The second test will be written in lab on Tuesday March 4th from 9:00-9:50pm. It will cover the material from Weeks 5-7, and the main focus of the test will be model selection and assessment, and univariate (one input) smoothing methods for regression and classification. The test will have an application question (to be solved in an R script) and conceptual and R questions (multiple choice, to be answered as a comment in your R script). You will be allowed to use the `splines` package in your solutions, but no additional packages. You will be allowed to bring your own R script to use during the test. My recommendation is to create a detailed R script that you are comfortable with for performing the methods learned in the course. Specific methods that may be tested for the application part include:

- spline methods

  - cubic spline
  - natural spline
  - smoothing spline

- kernel methods

  - kernel regression / classification
  - local linear regression

- Cross-validation

  - K-fold
  - Stratified

Specific concepts that may be tested in the multiple choice questions:

- Concepts:

  - model selection and assessment
  - model complexity and degrees of freedom
  - basis expansion
  - local methods

- Coding:

  - functions
  - error catching