

Here are the survival times (in days) of 46 guinea pigs that were injected with a bacterial infection in a medical study:

43 45 53 56 56 57 58 66 67 73 74 79 80 80
81 81 81 82 83 83 84 88 91 92 92 97 99 99
100 101 102 103 107 109 114 121 126 137
139 145 156 174 179 191 211 243

Construct a boxplot & histogram of the data.

HW QUIZ

TRASHKETBALL

You will need your own piece of paper to answer questions on

1.) The standard deviation is a measure of

a.) the center of a distribution

b.) the variability of a distribution

c.) the association between two variables

d.) the standardized value of a variable

e.) the gap between the mean and the median

2.) The standard deviation should not be used to measure spread when

- a.) the distribution symmetric
- b.) the mean is used to measure center
- c.) the distribution is transformed
- d.) the distribution is skewed

3.) The mean and the median of a distribution are measures of

a.) the number of observations

b.) variability or spread

c.) center

d.) both (b) and (c)

e.) none of these

4.) Which of the following sets of numbers has the largest standard deviation?

a.) 0, 0, 0, 0, 0

b.) 5, 5, 5, 5, 5

c.) 4, 5, 5, 5, 4

d.) 4, 5, 5, 5, 5, 5, 4

e.) 6, 7, 7, 7, 7, 7, 6

5.) A well-drawn histogram should have

a.) bars all the same width

b.) no space between bars (unless a class has no observation)

c.) a clearly marked vertical scale

d.) classes specified so that each individual fall into exactly one class

e.) all of these

6.) The five numbers in the five-number summary are

a.) the five smallest observations

b.) the five largest observations

c.) the mean, median, maximum, standard deviation, and sample size

d.) x_1, x_2, x_3, x_4, x_5

e.) the median, quartiles, minimum, and maximum

7.) For a distribution skewed to the left, usually

a.) the mean will be larger than the median

b.) the median will be larger than the mean

c.) the first quartile will be larger than the third quartile

d.) the standard deviation will be negative

e.) the minimum will be larger than the maximum

8.) An outlier will usually have a large effect on the

a.) first quartile

b.) mean

c.) third quartile

d.) median

e.) sample size

9.) Fifty percent of the observations will be at or above the

a.) maximum

b.) mean

c.) median

d.) third quartile

e.) first quartile

10.) The Current Population Survey records the incomes of a large sample of American households. To briefly describe the distribution of household income, it is best to use

a.) the mean and standard deviation

b.) the mean and median

c.) the five-number summary

d.) the median and standard deviation

e.) a pie chart

11:

1, 4, 7, 11, 11, 12, 14, 15, 16, 16, 17, 17, 25, 28

Calculate the five-number summary

How many outliers does this data set contain?

Draw a boxplot.

Min 1, lower quartile 11, med 14.5, upper quartile 17, max 28

12.)

1, 4, 7, 11, 11, 12, 14, 15, 16, 16, 17, 17, 25, 28

How many outliers does this data set contain?

13.) The number of letters (word length) in the first eight words of Charles Dickens' *Bleak House* are: 6, 10, 4, 6, 4, 3, 3, 4

Calculate the mean, standard deviation, median and interquartile range.

