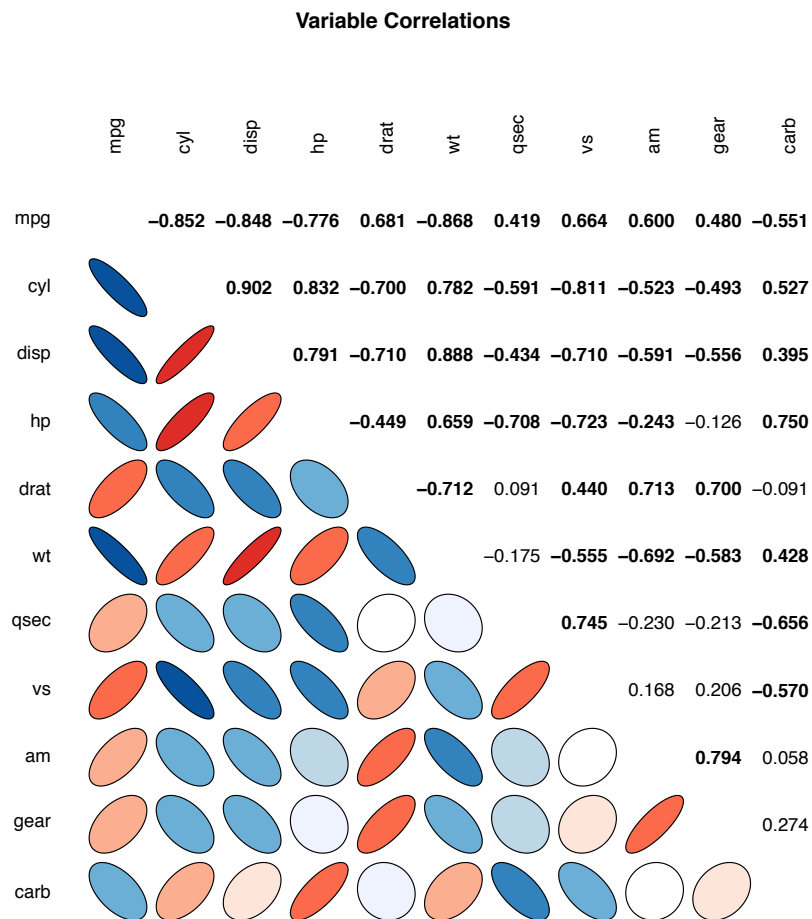# Using the new `corrPlot()` function.

```
> source("/Users/robbie/Desktop/cor plot 2.R")
> library(ellipse)
> data(mtcars)
> corrPlot(mtcars)
```

Variable Correlations

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
mpg		**−0.852**	**−0.848**	**−0.776**	**0.681**	**−0.868**	**0.419**	**0.664**	**0.600**	**0.480**	**−0.551**
cyl			**0.902**	**0.832**	**−0.700**	**0.782**	**−0.591**	**−0.811**	**−0.523**	**−0.493**	**0.527**
disp				**0.791**	**−0.710**	**0.888**	**−0.434**	**−0.710**	**−0.591**	**−0.556**	**0.395**
hp					**−0.449**	**0.659**	**−0.708**	**−0.723**	**−0.243**	−0.126	**0.750**
drat						**−0.712**	0.091	**0.440**	**0.713**	**0.700**	−0.091
wt							−0.175	**−0.555**	**−0.692**	**−0.583**	**0.428**
qsec								**0.745**	−0.230	−0.213	**−0.656**
vs									0.168	0.206	**−0.570**
am										**0.794**	0.058
gear											0.274
carb											

