is being parsed does not follow standard syntax.

### ► Example 1

We demonstrate the **numlist** command interactively.

```
. numlist "5.3 1.0234 3 6:18 -2.0033 5.3/7.3"
. display "'r(numlist)'"
5.3 1.0234 3 6 9 12 15 18 -2.0033 5.3 6.3 7.3
. numlist "5.3 1.0234 3 6:18 -2.0033 5.3/7.3", integer
invalid numlist has noninteger elements
r(126);
. numlist "1 5 8/12 15", integer descending
invalid numlist has elements out of order
r(124);
. numlist "1 5 8/12 15", integer ascending
. display "'r(numlist)'"
1 5 8 9 10 11 12 15
```

```

. numlist "100 1 5 8/12 15", integer ascending
invalid numlist has elements out of order
r(124);

. numlist "100 1 5 8/12 15", integer sort
. display "r(numlist)"
1 5 8 9 10 11 12 15 100

. numlist "3 5 . 28 -3(2)5"
invalid numlist has missing values
r(127);

. numlist "3 5 . 28 -3(2)5", missingokay min(3) max(25)
. display "r(numlist)"
3 5 . 28 -3 -1 1 3 5

. numlist "28 36", min(3) max(6)
invalid numlist has too few elements
r(122);

. numlist "28 36 -3 5 2.8 7 32 -8", min(3) max(6)
invalid numlist has too many elements
r(123);

. numlist "3/6 -4 -1 to 5", range(>=1)
invalid numlist has elements outside of allowed range
r(125);

. numlist "3/6", range(>=0 <30)
. display "r(numlist)"
3 4 5 6

```

&lt;

## Stored results

numlist stores the following in `r()`:

Macros

`r(numlist)`      expanded numeric list

## Also see

[P] [syntax](#) — Parse Stata syntax

[U] [11.1.8 numlist](#)

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