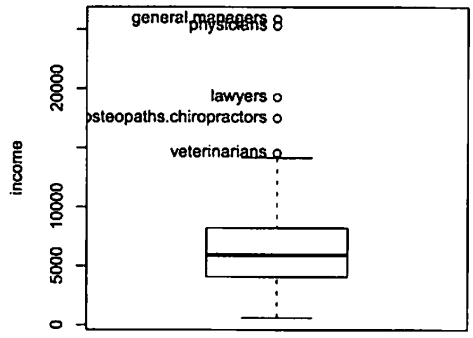

Figure 3.6 Boxplot of `income`. Several outlying observations were labeled automatically.

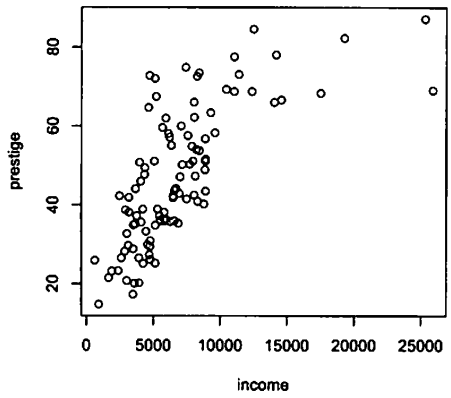

Figure 3.7 Simple scatterplot of `prestige` versus `income` for the Canadian occupational-prestige data.

3.2 Examining Relationships

3.2.1 SCATTERPLOTS

A *scatterplot* is the familiar graph of points with one quantitative variable on the horizontal or x-axis and a second quantitative variable on the vertical or y-axis. Understanding, and using, scatterplots is at the heart of regression analysis. There is typically an asymmetric role of the two axes, with the y-axis reserved for a response variable and the x-axis for a predictor.

The generic `plot` function is the primary tool in R for drawing graphs in two dimensions. What this function produces depends on the values of its first one or two arguments.[7] If the first two arguments to `plot` are numeric vectors, then we get a scatterplot, as in Figure 3.7:

```
> with(Prestige, plot(income, prestige))
```

[7]The behavior of generic functions such as `plot` is discussed in Sections 1.4 and 8.7, and more information about the `plot` function is provided in Section 3.2.3 and in Chapter 7 on R graphics.