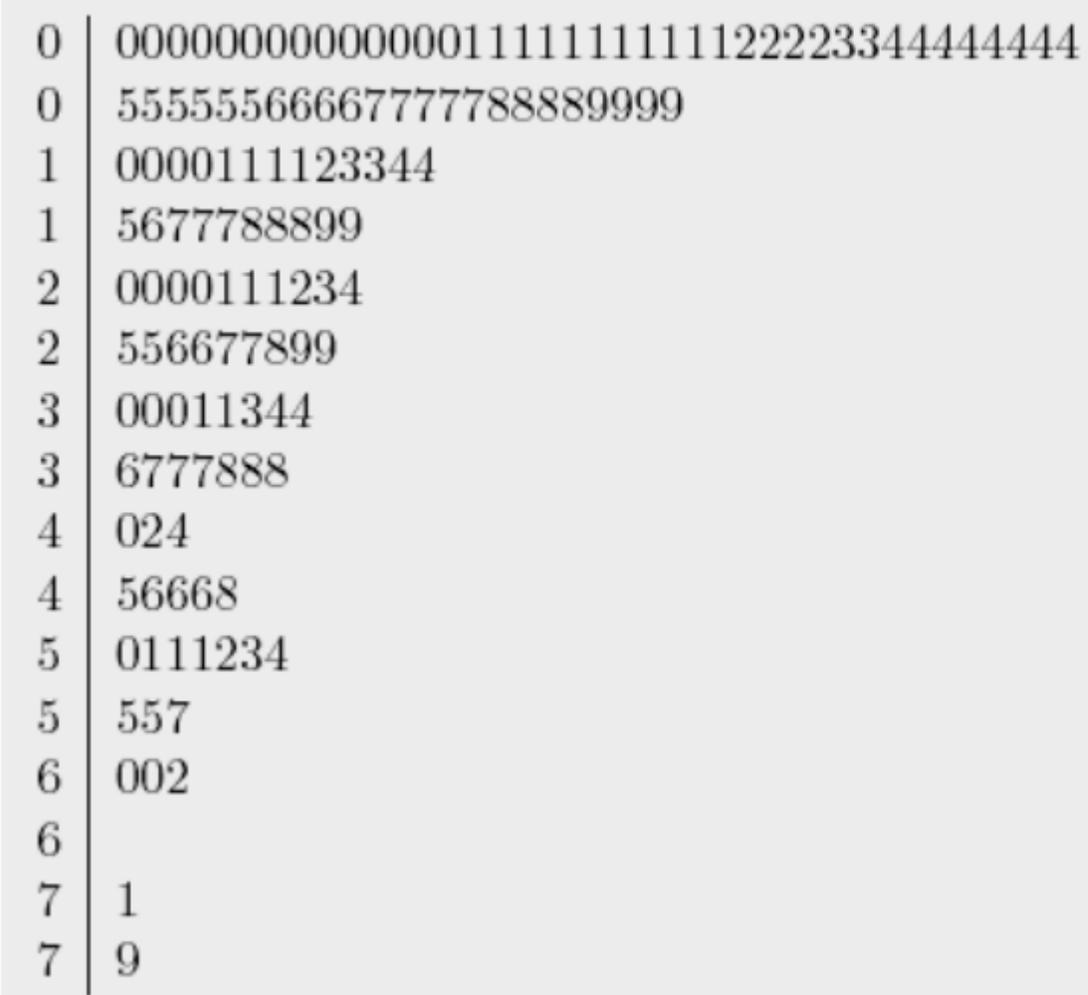
Mean: 5

$S = 2.3$

Med = 4

IQR =

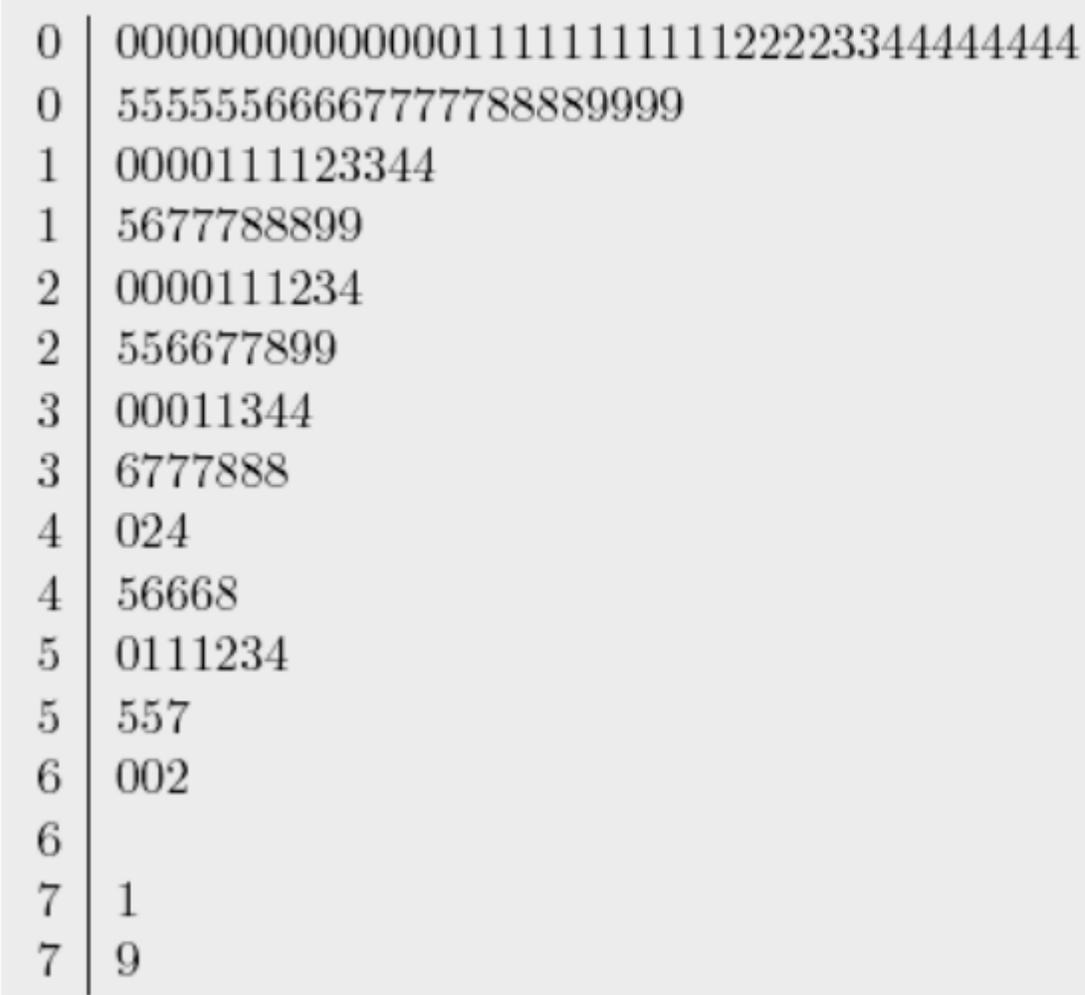
Here is a stemplot of the percent of adult males who are illiterate in 142 countries, according to the United Nations. For example, the highest illiteracy rate was 79%, in the African country Niger.