Options of `corrPlot()`

```
corrPlot <- function( data, varnames=colnames(data), digits=NULL, fontsize=NULL,title=NULL,
colors=TRUE, sig=NULL, alpha=0.05 )
```
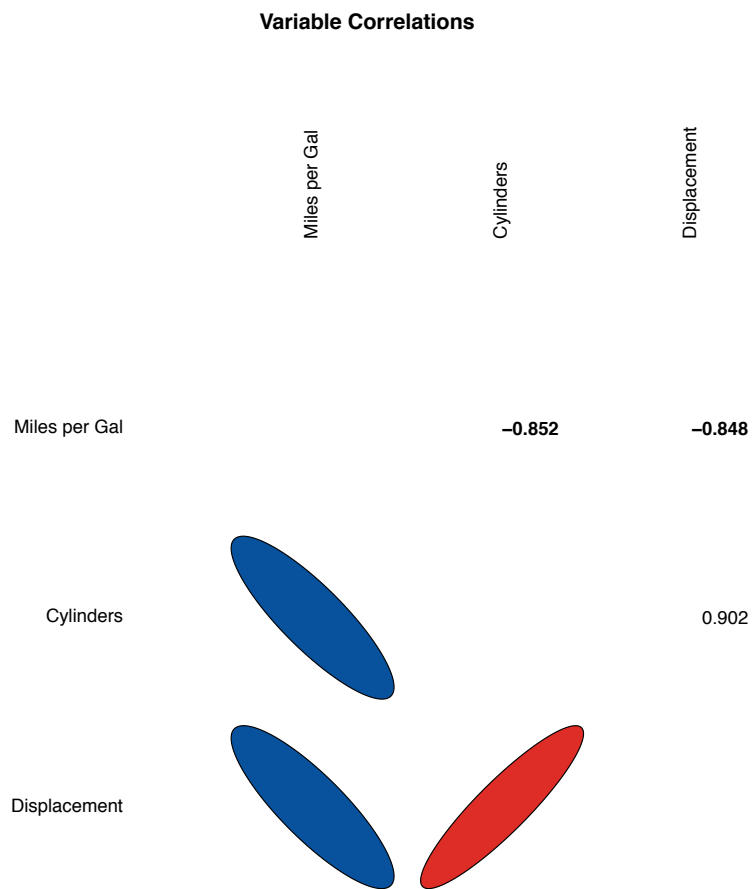
varnames

With this option you can change the variable names displayed on the correlation plot.

```
> submt<-mtcars[,1:3]
> names(submt)
[1] "mpg"  "cyl"  "disp"
> submtNames <- c("Miles per Gal", "Cylinders","Displacement")
> corrPlot(submt, varnames=submtNames)
```

Variable Correlations

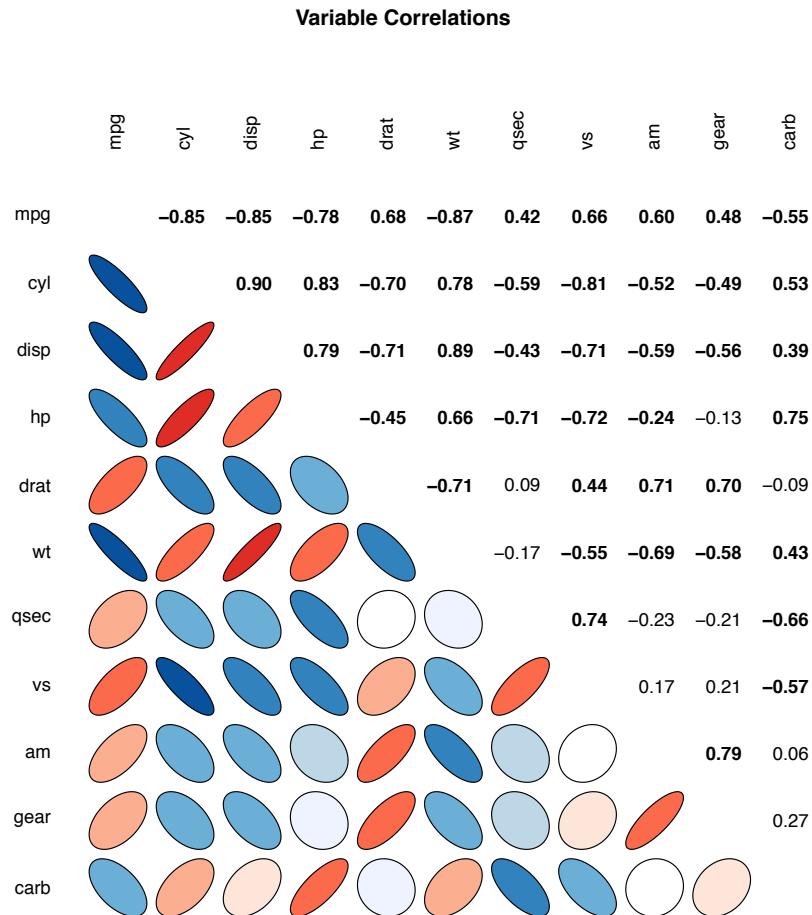|	Miles per Gal	Cylinders	Displacement
Miles per Gal		−0.852	−0.848
Cylinders			0.902
Displacement			

