Example Pretty XTable

Keaton Stagaman

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Load libraries and source files

```
library(qdap)
library(ggfortify)
library(ggplot2)
theme_set(theme_bw())
source("../xtable_summary.R")
```

Data plot with regression line

```
ggplot(mtcars, aes(x=disp, y=mpg)) +
    geom_point(aes(color=as.factor(cyl)), size=3) +
    scale_color_brewer(name="Cylinders", palette="Accent") +
    stat_smooth(method="lm") +
    labs(x="Displacement", y="Miles per Gallon")
```

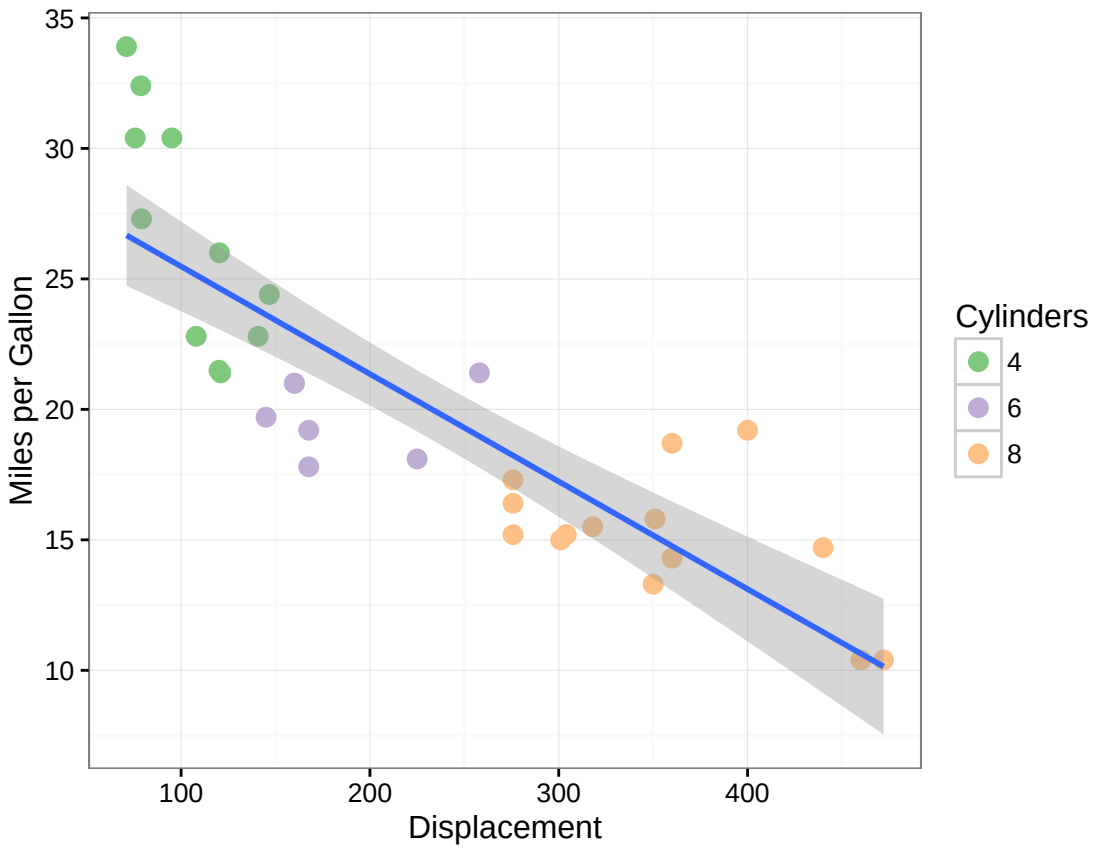

Figure 1: Car distance by speed with regression line

Linear model calculation

```
mtcars.lm <- lm(mpg ~ disp*cyl, data=mtcars)
xtable.summary(model.obj=mtcars.lm,
               file.id="mtcars",
               alt.factor.names=mgsub(c("disp", "cyl"),
                                      c("Displacement", "Cylinders"),
                                      attributes(mtcars.lm$terms)$term.labels))
```

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	49.0372	5.0046	9.80	**1.51e-10**
Displacement	-0.1455	0.0400	-3.64	**0.0011**
Cylinders	-3.4052	0.8402	-4.05	**0.000365**
Displacement:Cylinders	0.0159	0.0049	3.20	**0.00337**

