Bookmarks

- Module 1: The Basics of R and Introduction to the Course
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- Module 4: Joint, Marginal, and Conditional Distributions & Functions of Random Variable

Motivation for the Linear Model - Quiz

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Question 1

1/1 point (graded)

The following are given as motivations for the linear model in this lecture segment:

(Select all that apply)

- [x] a. Calculating conditional distribution of an outcome variable based on continuous random variables
- [ ] b. Linearizing the conditional distribution in order to make it possible to calculate linear parameters
- [x] c. Estimating parameters for the conditional distribution of an outcome variable based on continuous random variables
- [ ] d. Dispelling the idea that anything might be best modelled with a quadratic or cubic function.

✔

Explanation

- Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- Module 6: Special Distributions, the Sample Mean, the Central Limit Theorem, and Estimation
- Module 7: Assessing and Deriving Estimators - Confidence Intervals, and Hypothesis Testing
- Module 8: Causality, Analyzing Randomized Experiments, & Nonparametric Regression
- **Module 9: Single and Multivariate Linear Models**

The Linear Model
due Nov 28, 2016 05:00 IST

Up to this point, we have primarily dealt with univariate distributions – probability distributions of only one random variable. In general, though, multivariate distributions – probability distributions of multiple random variables -- are more useful in real life.

In the multivariate examples we've seen so far, our population in some sense had two random variables: one discrete ("treatment" or "control") and one continuous (test scores, for example). In this example, each member of the population was assigned either "treatment" or "control", and each member of the population received some score on the end-of-treatment test. We could imagine calculating the conditional distribution of test scores based on whether a member was assigned to treatment or control. The linear model allows us to perform a similar calculation in the more general case where both variables are continuous.

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Question 2

1.0 point possible (graded)

The method that is typically used to estimate parameters for the conditional distribution of an outcome variable based on continuous random variables is called linear _____.

regression ✔

The Multivariate Linear Model
due Nov 28, 2016 05:00 IST

Module 9: Homework
due Nov 21, 2016 05:00 IST

- Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias
- Exit Survey

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Question 3

1.0 point possible (graded)

The linear model can help us answer questions of:

(Select all that apply)

- [x] a. Prediction (e.g. is someone who drives a Volkswagen more likely to live in neighbourhood X or neighbourhood Y?)
- [x] b. Causality (e.g. does paying students for reading books increase their scores on critical reading exams?)
- [x] c. Understanding the world better (e.g. are students' career choices influenced by which companies give out the nicest t-shirts at career fair?)

✔

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Discussion

Topic: Module 9 / Motivation for the Linear Model - Quiz

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