range — Generate numerical range

Syntax

range varname #first #last [ #obs ]

Menu

Data > Create or change data > Other variable-creation commands > Generate numerical range

Description

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

Remarks and examples

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
obs was 0, now 100
. generate 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

```stata
. clear
. range theta 0 2*_pi 400
   (obs was 100, now 400)
. generate r = 2*sin(2*theta)
. generate y = r*sin(theta)
. generate x = r*cos(theta)
. line y x, yline(0) xline(0) aspectratio(1)
```
Also see

[D] egen — Extensions to generate

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