

# Homework 5

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Due date: Tuesday, December 11

This homework consists of questions proposed by the presenters. You only need to do one part from each presenter. Each response is worth 2 points for a total of 10.

1. Diagnostics for the Cox Model by Tianjian Shi
  - a. Write down the Schoenfeld residuals formula and briefly explain how it works.
  - b. Describe the idea that Therneau et al. (1990) proposed to use martingale residuals in investigating the functional form of continuous covariate.
2. Survival analysis through the eyes of a molecular biologist by Kelly Daescu
  - a. List the cons and pros for both the `ggplot2` and `ploty` packages.
  - b. Interpret the Nelson-Aalen estimators presented on page 7.
3. A brief introduction to **R Shiny** by Jose Alfaro
  - a. What is the purpose of the `UI` function in a Shiny app?
  - b. List three widgets and their uses.
- 4.