D.f.	Residual Std. Error	R^2	Adjusted R^2	p-value
28	2.66	0.82	0.81	0.00

Table 1: Linear model for Miles per Gallon by Displacement and Number of Cylinders

Factor analysis

```
factanal1 <- factanal(mtcars, factors=1, scores="regression")
paste("1 factor p-val:", factanal1$PVAL)
```

```
## [1] "1 factor p-val: 1.49621956585337e-17"
```

```
factanal2 <- factanal(mtcars, factors=2, scores="regression")
paste("2 factor p-val:", factanal2$PVAL)
```

```
## [1] "2 factor p-val: 0.000404750976192007"
```

```
factanal3 <- factanal(mtcars, factors=3, scores="regression")
paste("3 factor p-val:", factanal3$PVAL)
```

```
## [1] "3 factor p-val: 0.205192300877265"
```

```
xtable.summary(model.obj=factanal3,
               file.id="mtcars",
               cutoff=0.4,
               alt.factor.names=c("Miles/Gal",
                                  "No. Cylinders",
                                  "Displacement",
                                  "Horsepower",
                                  "Rear Axle Ratio",
                                  "Weight",
                                  "1/4 mile time",
                                  "V/S",
                                  "Transmission",
                                  "No. Fwd Gears",
                                  "No. Carburetors"))
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Uniquenesses	0.13	0.06	0.09	0.13	0.29	0.06	0.05	0.22	0.21	0.12	0.16

	Factor1	Factor2	Factor3
Miles/Gal	**0.64**	**-0.48**	**-0.47**
No. Cylinders	**-0.62**	**0.7**	0.26
Displacement	**-0.72**	**0.54**	0.32
Horsepower	-0.29	**0.72**	**0.51**
Rear Axle Ratio	**0.8**	-0.24	-0.068
Weight	**-0.78**	0.25	**0.52**
1/4 mile time	-0.18	**-0.95**	-0.15
V/S	0.3	**-0.8**	-0.2
Transmission	**0.88**	0.088	-0.093
No. Fwd Gears	**0.91**	0.021	0.22
No. Carburetors	0.11	**0.56**	**0.72**

	Factor1	Factor2	Factor3
SS Loadings	4.38	3.52	1.58
Proportion Var.	0.40	0.32	0.14
Cumulative Var.	0.40	0.72	0.86

Table 2: Factor analysis results

Model Selection

```
m0 <- lm(mpg ~ cyl, data=mtcars)
m1 <- lm(mpg ~ cyl + disp, data=mtcars)
m2 <- lm(mpg ~ cyl + disp + hp, data=mtcars)
m3 <- lm(mpg ~ cyl + disp + hp + drat, data=mtcars)
m4 <- lm(mpg ~ cyl + disp + hp + drat + wt, data=mtcars)
mtcars.anova <- anova(m0, m1, m2, m3, m4)
xtable.summary(model.obj=mtcars.anova,
               file.id="mtcars",
               alt.models.text=mgsub(c("mpg", "cyl", "disp", "hp", "drat", "wt"),
                                     c("Miles/Gal",
                                       "No. Cylinders",
                                       "Displacement",
                                       "Horsepower",
                                       "Rear Axle Ratio",
                                       "Weight"),
                                     attributes(mtcars.anova)$heading[2],
                                     trim=FALSE))
```

Analysis of Variance Table
Model 1: Miles/Gal ~No. Cylinders
Model 2: Miles/Gal ~No. Cylinders + Displacement
Model 3: Miles/Gal ~No. Cylinders + Displacement + Horsepower
Model 4: Miles/Gal ~No. Cylinders + Displacement + Horsepower + Rear Axle Ratio
Model 5: Miles/Gal ~No. Cylinders + Displacement + Horsepower + Rear Axle Ratio + Weight

	Res. D.f.	RSS	D.f.	Sum. of Sq.	F	Pr($> F$)
1	30	308.33				
2	29	270.74	1	37.59	5.84	**0.023**
3	28	261.37	1	9.37	1.46	0.239
4	27	244.90	1	16.47	2.56	0.122
5	26	167.43	1	77.48	12.03	**0.00184**

Table 3: Model Selection for Factors Contributing to Miles per Gallon