1. Same questions:
   (a) What is the relationship between the two variables?
   (b) Is it causal?

2. Contingency tables

3. Marginal distributions

4. Conditional distributions

5. Bar charts (stacked, side-by-side)

6. Two cautions
   (a) Even strong relationships are not necessarily causal
   (b) The effect of a third variable

Useful R

```r
> attach(deathpenalty)
> t=table(Defendant,Penalty)
> prop.table(t)
> prop.table(t,1)
> prop.table(t,2)
> margin.table(t,1)
> margin.table(t,2)
> CrossTable(Penalty,Defendant,prop.chisq=F,format=’SPSS’) # needs package gmodels
> barplot(t,beside=T,legend=c(’Black’,’White’))
> plot(t)
> xtabs(Freq~Admit+Gender,data=Berkeley)
```

See [http://www.statmethods.net/stats/frequencies.html](http://www.statmethods.net/stats/frequencies.html)

Homework

1. Read Chapter 3

2. Practice problems (due Monday, February 15) 3.19,23

3. Problems to turn in (due Tuesday, February 16) 3.24,38