**range** — Generate numerical range



## Description

`range` generates a numerical range, which is useful for evaluating and graphing functions.

## Quick start

Generate `newv1` that ranges from 0 to $\pi$

```
range newv1 0 _pi
```

Same as above, but only for the first 50 observations in the dataset

```
range newv1 0 _pi 50
```

Generate `newv2` that ranges from the minimum to the maximum of `v2` after `summarize`

```
range newv2 r(min) r(max)
```

## Menu

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## Syntax

`range` *varname* $\#_{\text{first}}$ $\#_{\text{last}}$ [ $\#_{\text{obs}}$ ]

## Remarks and examples

`range` constructs the variable *varname*, taking on values $\#_{\text{first}}$ to $\#_{\text{last}}$, inclusive, over $\#_{\text{obs}}$. If $\#_{\text{obs}}$ is not specified, the number of observations in the current dataset is used.

`range` can be used to produce increasing sequences, such as

```
. range x 0 12.56 100
```

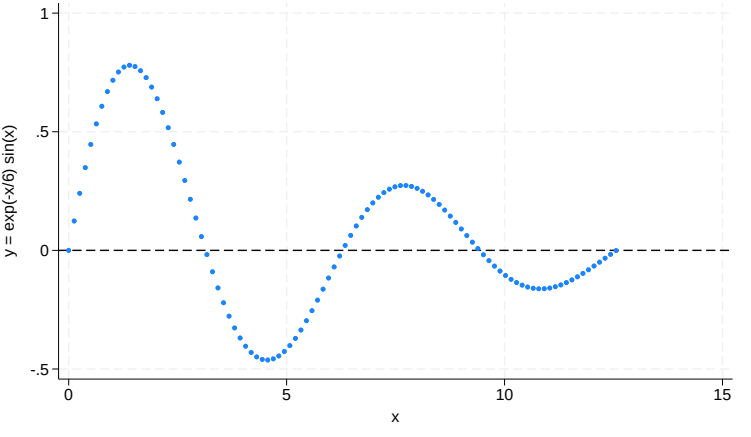
or it can be used to produce decreasing sequences:

```
. range z 100 1
```

## Example 1

To graph $y = e^{-x/6}\sin(x)$ over the interval $[\,0, 12.56\,]$, we can type

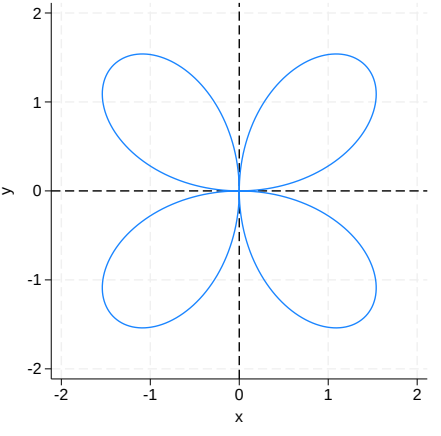
```
. range x 0 12.56 100
Number of observations (_N) was 0, now 100.
. generate y = exp(-x/6)*sin(x)
. scatter y x, yline(0) ytitle(y = exp(-x/6) sin(x))
```



### Example 2

Stata is not limited solely to graphing functions—it can draw parameterized curves as well. For instance, consider the curve given by the polar coordinate relation $r = 2\sin(2\theta)$. The conversion of polar coordinates to parameterized form is $(y, x) = (r\sin\theta, r\cos\theta)$, so we can type

```
. clear
. range theta 0 2*_pi 400
Number of observations (_N) was 0, now 400.
. generate r = 2*sin(2*theta)
. generate y = r*sin(theta)
. generate x = r*cos(theta)
. line y x, c(l) m(i) yline(0) xline(0) aspectratio(1)
```




## Also see

[D] **egen** — Extensions to generate

[D] **obs** — Increase the number of observations in a dataset

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