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► Week 1: Introduction to Data

▼ **Week 2: Univariate Descriptive Statistics**

Readings

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Lab

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Problem Set

Problem Set due Mar 15, 2016 at 18:00 UTC

Week 2: Univariate Descriptive Statistics > Lab > Analyze the Data



Bookmark

Reflect on the Question

Analyze the Data

Draw Conclusions

Primary Research Question

Compare the weight of adult cats and dogs at the shelter. How typical would it be to find a 13-pound cat? What about a 13-pound dog?

Analysis

Let's break this question down into the different descriptive statistics that you will need to construct your answer. Be sure that your R output includes all of the following components.

1. Create a table to show how many adult (at intake) cats and dogs are in the dataset. *An animal is considered an adult if it is at least one year of age.*
2. Make a histogram of weight for both adult dogs and cats.
3. Calculate the appropriate measures of center and spread for each distribution.
4. Find the z-score for a 13-pound cat.
5. Find the quartile for a 13-pound dog.

(2/2 points)

1a. How many adult dogs are in the shelter?

226



Answer: 226

226

1b. How many adult cats are in the shelter?

56



Answer: 56

56

► Week 3:
Bivariate
Distributions

► Week 4:
Bivariate
Distributions
(Categorical
Data)

You have used 1 of 1 submissions

(2/2 points)

2a. What is the shape of the distribution of weight for adult dogs?

positively skewed ▼



Answer: positively skewed

2b. What is the shape of the distribution of weight for adult cats?

approximately normal ▼



Answer: approximately normal

You have used 1 of 1 submissions

(2/2 points)

3a. Which measure of center should be used to describe the average weight of the adult cats?

mean



Answer: Mean

3b. Average adult cat weight in pounds (rounded to one decimal place)=

8.6



Answer: 8.6

8.6

You have used 1 of 1 submissions

(1/1 point)

4. What is the standard deviation for the weight of the adult cats? Round to two decimal places.

1.91



Answer: 1.91

1.91

You have used 1 of 1 submissions

(1/1 point)

5. What is the z-score of a 13 pound adult cat? Round to one decimal point.

2.3



Answer: 2.3

2.3

You have used 1 of 1 submissions

(1/1 point)

6. Which of these best describes the location of a 13 pound adult cat in the shelter distribution?

☒ More than 2 standard deviations above the mean. ✓

☐ Approximately 1 standard deviation below the mean.

☐ Approximately 2 standard deviations below the mean.

☐ Less than 1 standard deviation above the mean.

You have used 1 of 1 submissions

(1/1 point)

7. What proportion of adult cats weigh more than 13 pounds, according to your data? Use the following code to answer this question: `1-pnorm(zcat)`. Replace "zcat" with your z-score for the cat. Round to three decimal places.

0.011 ✓

0.011

You have used 1 of 1 submissions

(2/2 points)

Looking now at the descriptive statistics for the weight of adult dogs in the shelter:

8a. What quartile would contain a 13-pound adult dog?

first ▼ ✓ Answer: first

8b. What percentage of adult dogs in the shelter weigh more than 13 pounds?

Approximately 75% ▼ ✓ Answer: Approximately 75%

You have used 1 of 1 submissions

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