Question

Suppose you fit the following regression model:

How do you interpret the slope for x, which is 5?

- *a.* For every 1-unit increase in x, on average, the predicted value for y increases by 5.
- *b.* For every 5-unit increase in x, on average, the predicted value for y increases by 5.
- *c.* For every 1-unit increase in y, on average, the predicted value of x increases by 5.
- *d.* For every 5-unit increase in y, on average, the predicted value of x increases by 1.

Correct.
The slope for x reflects the average change in y (in this case, 5) for a 1-unit change in x.

Question

You learned from the demonstration that you should check the assumption that the error terms are normally distributed. How can you do this?

- *a.* examine the histogram and normal quantile plot of the residuals
- *b.* request formal tests of normality for the residuals in PROC UNIVARIATE
- *c.* either a or b

Correct.
You can use either of these methods to check the assumption that the error terms are normally distributed.

Question

The residual plots (residuals verus predicted values, and also residuals versus time, if applicable) for regression models are important because they help to do which of the following?

- *a.* identify lack of fit of the model
- *b.* display nonconstant variance
- *c.* evaluate normality of the residuals
- *d.* display correlated errors
- *e.* a, b, and d

Correct.
Residual plots for regression models are important because they help to identify lack of fit of the model, display nonconstant variance, and display correlated errors.