15.4.1 Appendix: Using R to Calculate Correlations
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The correlation between x and y for the samara data (see Appendix 14.8) is 0.709, using the
cor command in R. The cor.test command gives us the correlation along with a formal test.
Both cor and cor.test can provide the classical Pearson correlation (method="pearson",
the default), the Spearman nonparametric correlation (method="spearman") or Kendall's
tau (method="kendall"). We illustrate cor.test below on the samara data.

```
> cor(x, y)

[1] 0.7092115

> cor.test(x, y)

        Pearson's product-moment correlation

data:  x and y
t = 3.4848, df = 12, p-value = 0.004506
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 0.2864037 0.9008190
sample estimates:
      cor
0.7092115

> cor.test(x, y, method = "spearman")

        Spearman's rank correlation rho

data:  x and y
S = 142, p-value = 0.008113
alternative hypothesis: true rho is not equal to 0
sample estimates:
      rho
0.6883982

> cor.test(x, y, method = "kendall")

        Kendall's rank correlation tau

data:  x and y
z = 2.5894, p-value = 0.009613
alternative hypothesis: true tau is not equal to 0
sample estimates:
      tau
0.5197823
```