Exercises 8 through 11 refer to the following setting. An old saying in golf is "You drive for show and you putt for dough." We collected data on the number of putts per hole and the player's total winnings for the previous season. The point is that good putting is more important than long driving for shooting low scores and hence winning money. To see if this is the case, data from a random sample of 69 of the nearly 1000 players on the PGA Tour's world money list were examined. The average number of putts per hole and the player's total winnings for the previous season are recorded. A least-squares regression line was fitted to the data. The following results were obtained from statistical software.

1. The equation of the least-squares regression line for predicting total winnings from number of putts per hole is

   \[ \text{Total Winnings} = 79.49 + 0.1126 \times \text{Putts per Hole} \]

2. The correlation between total winnings and average number of putts per hole for these players is 0.0087.

3. The slope of the population regression line describes the average increase in total winnings in a population of units when one additional putt is taken per hole.

4. Is there significant evidence that selling price increases as appraised value increases? To answer this question, test the hypotheses

   \( H_0 : B = 0 \) versus \( H_a : B > 0 \).

5. Is there significant evidence that selling price decreases as appraised value decreases? Test the hypotheses

   \( H_0 : B = 0 \) versus \( H_a : B < 0 \).

6. Confidence intervals and tests for these data use the Student's t-distribution with degrees of freedom recorded. A least-squares regression line was fitted to the data. The following results were obtained from statistical software.

   \[ \text{Total Winnings} = 79.49 + 0.1126 \times \text{Putts per Hole} \]

7. Which of the following is not one of the conditions that must be satisfied in order to perform inference about the slope of a least-squares regression line?

   \( a \) For each value of \( x \), the population of \( y \)-values is Normally distributed with the same standard deviation.

   \( b \) The standard deviation of the population of \( y \)-values corresponding to a particular value of \( x \) is always the same, regardless of the specific value of \( x \).

   \( c \) For each value of \( x \), the population of \( y \)-values is Normally distributed.

   \( d \) The data come from a random sample or a randomized experiment.

   \( e \) The sample size-that is, the number of paired observations-exceeds 30.

8. The correlation between total winnings and average number of putts per hole for these players is 0.0087. A correct interpretation of this result is that

   \( a \) the average increase in the selling price of an individual unit when its appraised value increases by $1000.

   \( b \) the average increase in the appraised value in a population of units when selling price increases by $1000.

   \( c \) the exact increase in the selling price of an individual unit when its appraised value increases by $1000.

   \( d \) the average selling price in a population of units when a unit's appraised value is 0.

   \( e \) the average increase in appraised value in a sample of 16 units when selling price increases by $1000.

9. The p-value for the test in Exercise 8 is 0.0087. A correct interpretation of this result is that

   \( a \) 2.61.

   \( b \) 2.44.

   \( c \) 0.1126.

   \( d \) 2.85.

10. The p-value for the test in Exercise 8 is 0.0087. A correct interpretation of this result is that

   \( a \) 0.861.

   \( b \) 0.285.

   \( c \) 0.081.

   \( d \) 0.081.

11. The p-value for the test in Exercise 8 is 0.0087. A correct interpretation of this result is that

   \( a \) 0.928.

   \( b \) -0.081.

   \( c \) 0.285.

   \( d \) -0.007.

12. The point is that good putting is more important than long driving for shooting low scores and hence winning money. To see if this is the case, data from a random sample of 69 of the nearly 1000 players on the PGA Tour's world money list were examined. The average number of putts per hole and the player's total winnings for the previous season are recorded. A least-squares regression line was fitted to the data. The following results were obtained from statistical software.

   \[ \text{Total Winnings} = 79.49 + 0.1126 \times \text{Putts per Hole} \]

   \[ \text{Constant} = 7897179 \]

   \[ \text{SE} = 285777 \]

   \[ \text{R-Sq} = 8.1\% \]

   \[ \text{R-Sq(adj)} = 7.8\% \]

   \[ \text{SR} = 281777 \]

   \[ \text{Y}= 0.000 \]

   \[ \text{Pre} = 0.000 \]

13. The equation of the least-squares regression line for predicting selling price from appraised value is

   \[ \text{Selling Price} = 127.27 + 1.0466 \times \text{Appraised Value} \]

14. What is the correlation between selling price and appraised value?

15. The correlation between selling price and appraised value for these players is 0.0087.

16. The data come from a random sample or a randomized experiment.

17. The correlation between selling price and appraised value is 0.0087. A correct interpretation of this result is that

   \( a \) the average increase in the selling price of an individual unit when its appraised value increases by $1000.

   \( b \) the average increase in the appraised value in a population of units when selling price increases by $1000.

   \( c \) the exact increase in the selling price of an individual unit when its appraised value increases by $1000.

   \( d \) the average selling price in a population of units when a unit's appraised value is 0.

   \( e \) the average increase in the appraised value in a population of units when selling price increases by $1000.
... of getting a result as extreme as...

If the null was true, the probability of making a Type II error is 0.0087.

A 95% confidence interval for the slope \( B \) of the population regression line is

(a) \(-4,139,198 \pm 3,328,807\)
(b) \(-4,139,198 \pm 1,698,371\)
(c) \(-4,139,198 \pm 1,698,371\)
(d) \(-4,139,198 \pm 3,328,807\).

If there is no linear relationship between average number of putts per hole and total winnings for the players on the 2GA Tour's world money list, the probability of getting a random sample of 69 players that yields a least-squares regression line with a slope of \(-4,139,198\) or less is 0.0087.