# Code Academy Intensive Capstone Project: Biodiversity for the National Parks

BECKY TEPER

# Species_Info.csv - Description

- The columns were: category, scientific name, common name, conservation status
- It contained 5541 different species and 7 categories of species: Mammal, Bird, Reptile, Amphibian, Fish, Vascular Plant, Nonvascular Plant
- Species could have one of five conservation statuses: NaN = no intervention (5363 species), Species of Concern (151 species), Endangered (15 species), Threatened (10 species), In Recovery (4 species)
- Birds and Mammals seem to have the highest percentage of protected species of all categories
- There are 3 types of sheep in this data

# Significance Calculations – Endangered Species

- First, I checked if there was a significant difference between Birds and Mammals in the number of protected and not protected species
  - There was a not significant difference
- Then, I checked if there was a significant difference between Reptiles and Mammals in the number of protected and not protected species
  - Here, there was a significant difference – there is a significantly higher percentage of protected Mammals than protected Reptiles
- Recommendation for conservationists: when determining where to spend their energy, conservationists should spend more time focused on Mammals than on Reptiles since there are a greater proportion of protected Mammals.

# Sample Size Determination – Foot and Mouth Disease Study

- In a sample size determination, you need to know the baseline rate, level of statistical significance, and minimum detectable effect that you need
- The baseline rate was 15%, because it was recorded last year that 15% of sheep at Bryce National Park had foot and mouth disease
- It was instructed that the level of statistical significance should be 90%
- The minimum detactable effect was 33.333%, which was calculated using the equation 100 * 5/15
  - 15 = baseline rate, 5 = minimum percent change the scientists wanted to see
- This yielded a sample size of 510 sheep, which could be observed in 1 week of observation at Yellowstone National Park and in 2 weeks at Bryce National Park

# All graphs created