Chapter 1, Problem 1

Use software to produce the time series plot shown in Exhibit 1.2, on page 2. The data are in a file named larain.

Chapter 1, Problem 2

Produce the time series plot displayed in Exhibit 1.3, on page 3. The data file is named color.

Chapter 1, Problem 3

Simulate a completely random process of length 48 with independent, normal values. Plot the time series plot. Does it look "random"? Repeat this exercise 3 times with a new simulation each time.

Chapter 1, Problem 4

Simulate a completely random process of length 48 with independent, chi-square distributed values, each with 2 degrees of freedom. Display the time series plot. Does it look "random" and nonnormal? Repeat this exercise 3 times with a new simulation each time.

Chapter 1, Problem 6

Construct a time series plot with monthly plotting symbols for the Dubuque temperature series as in Exhibit 1.7, on page 6. The data are in t he file named temp-dub.

Chapter 2, Problem 1

Suppose $E(X) = 2$, $Var(X) = 9$, $E(Y) = 0$, $Var(Y) = 4$, and $Corr(X, Y) = 0.25$. Find

(a) $Var(X + Y)$.

(b) $Cov(X, X + Y)$.

(c) $Corr(X + Y, X - Y)$.

Chapter 2, Problem 2

If X and Y are dependent but $Var(X) = Var(Y)$, find $Cov(X + Y, X - Y)$.
