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From $P(A)$

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From $P(A) = P(A|B)P(B) + P(A|B^c)P(B^c)$

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From $P(A) = P(A|B)P(B) + P(A|B^c)P(B^c)$ we realize that $P(A)$ is a weighted average of $P(A|B)$ and $P(A|B^c)$,

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Question b) We have

$$\text{Cov}(I_A, I_B)$$

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Question e) We have $(P(A|B) - P(A))P(B)$

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Question c) As for c) interchanging the roles of B and B^c .

Question d) Once again obvious from page 42.

Question e) We have $(P(A|B) - P(A))P(B) > 0$

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Question c) As for c) interchanging the roles of B and B^c .

Question d) Once again obvious from page 42.

Question e) We have $(P(A|B) - P(A))P(B) > 0$ since A and B are positively dependent.

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