Lab 5 - due 31 May 2017

Your Name

22. mai 2017. a.
References in your solutions

Please add references to any external material that you base your answers on.

Typesetting

Please put your answers in a LaTeX document and submit both a pdf and the LaTeX source. Try to keep a similar template to the one given. You may find it helpful to use sharelatex or install a LaTeX distribution and editor, such as texworks. Some documentation on LaTeX can be found at https://en.wikibooks.org/wiki/LaTeX.

Study material

- Candes http://statweb.stanford.edu/~candes/l1magic/
- Jover, Romberg and Weitz “Inferring phage–bacteria infection networks from time-series data” http://dx.doi.org/10.1098/rsos.160654
- LaTeX
  https://en.wikibooks.org/wiki/LaTeX

Project

Homework question 1
Given an update on your project. Explain what algorithms you will use and what hardware will be required.

ANSWER

COMMENT

GRADE
L1 Optimization

**Homework question 2**
Review the material on the page [http://statweb.stanford.edu/~candes/l1magic/](http://statweb.stanford.edu/~candes/l1magic/). Try out the programs. Add a summary of what is on the page and what the programs do. Explain how it would be useful in data analysis.

ANSWER
COMMENT
GRADE

Time Series Analysis

**Homework question 3**
Review Jover, Romberg and Weitz “Inferring phage–bacteria infection networks from time-series data” [http://dx.doi.org/10.1098/rsos.160654](http://dx.doi.org/10.1098/rsos.160654). Summarize the paper and try out the associated programs, explaining what they do.

ANSWER
COMMENT
GRADE

Wavelets

**Homework question 4**

ANSWER
COMMENT
GRADE

Clustering

**Homework question 5**
Explain what hierarchical clustering is. Find a paper or book with an algorithm for doing hierarchical clustering and implement it. (Bonus points for a parallel algorithm).

ANSWER
COMMENT
GRADE
Kirjandus

[6] LaTeX website http://www.latex-project.org/