CIS 419/519: Applied Machine Learning | Spring 2020

Homework 0

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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. From
$$Var[X] = E[(X - E[X])^2]$$
We can have
$$Var[X] = E[X^2 - 2XE[X] + E[X]^2]$$
Which is equivalent to
$$Var[X] = E[X^2] - 2E[X]E[X] + E[X]^2$$
$$Var[X] = E[X^2] - 2E[X]^2 + E[X]^2$$
Thus we have
$$Var[X] = E[X^2] - E[X]^2$$

2 Python Programming Questions

Complete questions 5 and 6 in the iPython notebook.