digits

This allows the user to change the number of digits displayed in the upper triangle of the plot.

```
> corrPlot(mtcars, digits=2)
```

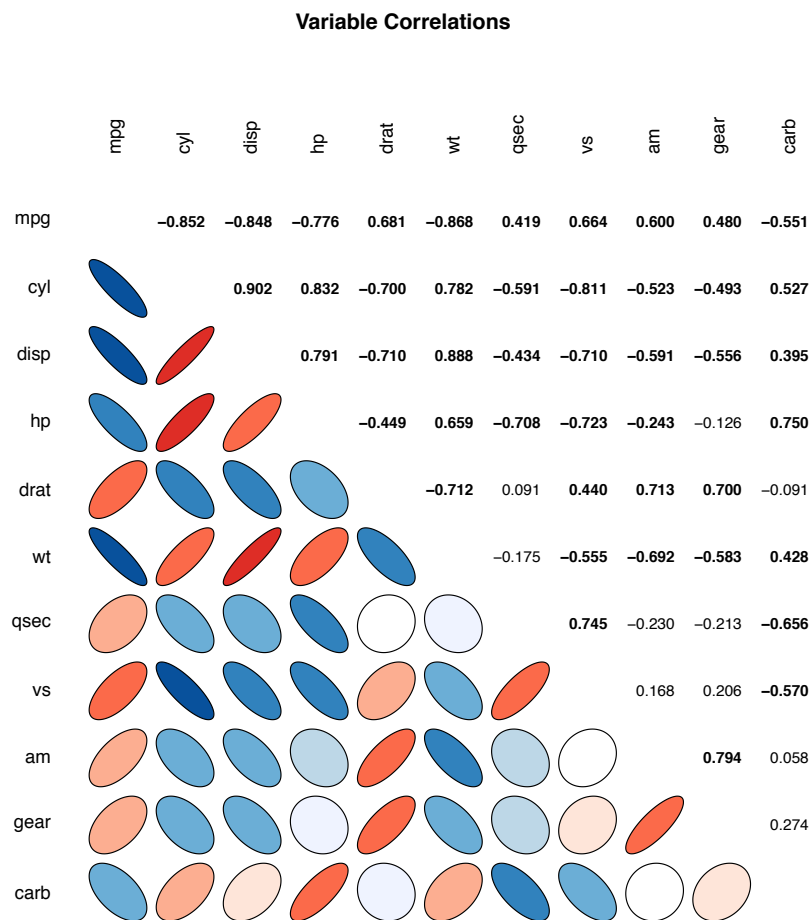**Variable Correlations**

fontsize

This allows the user to specify the font size displayed in the upper triangle. This is a proportional scale. The default is 1 (i.e. 100%). To decrease, use a number less than 1 and to increase use a number greater than 1. This examples show the font at 85% of normal size.

```
> corrPlot(mtcars, fontsize=0.85)
```

