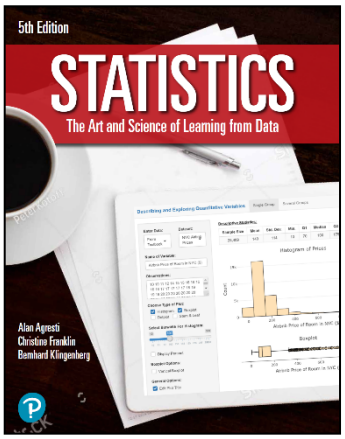


R Code for Examples in the book
*"Statistics: The Art and Science of Learning from Data"*
by Agresti, Franklin and Klingenberg, 5th edition

# Chapter 3

## Example 2: Pesticides – Categorical Explanatory and Response Variables

### Reading in the data:

```
counts <- c(29, 98, 19485, 7086)
pesticide <- matrix(counts, nrow = 2, ncol = 2, byrow = TRUE,
                    dimnames = list('Food Type' = c('Organic', 'Conventional'),
                                    'Pesticides'= c('Present', 'Absent')))
```

### Adding row and column totals

```
addmargins(pesticide)
```

```
##                Pesticides
## Food Type       Present Absent   Sum
##   Organic            29     98   127
##   Conventional    19485   7086 26571
##   Sum             19514   7184 26698
```

### To find the conditional proportions for pesticide status (i.e. row proportions)

```
pesticideRowProportions <- prop.table(pesticide, 1)
```

### Rounding off for easier readability

```
round(pesticideRowProportions, 3)
```

```
##                Pesticides
## Food Type       Present Absent
##   Organic         0.228  0.772
##   Conventional    0.733  0.267
```