Suppose that \(d\) is a dataframe with quantitative variables \(y, x, x_1,\) and \(x_2\) and categorical variables \(g, g_1,\) and \(g_2.\)

```r
dotplot(y ~ g, d)
stripplot(y ~ g, d)
bwplot(y ~ g, d)
xyplot(y ~ x, d)
histogram(~x, d)
histogram(d$x)
densityplot(d$x)
densityplot(~x, d)
bwplot(y ~ g | g1, d)  # different panels for levels in g1
xyplot(y ~ x, groups = g, d)  # different groups on same plot
splom(d)  # scatterplot matrix
ladd(panel.xyplot(d$x1, d$y))
```

Useful options (not all are useful for all plots!)

```r
main = "Title"
xlab = "x axis label"
ylab = "y axis label"
xlim = c(0, 3)  # limits on x-axis
auto.key = T  # key for groups
type = c("p", "r")  # type for xyplot
type = c("l")
col = "red"
```

```r
lex = lm(y ~ x, d)
summary(lex)
anova(lex)
residuals(lex)
predict(lex)
coef(lex)
lm(y ~ x1 + x2 + g, e)
lm(y ~ x1 + x2 + x1:x2, d)  # interaction terms
lm(y ~ I(x^2), d)  # I necessary for arithmetic on right hand side
confint(lex)
new = data.frame(x = c(1, 2, 3))
predict(lex, new, interval = "prediction")
f = makeFun(lex)  # in mosaic package
f(3)
plotFun(f)
```

The subset option can be used for most graphics and linear model fitting.

```r
lm(y ~ x, d, subset = c(1:5))
lm(y ~ x, d, subset = (g == "B"))
xyplot(y ~ x, d, subset = c(1:5))
xyplot(y ~ x, d, subset = (x2 < 10))
```