

MA 751
M. Kon

PROBLEM SET 1
Due Thurs. 2/3/22

Lectures 1, 2, 3

Reading: Overview slides, Introduction to Probability slides, Chapter 2

Problems labeled with a * are optional (note they are not necessarily more difficult)

Please note the need for rigor and care in written problem solutions. I will emphasize the need for good written communication of ideas in the homework assignments, and the ability to formalize intuitive notions clearly. This will include the requirement of well written and thought-out solutions. Try to write clear arguments, preferably in short sentences. Each statement should follow easily from the previous ones - no argument or solution can be considered 'too simple.' Note that communication is as important a part of a math/statistics class as anywhere else. Feel free to consult with me on this.

1. Hastie, problem 2.1. Is the condition that $\sum_i \hat{y}_i = 1$ needed? Prove the result holds without the condition, or provide an example where the result does not hold without the condition.
2. Hastie, problem 2.3
3. Hastie, problem 2.5
4. Hastie, problem 2.7