☐ **Independence, i.e. observations are independent.**

QUESTION 12 — **10 points** — Save Answer

Estimate a simple linear regression model using least squares using the OLS command in gretl as shown in your handout. The estimated regression equation is $Y = -26 - 8.00x$. True or False?

- ○ True
- ○ False

QUESTION 13 — **5 points** — Save Answer

Based on the estimated regression you obtained before, what is the value of the slope coefficient?

QUESTION 14 — **5 points** — Save Answer

The estimated slope coefficient tells you how much the dependent variable, in this case home value, varies with changes in the independent variable, in this case the average number of rooms in owner-occupied homes.

- ○ True
- ○ False

QUESTION 15 — **5 points** — Save Answer

Is the estimated slope coefficient statistically significant? Enter yes or no [yes].

QUESTION 16 — **5 points** — Save Answer

In this case, the P-value equals 4.52e-073 *** or something very, very small and much smaller than the designated 0.05 level of significance.

- ○ True
- ○ False

QUESTION 17 — **5 points** — Save Answer

The coefficient of determination or r-squared, is a measure of how much of the variability in the data is explains the response, i.e. the dependent variable.

- ○ True
- ○ False

QUESTION 18 — **10 points** — Save Answer

The value of r-squared for our current model is?

QUESTION 19 — **5 points** — Save Answer

At what point or value is the coefficient of determination or r-squared considered a strong indicator?

The truth is that a good value for r-squared depends on what the model you are developing is intended to do. If the model is intended to represent a lot of engineering or technical applications then usually somewhere between 0.50 and 0.70 is considered good. However, if you are developing a model for a final consumer product where safety is involved you'll want a much higher r-squared, e.g. 0.90 or even a lot higher than that. Most basic R&D projects are good with an r-squared value of around 0.2. In this case, r-squared is only intended to give enough confidence to refine something to the next step or phase which should have a higher r-squared. In the social sciences, r-squared = from 0.10 to 0.30 is often considered good. So, it depends...

- ○ 0.90
- ○ 0.70
- ○ It depends
- ○ 0.50

QUESTION 20 — **5 points** — Save Answer

Calculate a 95% confidence interval for the estimated slope coefficient. What is the value of the lower bound for the 95% confidence interval of the slope coefficient?

QUESTION 21 — **5 points** — Save Answer

Calculate a 95% confidence interval for the estimated slope coefficient. What is the value of the upper bound for the 95% confidence interval of the slope coefficient?

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers | Save and Submit