Homework No. 1

This homework assigment uses the Worcester Heart Attack data which can be found in the Homework Assignments folder.

Define the survival time of a subject as the time between admission to the hospital and death. If a subject is still alive at the last follow-up, the survival time of the subject is considered censored.

1. Fit an exponential model to the observed survival data
2. Graph the estimated survival function.
3. Graph the estimated cumulative hazard function.
4. Fit an exponential model to the observed survival times of female only.
5. Fit an exponential model to the observed survival times of male only.
6. Plot the two estimated survival distributions in one graph. Discuss their similarity and differences.
7. Assume that the exponential model fits the female data well, find the 95% confidence interval for the true survival function for female.
8. Assume that the exponential model fits the male data well, find the 95% confidence interval for the true survival function for male.
9. Write a brief paragraph to summarize your model fits and findings.