Variable Correlations

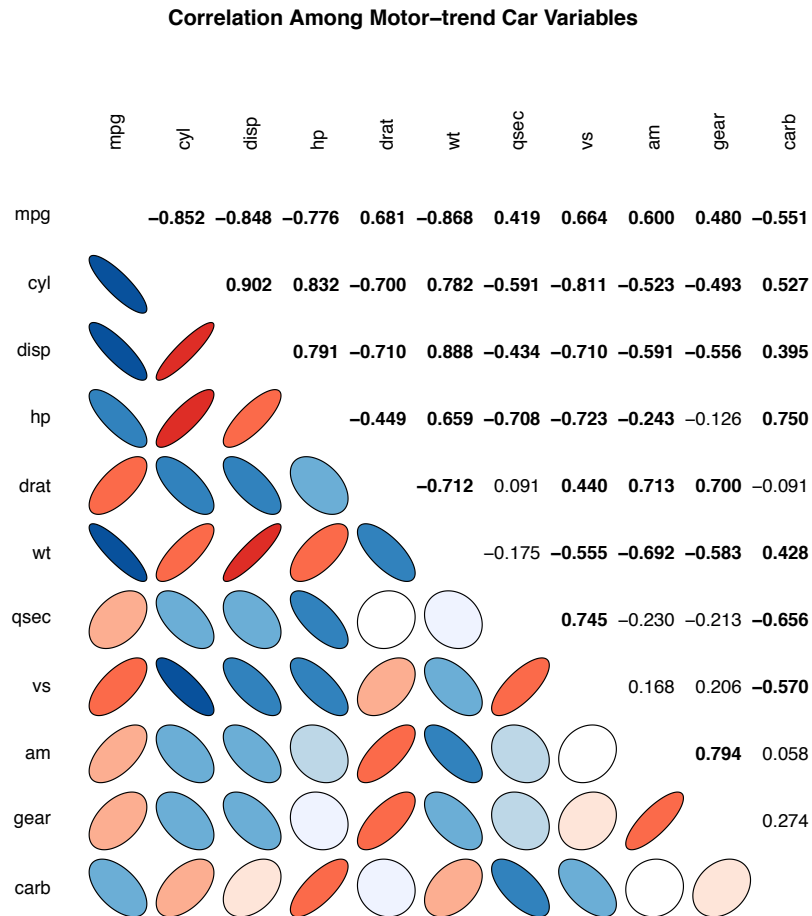|	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
mpg		−0.852	−0.848	−0.776	0.681	−0.868	0.419	0.664	0.600	0.480	−0.551
cyl			0.902	0.832	−0.700	0.782	−0.591	−0.811	−0.523	−0.493	0.527
disp				0.791	−0.710	0.888	−0.434	−0.710	−0.591	−0.556	0.395
hp					−0.449	0.659	−0.708	−0.723	−0.243	−0.126	0.750
drat						−0.712	0.091	0.440	0.713	0.700	−0.091
wt							−0.175	−0.555	−0.692	−0.583	0.428
qsec								0.745	−0.230	−0.213	−0.656
vs									0.168	0.206	−0.570
am										0.794	0.058
gear											0.274
carb											

title

This allows the user to specify the title of the plot.

```
> corrPlot(mtcars, title="Correlation Among Motor-trend Car Variables")
```

