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Eco602: Week10_Reading_Questions

Q1 Answer:

Penalizing the number of parameters in a model reduces the errors in the model based on the expectation and the observation.

Q2 Answer:

The rate of changes in a model is measured by β_1 (slope parameter). Changes in the predictor variable, which is 'x', cause changes in the response variable, which is 'y' by multiplying 'x' with ' β_1 '.

We can exemplify the linear regression equation in terms of the microbial community abundance based on the seasons. If we collect samples from the same aquatic habitats in different seasons and analyze their abundance by extracting their DNA/RNAs. We will see the abundance of the microbial community will vary. For example, if we think about the Stramenophiles, Alveolates, and Rhizarian (SAR) abundance, we could see the differences in their abundance between the seasons, even though we collect samples from exactly same habitats. Here, the weather condition might play a role for the variety in their abundance. So, we can assume, the response variable, y can be the total abundances, the weather condition (whether growth friendly or not) can be the slope parameter, β_1 and the seasons can be the predictor variable, x.

Q3 Answer:

Lower level of treatment, intercept in the tables.

Q4 Answer:

2.4 grams, because low treatment is the base case here.

Q5 Answer:

3.7 grams, which was calculated by adding the average and the base case- 1.3 grams + 2.4 grams = 3.7 grams.

Q6 Answer:

Correct Answer is- A.