CIS 419/519: Applied Machine Learning

Spring 2020

Homework 0

Handed Out: January 22 Due: January 27

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1 Multiple Choice & Written Questions

- 1. a. C
 - b. A
- 2. a. D
 - b. A
- 3. a. D
 - b. C
- 4. a. B
 - b. Proof:

$$Var(X) = E[(X - E[X])^{2}]$$

$$= E[X^{2} - 2X \cdot E[X] + E[X]^{2}]$$

$$= E[X^{2}] - 2 \cdot E[X] \cdot E[X] + E[E[X]^{2}]$$

$$= E[X^{2}] - 2E[X]^{2} + E[X]^{2}$$

$$= E[X^{2}] - E[X]^{2}$$

2 Python Programming Questions

Complete questions 5 and 6 in the iPython notebook.