Math 530

Autumn 2006

Solution to 3.2.2

Suppose that the first list is $\{x_i\}$ and the second list is $\{y_i\}$. Let X_i be the value of x_i and Y_i be the value of y_i. Note that

$$E(X) = (0.2)(1) + (0.8)(2) = 1.8 \text{ and } E(Y) = (0.5)(3) + (0.5)(5) = 4$$

(a.)

$$E(X+Y) = E(X) + E(Y) = 1.8 + 4 = \mathbf{5.8}$$

(b.)

$$E(X-Y) = E(X) - E(Y) = 1.8 - 4 = -\mathbf{2.2}$$

(c.) Can't do: We need information on the actual ordering of the two lists to do this.

(d.) Can't do: We need information on the actual ordering of the two lists to do this.