14.) Describe the overall
SHAPE

Skewed
right

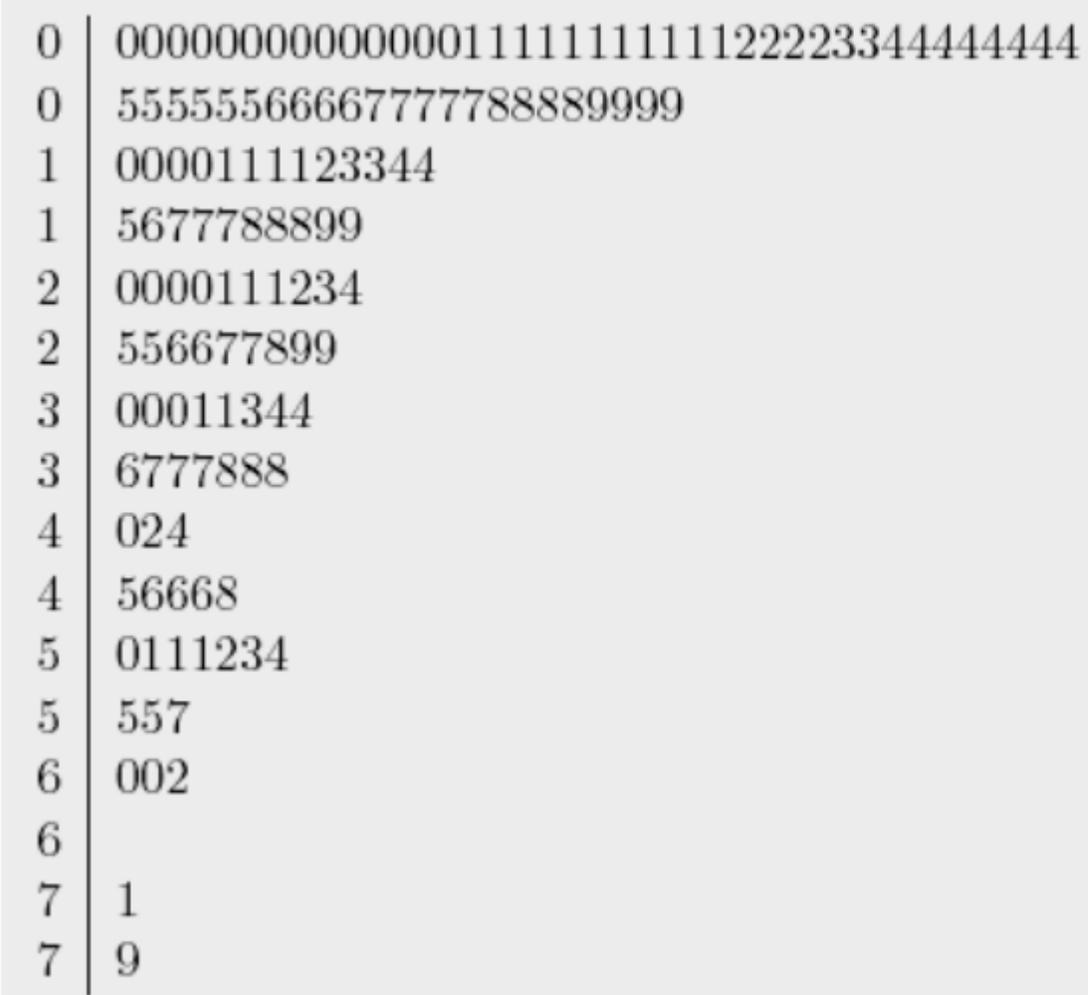
Here is a stemplot of the percent of adult males who are illiterate in 142 countries, according to the United Nations. For example, the highest illiteracy rate was 79%, in the African country Niger.