Correlation Among Motor–trend Car Variables

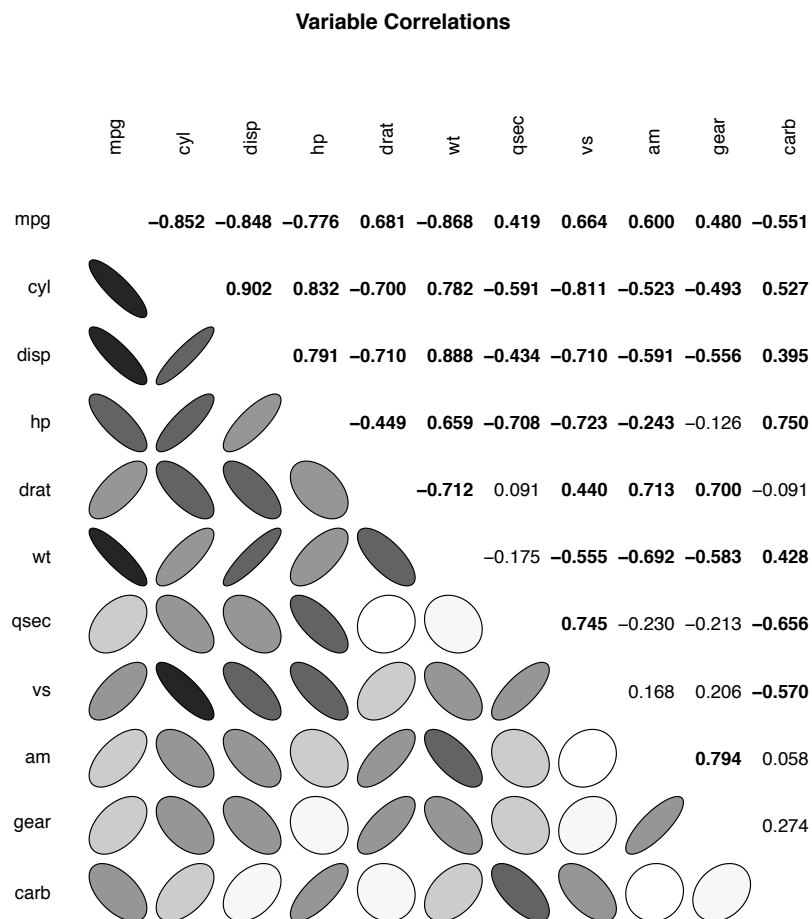|	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
mpg		**−0.852**	**−0.848**	**−0.776**	**0.681**	**−0.868**	**0.419**	**0.664**	**0.600**	**0.480**	**−0.551**
cyl			**0.902**	**0.832**	**−0.700**	**0.782**	**−0.591**	**−0.811**	**−0.523**	**−0.493**	**0.527**
disp				**0.791**	**−0.710**	**0.888**	**−0.434**	**−0.710**	**−0.591**	**−0.556**	**0.395**
hp					**−0.449**	**0.659**	**−0.708**	**−0.723**	**−0.243**	−0.126	**0.750**
drat						**−0.712**	0.091	**0.440**	**0.713**	**0.700**	−0.091
wt							−0.175	**−0.555**	**−0.692**	**−0.583**	**0.428**
qsec								**0.745**	−0.230	−0.213	**−0.656**
vs									0.168	0.206	**−0.570**
am										**0.794**	0.058
gear											0.274
carb											

colors

This allows the user to specify a colored or grayscale plot. In the grayscale plot, darker colors signify stronger correlations. The default is `color=TRUE`.

```
> corrPlot(mtcars, color=FALSE)
```

