Section 1.5 review

Work through Problem 1.10 step by step. In 1.10, we are looking at a set of 200 separate counts, and determining whether the multinomial distribution of those counts follows a truncated Poisson distribution. You can use R or SAS for as many of the calculations as you would like.

1. Compute $\hat{\mu}$.
2. Use $\hat{\mu}$ to estimate $\hat{\pi}_i,\ i = 0, 1, 2, 3, 4$. Also, compute $\hat{P}(X \leq 4)$.
3. Compute $\hat{\pi}_i^* = \frac{\hat{\pi}_i}{\hat{P}(X \leq 4)},\ , i = 0, 1, 2, 3, 4$.
4. Compute estimated expected counts. Compare the estimated expected counts to the observed counts. Is there evidence of lack of fit?
5. Compute Pearson's X^2 statistic. How many degrees of freedom should this statistic have?
6. Compute a p-value; what is your conclusion?