regression time:

ANOVA when is a regression slope β large in practical terms (practically)?

A: Same method as in answering the question when is a correlation coefficient large in practical terms?

sage spanwise: smaller + birds have $x = $ wing length $= 10$ cm,

$y$ = predicted tail length $= 7$ cm.

largest have $x = 11.5$ cm, $y = 8.25$ cm; since $8.25$ cm differs from $7$ cm by an amount that is practically, the corr. $x$ and slope β associated with predicting $y$ from $x$ are also practically.

How to judge whether $\beta$ is statistically $r$, $\beta$, not practical.
Often, y-intercept involves huge extrapolation away from data; it may therefore be meaningless.

\[ y = \beta_0 + \beta_1 x \]

If \( x \) available,

\[ \hat{y}_x = \hat{\beta}_0 + \hat{\beta}_1 x \]

and \( SE(\hat{y}_x) = s_{y|x} \)

\( \text{residuals} \)
Case A: Don’t love x or choose to ignore it.

\[ \beta_0 + \gamma = \bar{Y} \]
\[ x + 4 \text{SE}(\bar{Y}) \]

Case B: use x to predict y:

\[ \text{now } \hat{y} = \beta_0 + \beta_1 x \]
\[ 4 \times S(\hat{Y}) = SY_1 \times \]

Regression is successful if \( SY \sqrt{1-r^2} \) is smaller than SY by an amount that's meaningful.
One way to quantify this is

\[ \frac{S_y - S_y \sqrt{1 - r^2}}{S_y} \]

\[ \frac{S_y}{K \text{ instead of success of regression then } r^2} \]

Better measure of success of regression than \( r^2 \)