ADS2 Week 6 Problem Set

October 26, 2023

Instructor: GL

1. What's a good hypothesis? Use an example to illustrate a good hypothesis and a bad hypothesis (you can discuss your examples on Discussion Board!)

2. Explain H0 and HA; give an example of each.

3. What's a p-value in terms of hypothesis testing? What can be possible misunderstandings of p-value?

4. See the following scenario and try to complete the empty fields

OBSERVATION: In a conditioning experiment, an animal is given a food pellet in response to light. However, because the delivery mechanism is noisy, the animal sometimes gets scared and doesn't always eat the food. I want to know if animals eat more food in response to light or in the interval between trials. There are 20 trials.

NULL HYPOTHESIS:

ALTERNATIVE HYPOTHESIS:

DESIGN AN EXPERIMENT TO TEST THE HYPOTHESIS:

RESULTS & THEIR INTERPRETATION:

p-VALUE

$p < 0.05$:

$p > 0.05$:

You can discuss this with your peers. Feel free to ask questions or share your thoughts in the Discussion Board.