STATISTICAL GRAPHICS

Distribution of 1 Variable:

```
         histogram( ~ wage, data=CPS85)
       densityplot( ~ wage, data=CPS85)
       freqpolygon( ~ wage, data=CPS85)
```
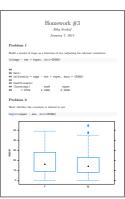
Scatter plot: `xyplot(wage ~ educ, data=CPS85)`

Compare distribution by group:

```
       bwplot(wage ~ sex, data=CPS85)
```

Can use `groups=sex` as an argument to `xyplot()`
`densityplot()`, or `freqpolygon()`

RMARKDOWN DOCUMENTS

```
---
title: "Homework #3"
author: "Abby Seedief"
date: "January 7, 2015"
output: pdf_document
---

```{r include=FALSE}
require(mosaic)
require(mosaicData)
```

Problem 1

Build a model of wage as a function of sex,
adjusting for relevant covariates.
```{r}
lm(wage ~ sex + exper, data=CPS85)
```

Problem 2

Show whether the covariate is related to sex.
```{r}
bwplot(exper ~ sex, data=CPS85)
```
```

Compile to any of HTML, PDF, or Word.

See `mosaic plain` template through RStudio menu:
FILE/NEW FILE/RMARKDOWN/FROM TEMPLATE

BASIC STATISTICAL TESTS

Difference between two means
```
res <- t.test(wage ~ sex, data=CPS85, mu=1.50)
```
Difference between two proportions
```
    res <- prop.test(sex ~ union, data=CPS85)
```
For terse output use `pval(res)` or `confint(res)`.

LINEAR MODELS

```
     res <- lm(wage ~ sex + educ, data=CPS85)
```
For `lm( )` use `summary(res)`, `anova(res)`, `pval(res)`
or `confint(res)`.

RANDOMIZATION AND ITERATION

RESAMPLE/BOOTSTRAP:
```
do(100)*mean(wage ~ sex, data=resample(CPS85))
```
RANDOM PERMUTATIONS:
```
do(100)*mean(wage ~ shuffle(sex), data=CPS85)
```
1000 trials of flipping 6 coins, count heads
```
             flips <- do(1000) * rflip(6)
               tally( ~ heads, data=flips)
```
10000 trials of adding three dice
```
 scores <- do(10000)*sum(resample(1:6,size=3))
         freqpolygon(~ result, data=scores)
```