

Homework

3: Models for Exploration

A. Short answer

B. Empirical exercise

Submission

Start Over

A. Short answer

✓ Starting to Explore

Question 1:

The CEF gives the expected value of some random variable Y given the value of another random variable X . Applied to last week's work the gender pay gap, the Y was _____ and the X was _____.

earnings, gender

Correct!

Question 2:

The formula $E\{[X - E(X)]^2\}$, calculates the _____ of a _____.

variance, random variable

Correct!

Question 3:

The expression $E\{[X - E(X)][Y - E(Y)]\}$ defines the _____ between _____ and _____.

covariance, x, y

Correct!

Question 4:

To estimate $E\{[X - E(X)][Y - E(Y)]\}$, we can just plug in the sample _____ for $E(X)$ and $E(Y)$ and replace the outer expectation with another sample _____.

average, average

Correct!

Question 5:

Covariance indicates the _____ of a relationship but not the _____ of a relationship.

direction, strength

Correct!

Question 6:

The estimated correlation between earnings and age among 23-62 year-olds using the March 2009 CPS is _____.

0.13

Correct!

Continue

✓ Going Deeper

Question 7:

If we want to estimate $E(\text{earnings}|\text{age} = 23)$, the simplest thing to do is plug in the sample _____ of earnings of 23-year-olds.

mean

Correct!

Question 8:

If we want to estimate $E(\text{earnings}|\text{age})$, the simplest thing to do is plug in the sample _____ earnings for each value of _____.

mean, age

Correct!

Question 9:

If we want to estimate how earnings change from one point in a career to the next, we can just _____ the sample _____ earnings for one age value from another.

subtract, mean

Correct!

Question 10:

Based on Figure 6, earnings tend to _____ early in a career and plateau after age 40 or so.

increase

Correct!

Continue

✓ Models for career earnings

Question 11:

Modeling the pattern in Figure 6 with a linear function of age assumes that the difference in earnings from one age to the next is _____.

constant

Correct!

Question 12:

Modeling the pattern in Figure 6 with a quadratic function of age captures the _____ shape of the relationship between earnings and age.

curved

Correct!

Question 13:

If you model the pattern in Figure 6 with a quadratic function of age, the difference in earnings from one age to the next varies with _____.

age

Correct!

Question 14:

Using the March 2009 CPS data, the quadratic model of $E(\text{earnings}|\text{age})$ predicts earnings increase up to roughly age _____.

49

Correct!

Question 15:

The quadratic model of $E(\text{earnings}|\text{age})$ fits the data well and is also justified by _____ theory.

human capital

Correct!

Continue

Next Topic