

range — Generate numerical range

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Description

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

Quick start

Generate `newv1` that ranges from 0 to π

```
range newv1 0 _pi
```

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)
```

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Syntax

```
range varname #first #last [#obs]
```

Remarks and examples

[stata.com](#)

`range` constructs the variable `varname`, taking on values `#first` to `#last`, inclusive, over `#obs`. If `#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:

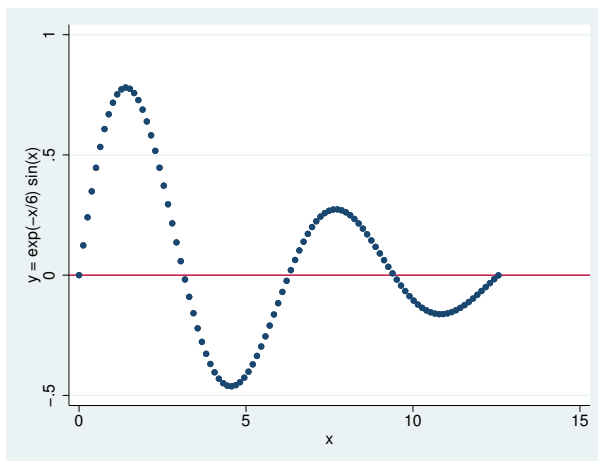
```
. range z 100 1
```

► 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))
```

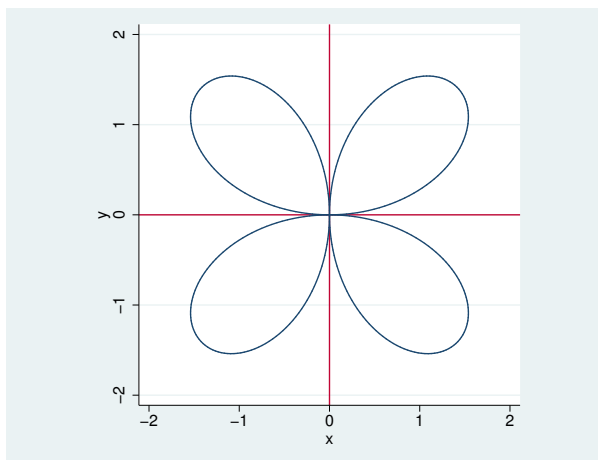


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▷ Example 2

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(1) m(i) yline(0) xline(0) aspectratio(1)
```



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Also see

[D] [egen](#) — Extensions to generate

[D] [obs](#) — Increase the number of observations in a dataset