gnuplot Plotting from the shell

CONCEPTS

Settings stick until changed: set options stay active for later plots. Use unset <option> or reset to clear them.

Data / function file or expression
↓ `set ...`
Settings terminal, labels, ranges
↓ `plot`
Plot using, with, title
↓ `set output`
Output window, png, svg, pdf

Always set terminal first, then output, then plot. Call unset output at the end so the file is flushed and closed.

RUNNING

`gnuplot`
Start interactive prompt

`gnuplot` *`<script.gp>`*
Run a script file

`gnuplot -persist -e "plot sin(x)"`
Plot and keep the window

`gnuplot -e "`*`<cmds>`***`" `***`<script.gp>`***
Run a command, then a script

`gnuplot -c` *`<script.gp> <args>`*
Script with arguments

`help` *`<topic>`*
Built-in help

PLOTTING

`plot` *`<expr>`*
Plot a function of x

`plot '`*`<file>`***`'`**
Plot a data file (column 1 vs 2)

`plot '`*`<file>`***`' using 1:3`**
Pick columns for x and y

`plot '`*`<file>`***`' using 1:($2*2)`**
Compute with column values

`plot '`*`<f1>`***`', '`***`<f2>`***`'`**
Several datasets in one plot

`plot `*`<a>`***`, `***`<b>`***` title '`***`<name>`***`'`**
Name a curve in the legend

`plot [`*`<x0>`***`:`***`<x1>`***`] [`***`<y0>`***`:`***`<y1>`***`] `***`<expr>`***
Set ranges for this plot

PLOTTING (cont.)

`plot '`*`<file>`***`' using 1:2:3 with yerrorbars`**
Error bars

`plot '< `*`<cmd>`***`'`**
Plot output of a shell command

STYLES

`with lines`
Join points with lines

`with points`
Points only

`with linespoints`
Lines and points

AXES AND LABELS

`set title '`*`<text>`***`'`**
Plot title

`set xlabel '`*`<text>`***`'`**
X axis label

`set ylabel '`*`<text>`***`'`**
Y axis label

`set xrange [`*`<min>`***`:`***`<max>`***`]`**
Fix the x range

`set datafile separator ','`
Read CSV

OUTPUT

`set terminal png size 800,600`
Raster image

`set output '`*`<file>`***`'`**
Write output to a file

FIT AND STATS

`f(x) = a*x + b`
Define a function

`fit f(x) '`*`<file>`***`' using 1:2 via a,b`**
Least-squares fit

MULTIPLOT AND SCRIPTING

`set multiplot layout 2,2`
Grid of plots

`unset multiplot`
Finish the multiplot