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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:

$$\begin{aligned}
Var(X) &= E[(X - E[X])^2] \\
&= E[X^2 - 2X \cdot E[X] + E[X]^2] \\
&= E[X^2] - 2 \cdot E[X] \cdot E[X] + E[E[X]^2] \\
&= E[X^2] - 2E[X]^2 + E[X]^2 \\
&= E[X^2] - E[X]^2
\end{aligned}$$

2 Python Programming Questions

Complete questions 5 and 6 in the iPython notebook.