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02405 Probability  
2003-10-10  
BFN/bfn

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IMM - DTU

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IMM - DTU

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$$P(X_i < 5) =$$

IMM - DTU

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$$P(X_i < 5) = P(X_i = 0) +$$

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$$P(X_i < 5) = P(X_i = 0) + P(X_i = 1) +$$

IMM - DTU

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$$P(X_i < 5) = P(X_i = 0) + P(X_i = 1) + P(X_i = 2) + P(X_i = 3) + P(X_i = 4)$$

IMM - DTU

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$$P(X_i < 5) = P(X_i = 0) + P(X_i = 1) + P(X_i = 2) + P(X_i = 3) + P(X_i = 4)$$

$$= e^{-1} \left( 1 + 1 + \frac{1}{2} + \frac{1}{6} + \frac{1}{24} \right) =$$

IMM - DTU

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IMM - DTU

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The event that at least one page has at least 5 misprints is complementary to the event that

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The event that at least one page has at least 5 misprints is complementary to the event that all pages has at most 4 misprints.

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$$P(X_i < 5) = P(X_i = 0) + P(X_i = 1) + P(X_i = 2) + P(X_i = 3) + P(X_i = 4)$$

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The event that at least one page has at least 5 misprints is complementary to the event that all pages has at most 4 misprints.

$$P(\max(X)_i \geq 5) =$$

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$$P(\max(X)_i \geq 5) = 1$$

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The event that at least one page has at least 5 misprints is complementary to the event that all pages has at most 4 misprints.

$$P(\max(X)_i \geq 5) = 1 -$$

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The event that at least one page has at least 5 misprints is complementary to the event that all pages has at most 4 misprints.

$$P(\max(X)_i \geq 5) = 1 - P(X_i \leq 4)^{300} =$$

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The event that at least one page has at least 5 misprints is complementary to the event that all pages has at most 4 misprints.

$$P(\max(X)_i \geq 5) = 1 - P(X_i \leq 4)^{300} = 0.6671$$