PH 142 Quiz 3 Spring 2021

Your name here

Instructions

Return via email as a Word document to ph142@berkeley.edu. Do not handwrite your answers or convert to a PDF. Please highlight your answer(s) for any multiple choice questions and type your answer where indicated for short answer or fill in the blank questions.

Lecture Content: Monday of same week: Intro to Regression W/F of previous week: Describing Data w/ numbers + Exploring Relationships between 2 variables

Question 1 [4 points total]

1.1 [1 point] True/False: We use bar charts to graph continuous data and histograms to graph categorical data.

  a) True
  b) False

1.2 [2 points] The _____, which is comprised of the min, Q1, median, Q3, and max, is a concise way of reporting the spread of a distribution.
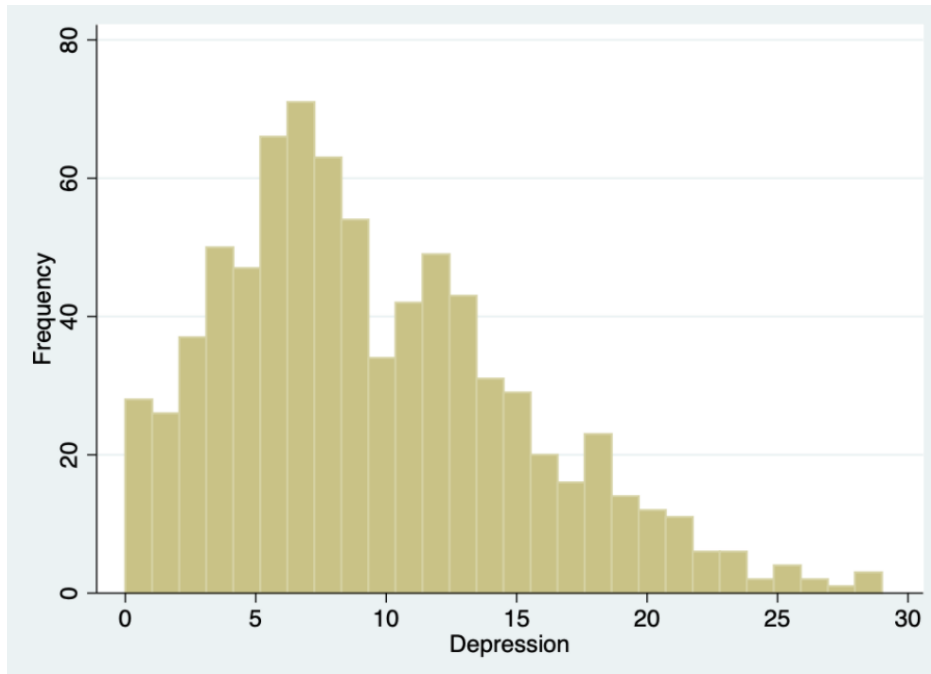
Fill in the blank using lowercase letters only.

1.3 [1 point] In a box plot, the points past the edge of the upper whisker are considered to be (the):

  a) median
  b) maximum
  c) mean
  d) outliers
  e) too extreme

Question 2 [2 points total]

In 2014, the UC Berkeley Graduate Assembly released the Graduate Student Happiness & Well-Being Report. The report included this graph showing the results from the Center for Epidemiologic Studies - Depression Scale (CES-D) for the respondents.

Select all of the following that accurately describe the distribution above.

a) unimodal
b) bimodal
c) multimodal
d) mean is greater than median
e) mean is less than median
f) right skewed
g) left skewed

Question 3 [3 points total]

You're examining the relationship between dog weight (in pounds) and amount of kibble consumed on a monthly basis (pounds per month). You've cleaned your data and run lm() on your data and R returns the following result:

```
## # A tibble: 2 x 5
## term             estimate   std.error   statistic   p.value
## 1  (Intercept)      0.868      3.91        0.222       0.830
## 2  weight           0.626      0.117       5.33        0.000701
```

3.1 [2 points] Using the output from lm() above, write out the equation for the line of best fit in the form y = ax+b. Do not round any numbers.

a) a = _____
b) b = _____

3.2 [1 point] Does the y-intercept of this output have real-world meaningfulness?

a) Yes
b) No

Question 4 [1 point total]

Calculate the IQR of using the data below.

```
> summary(kibble)
   Min.    1st Qu.    Median     Mean    3rd Qu.     Max.
   5.80     10.32     17.57     19.45    27.52      36.00
```