Variable Correlations

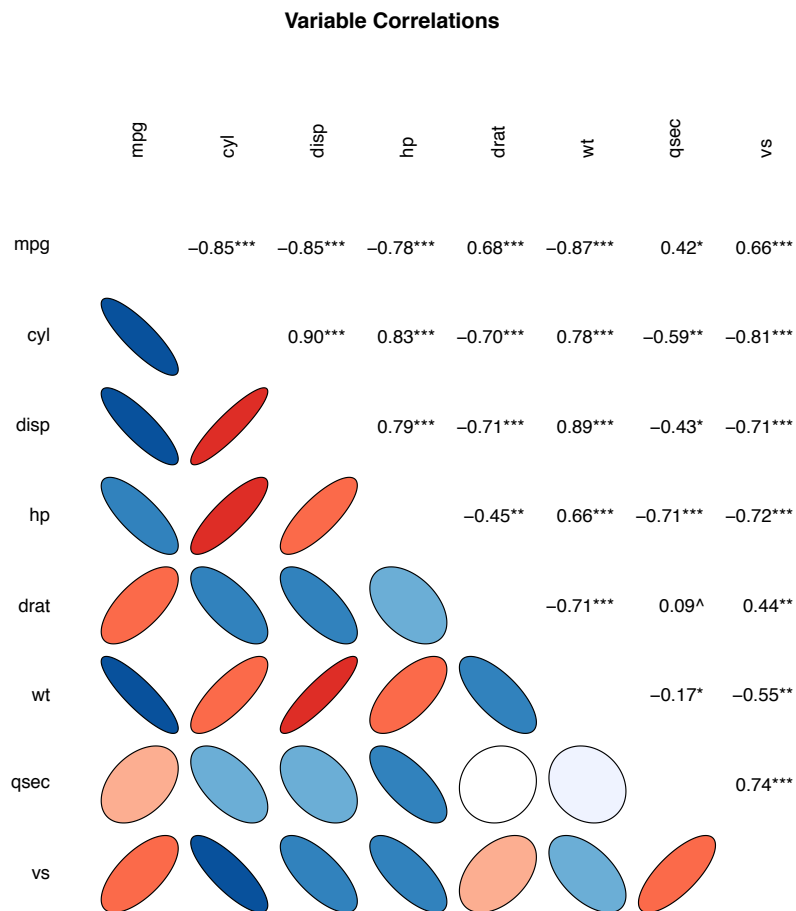|	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
mpg		−0.852	−0.848	−0.776	0.681	−0.868	0.419	0.664	0.600	0.480	−0.551
cyl			0.902	0.832	−0.700	0.782	−0.591	−0.811	−0.523	−0.493	0.527
disp				0.791	−0.710	0.888	−0.434	−0.710	−0.591	−0.556	0.395
hp					−0.449	0.659	−0.708	−0.723	−0.243	−0.126	0.750
drat						−0.712	0.091	0.440	0.713	0.700	−0.091
wt							−0.175	−0.555	−0.692	−0.583	0.428
qsec								0.745	−0.230	−0.213	−0.656
vs									0.168	0.206	−0.570
am										0.794	0.058
gear											0.274
carb											

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sig

This option allows the user to specify how to report significant correlations in the plot. `sig=1` is the default and shows significant correlations in bold. `sig=2` is another option that shows significant correlations using the star system: $***p < 0.001,\ **p < 0.01,\ *p < 0.05,\ \wedge p < 0.10$.

```
> submt2<- mtcars[,1:8]
> corrPlot(submt2, sig=2, digits=2)
```

