1. Question 10, page 166
   a) The first column which is identically 4, stands for the section of the book, the second column stands for the table number, the third column numbers the years starting from 1875, and the fourth column gives the years.
   b) The last column gives the number of deaths in each year.
   c) We can model each $Y_{ij} \sim \text{poisson}(\lambda)$
   d) If we assume the above model then we have that,
      $$L(\lambda) \propto \lambda^{(\sum Y_{ij})} e^{-n\lambda}$$
      In this case, we have $\sum \sum Y_{ij} = 196$, and $n = 280$.
   e) we know that
      $$\hat{\lambda} = \frac{\sum \sum Y_{ij}}{n} = \frac{196}{280} = 0.7$$
      This shows that, on average there has been around 0.7 horse kicks per year, which is definitely not high by any standards. To say further about this (such as the death by horse kicks is a rare event in the prussian cavalry) needs more information on the cavalry population and the horse kick-deaths in other cavalries.
   f) Though the average death rate is very less, it isn't uniform across the corps. This fact is very evident from the boxplot. The means vary across the groups and hence we have every reason to suspect that there are some corps that had different death rates. To investigate this possibility, we can for instance model for corps $i$, having a different rate $\lambda_i$ instead of a common rate $\lambda$ and look at the distribution of lambda. If there are some rates which are far outliers then can be considered as high death rates.

   Figure in the next page
Figure 1: The Boxplot showing the horse kick deaths across various corps