AUA CS108, Statistics, Fall 2020

Lecture 21

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Contents

- Convergence Types of R.V. Sequences, Examples

Example

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- Is X_n convergent in the a.s. sense?

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Example: Assume X_n is a Discrete r.v. with the following PMF, defined on the same Probability Space:

X_n	$3 + \frac{1}{n^2}$	n
$\mathbb{P}(X_n = x)$	$1 - \frac{1}{n}$	$\frac{1}{n}$.

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Which of the followings are true (use only the definitions):

- $X_n \xrightarrow{\mathbb{P}} 3$;
- $X_n \xrightarrow{qm} 3$;
- $X_n \xrightarrow{D} 3$?