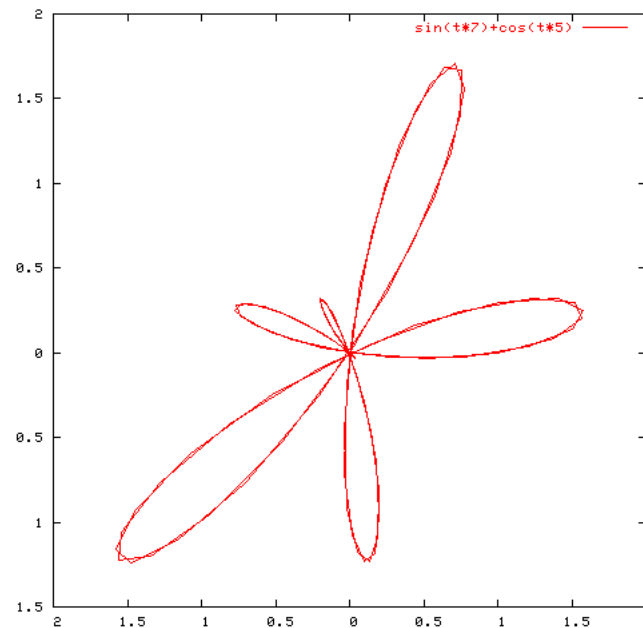


Gnuplot for plotting

The program `gnuplot` allows you to plot functions and data:



Running `gnuplot`

Most options for running `gnuplot` are invoked from inside `gnuplot`'s shell, so just

```
% gnuplot
```

is enough to get you started.



The basic plotting commands

- ☞ `plot` → operates either in rectangular or polar/parametric coordinates
- ☞ `splot` → lets you plot surfaces and contours
- ☞ `replot` → lets you redo a plot, such as when you change devices



Plotting functions

The basic command to plot a function of one variable is

```
gnuplot> plot f(x)
```



Functions

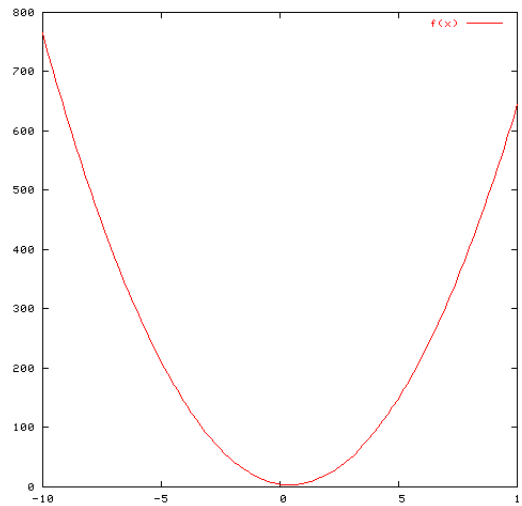
where $f(x)$ can be user defined or any of the standard math library functions:

abs	acos	acosh	arg
asin	asinh	atan	atan2
atanh	besj0	besj1	besy0
besy1	ceil	column	cos
cosh	erf	erfc	exp
floor	gamma	ibeta	igamma
imag	int	inverf	invnorm
lgamma	log	log10	norm
rand	real	sgn	sin
sinh	sqrt	tan	tanh

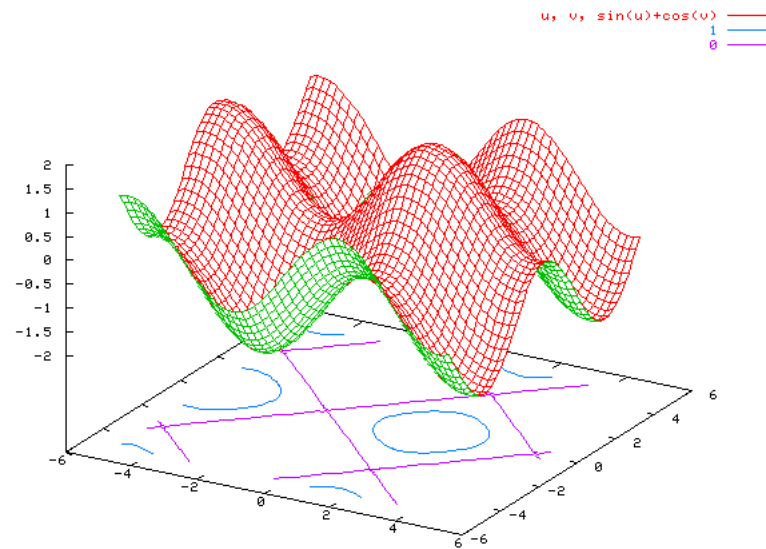


Examples of a simple function

```
gnuplot> f(x) = f(x) = 5 + (-6 + 7*x) * x  
gnuplot> plot f(x)
```



Example of surfaces and contours



Example of surfaces and contours

```
gnuplot> set parametric          # so we can specify u and v
gnuplot> set hidden3d           # nice looking mode
gnuplot> set contour base       # draw a base projection also
gnuplot> set isosamples 50,50   # lots of sampling
gnuplot> splot u,v,sin(u)+cos(v) # make the plot
```

