Mindluster Platform

About the course Queueing System Management

Queueing System course, In this course, explore the principles and applications of Queueing Systems, analyzing waiting processes and optimizing service performance.

Engineering Category's Courses

Course Lesson(49)

Lesson 1 : **Introduction to Queueing Theory Intro Video**

Lesson 2 : **Prerequisite Review of Probability**

Lesson 3 : **Lec 1 Queueing Systems System Performance Measures**

Lesson 4 : **Lec 2 Characteristics of Queueing Systems Kendall s Notation**

Lesson 5 : **Lec 3 Little s Law General Relationships**

Lesson 6 : **Lec 4 Laplace and Laplace Stieltjes Transforms Probability Generating Functions**

Lesson 7 : **Lec 5 An Overview of Stochastic Processes**

Lesson 8 : **Lec 6 Markov Chains Definition Transition Probabilities**

Lesson 9 : **Lec 7 Classification Properties of Markov Chains**

Lesson 10 : **Lec 8 Long Term Behaviour of Markov Chains**

Lesson 11 : **Lec 9 Exponential Distribution and its Properties Poisson Process**

Lesson 12 : **Lec 10 Poisson Process and its Properties Generalizations**

Lesson 13 : **Lec 11 Continuous Time Markov Chains Generator Matrix Kolmogorov Equations**

Lesson 14 :
Lec 12 Stationary and Limiting Distributions of CTMC Balance Equations Birth Death Processes

Lesson 15 :
Lec 13 Birth Death Queues General Theory M M 1 Queues and their Steady State Solution

Lesson 16 :
Lec 14 M M 1 Queues Performance Measures PASTA Property Waiting Time Distributions

Lesson 17 : **Lec 15 M M c Queues Erlang Delay Formula**

Lesson 18 : **Lec 16 M M c K Queues**

Lesson 19 : **Lec 17 Erlang s Loss System Erlang Loss Formula Infinite Server Queues**

Lesson 20 :
Lec 18 Finite Source Queues Engset Loss System State Dependent Queues Queues with Impatience

Lesson 21 :

Lec 19 Transient Solutions M M 1 1 Infinite Server and M M 1 Queues Busy Period Analysis

Lesson 22 : Lec 20 Queues with Bulk Arrivals

Lesson 23 : Lec 21 Queues with Bulk Service

Lesson 24 : Lec 22 Erlang and Phase Type Distributions

Lesson 25 : Lec 23 Erlangian Queues Erlangian Arrivals Erlangian Service Times

Lesson 26 : Lec 24 Nonpreemptive Priority Queues

Lesson 27 : Lec 25 Nonpreemptive and Preemptive Priority Queues

Lesson 28 : Lec 26 M M 1 Retrial Queues

Lesson 29 : Lec 27 Discrete Time Queues Geo Geo 1 EAS Geo Geo 1 LAS

Lesson 30 : Lec 28 Introduction to Queueing Networks Two Node Network

Lesson 31 : Lec 29 Burke s Theorem General Setup Tandem Networks

Lesson 32 : Lec 30 Queueing Networks with Blocking Open Jackson Networks

Lesson 33 : Lec 31 Waiting Times and Multiple Classes in Open Jackson Networks

Lesson 34 : Lec 32 Closed Jackson Networks

Lesson 35 : Lec 33 Closed Jackson Networks Convolution Algorithm

Lesson 36 : Lec 34 Mean Value Analysis Algorithm

Lesson 37 : Lec 35 Cyclic Queueing Networks Extensions of Jackson Networks

Lesson 38 : Lec 36 Renewal Processes

Lesson 39 : Lec 37 Regenerative Processes Semi Markov Processes

Lesson 40 : Lec 38 M G 1 Queues The Pollaczek Khinchin Mean Formula

Lesson 41 : Lec 39 M G 1 Queues The Pollaczek Khinchin Transform Formula

Lesson 42 : Lec 40 M G 1 Queues Waiting Times and Busy Period

Lesson 43 : Lec 41 M G 1 K Queues Additional Insights on M G 1 Queues

Lesson 44 : Lec 42 M G c M G âˆž and M G c c Queues

Lesson 45 : Lec 43 G M 1 Queues

Lesson 46 : Lec 44 G G 1 Queues Lindley s Integral Equation

Lesson 47 : Lec 45 G G 1 Queues Bounds

Lesson 48 : Lec 46 Vacation Queues Introduction M M 1 Queues with Vacations

Lesson 49 : Lec 47 M G 1 Queues with Vacations

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