Assignment 2 Template

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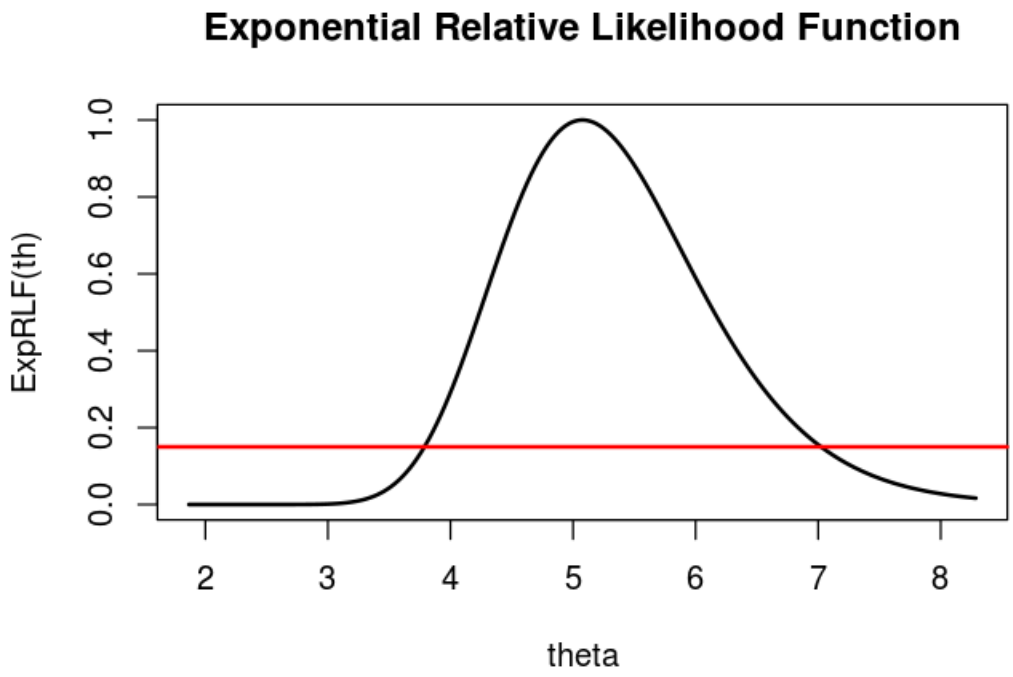
<u>Problem 2:</u> The first three numbers in your Exponential data set are:

0.1289791	**0.4941612**	**0.5841653**

Theta = 3.788

The maximum likelihood of theta is thetahat = 5.076



Based on the graph of the relative likelihood function and the line y = 0.15 the 15% likelihood interval for theta is:

3.75-7.0

Using the R function uniroot the 15% likelihood interval is:

3.787474-7.023735

Is theta = 2 a plausible value of theta for your data set? Why?

Is theta = 8 a plausible value of theta for your data set? Why?

Neither theta = 8 or 2 area plausible values for my dataset, since they both fall well outside of the 15% confidence interval. (and are both thus unlikely estimates for theta, given the values used)

If Y is a new observation from this Exponential distribution then the maximum likelihood estimate of P(Y = 0) is: