Project 1

The following homework assignment should be submitted in writing no later than Monday, 29/11/2010. Each student should submit his/her own work.

Applying the bootstrap procedure: The paper of Efron and Tibshirani describes the bootstrap in a range of applications. As part of the project you are required to select one of the applications that was not analyzed in class, implement it on data you generate, and produce a report of the results of the implementation.

As part of the implementation of the specific problem you are investigating you are required to

1. Simulate an artificial dataset of the appropriate structure.

2. Write an R program for the implementation of the bootstrap on datasets of the given structure.

3. Run the program you wrote on the dataset that you created and record the results.

4. Produce a report that describes the implementation. The report should include the following sections:

Introduction: A description of the statistical problem that you are dealing with and the statistical issue that the bootstrap should solves in the given context.

Methods: A description of how the method by which the data was generated and how the bootstrap was implemented.

Results: A summary of the dataset and the outcome of the implementation.

Discussion: Your conclusions from the exercise.