Variable Correlations

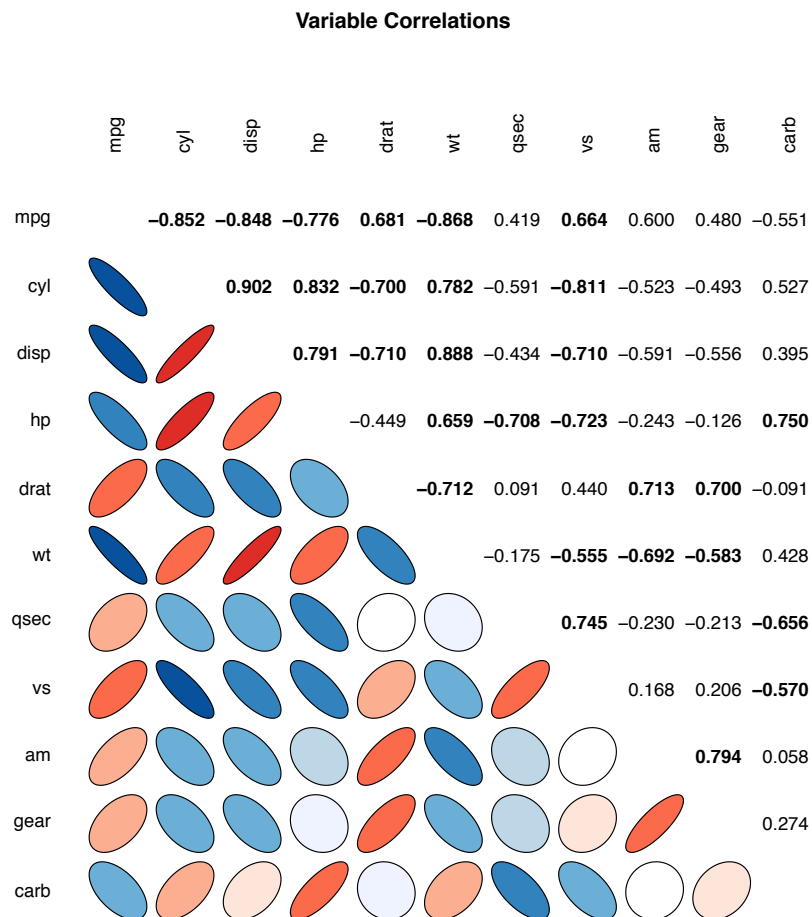|	mpg	cyl	disp	hp	drat	wt	qsec	vs
mpg		−0.85***	−0.85***	−0.78***	0.68***	−0.87***	0.42*	0.66***
cyl			0.90***	0.83***	−0.70***	0.78***	−0.59**	−0.81***
disp				0.79***	−0.71***	0.89***	−0.43*	−0.71***
hp					−0.45**	0.66***	−0.71***	−0.72***
drat						−0.71***	0.09^	0.44**
wt							−0.17*	−0.55**
qsec								0.74***
vs								

alpha

This option allows the user to specify at what α level significant correlations are bolded. This is only useful for the `sig=1` (default) option.

```
> corrPlot(mtcars, alpha=0.001)
```

Variable Correlations

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
mpg		**−0.852**	**−0.848**	**−0.776**	**0.681**	**−0.868**	0.419	**0.664**	0.600	0.480	−0.551
cyl			**0.902**	**0.832**	**−0.700**	**0.782**	−0.591	**−0.811**	−0.523	−0.493	0.527
disp				**0.791**	**−0.710**	**0.888**	−0.434	**−0.710**	−0.591	−0.556	0.395
hp					−0.449	**0.659**	**−0.708**	**−0.723**	−0.243	−0.126	**0.750**
drat						**−0.712**	0.091	0.440	**0.713**	**0.700**	−0.091
wt							−0.175	**−0.555**	**−0.692**	**−0.583**	0.428
qsec								**0.745**	−0.230	−0.213	**−0.656**
vs									0.168	0.206	**−0.570**
am										**0.794**	0.058
gear											0.274
carb											

Using options in combination with others

These options can be used in combination with others. For example...

```
> corrPlot(mtcars, digits=2, fontsize=0.85, title="Correlation Among Motor-trend Car Variables", sig=2)
```

Correlation Among Motor–trend Car Variables

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
mpg		−0.85***	−0.85***	−0.78***	0.68***	−0.87***	0.42*	0.66***	0.60**	0.48**	−0.55**
cyl			0.90***	0.83***	−0.70***	0.78***	−0.59**	−0.81***	−0.52**	−0.49**	0.53**
disp				0.79***	−0.71***	0.89***	−0.43*	−0.71***	−0.59**	−0.56**	0.39**
hp					−0.45**	0.66***	−0.71***	−0.72***	−0.24*	−0.13^	0.75***
drat						−0.71***	0.09	0.44**	0.71***	0.70***	−0.09^
wt							−0.17^	−0.55***	−0.69***	−0.58***	0.43*
qsec								0.74***	−0.23	−0.21	−0.66***
vs									0.17^	0.21^	−0.57***
am										0.79***	0.06
gear											0.27
carb											