

## MATH 472/572 Computational Statistics - Spring 2020

Homework 10 - Due April 23, Thursday

Instructor: Leming Qu

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### Rules for HW:

- You are allowed to discuss HW with fellow students in the course, but the work you hand in must be your own.
- You have to write your own Python code by yourself. You are prohibited from sharing, copying or editing any Python code from other students.

### How to turn in your coding portion of the HW?

- Submit your code in Jupyter Notebook format (.ipynb file) through the blackboard HW link. The deadline for code submission is the class starting time 1:30PM of the due date.
- Required output (prints and plots) must be included in the Jupyter Notebook - do not expect the Grader to run the code to see the required output. If the required output is not included in the Jupyter Notebook, the grader will take points off accordingly.

### Non-Coding Assignments:

1. (10 Points) Given that  $X \sim \text{Unif}(0, 1)$ . Let

$$Y = \text{logit}(X) \equiv \log\left(\frac{X}{1-X}\right)$$

Find the probability density function (PDF) of  $Y$ .

### Coding Assignments:

3. (20 Points) Problem 7.1 on page 230 of *Computational Statistics*.
4. (20 Points) Problem 7.2 on page 231 of *Computational Statistics*.