Stat 851 Winter 2008
Assignment #3

This assignment is due on **Monday, February 4, 2008**.

1. If X is a Poisson random variable with parameter λ, compute $E(X(X-1))$.

2. Exercise 5.16 has a typo in it. The corrrect statement is: Let X be Geometric. Show that for $i, j > 0$,

$$P(X > i + j | X \geq i) = P(X > j).$$

3. Complete the following exercises from pages 33–34:

- #5.2 (mimic the proof of Theorem 5.1 and use the fact that $h(X)$ is bounded)

- #5.17 (use the power series for $\log x = \ln x$)

- #5.20 (compare to Exercise 5.16 for technique; also be careful switching the order of summation)