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Courses » Advanced Topics in Probability and Random Processes

Announcements **Course** Ask a Question Progress Mentor FAQ

Unit 4 - Week 3: Convergence of Sequence of Random Variables

Course outline

How to access the portal

Week 1: Introduction to probability and Random Variable

Week 2: Random process basics and infinite sequence of events

Week 3: Convergence of Sequence of Random Variables

Convergence of Sequence of Random Variables

Weak Convergence-I

Weak Convergence-II

Quiz : Assignment 3

Week 4: Applications of Convergence Theory

Assignment 3

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-09-05, 23:59 IST.**

Assignment 3

1) Suppose $X_i, i = 1, 2, 3, \dots, n$ are independent random variables each with variance σ^2 and constant mean μ . If $Z = \sum_{i=1}^n X_i$, then find the variance of Z **1 point**

σ^2

$n\sigma^2$

$\frac{\sigma^2}{n}$

1

No, the answer is incorrect.

Score: 0

Accepted Answers:

$n\sigma^2$

2) $X(t)$ is a wide sense stationary random process with autocorrelation function $R_X(\tau)$. **1 point**
Which of the following can not be an auto-correlation function of $X(t)$

$R_X(\tau) = 2 + \cos \tau$

$R_X(\tau) = 2 - \cos \tau$

$R_X(\tau) = \sin \omega \tau$

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Week 7:
Continuous
Time Markov
Chain

Week 8:
Martingale
Process

New Unit

Assignment
Solutions

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$$R_X(\tau) = \sin \omega \tau$$
$$R_X(\tau) = e^{|\tau|}$$

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