15.) To locate the median of 142 observations, you would count up to what position after arranging the data in order from smallest to largest?

Halfway between 71st and 72nd in the ordered list

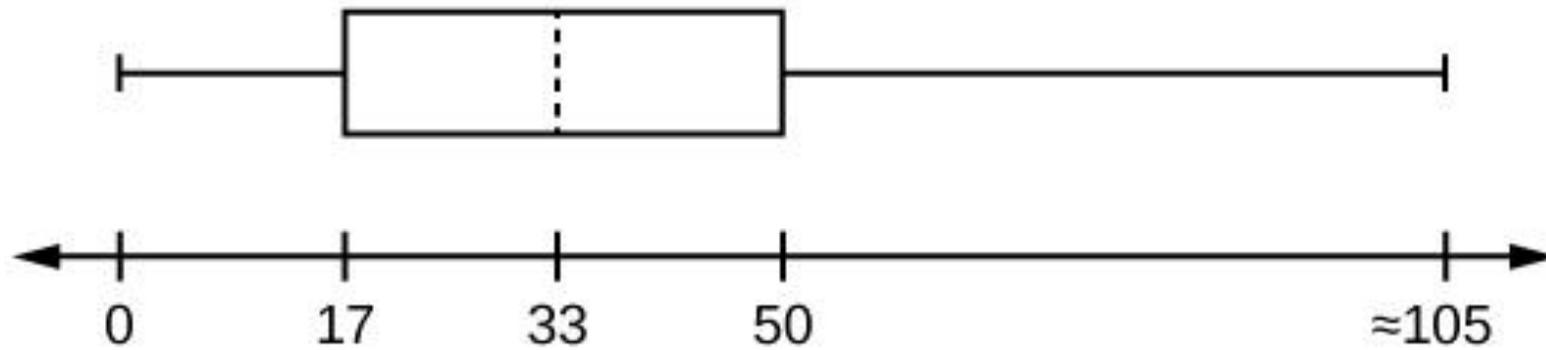
Here is a stemplot of the percent of adult males who are illiterate in 142 countries, according to the United Nations. For example, the highest illiteracy rate was 79%, in the African country Niger.



16.) The mean (don't do it) of this distribution is

- a.) very close to the median
- b.) clearly less than the median
- c.) clearly greater than the median
- d.) cannot determine from this graph

17.) Here is a boxplot of texts sent yesterday. Approximately what percent of the are between 17 and 50 text messages?



50%

How many points do you wager?

Following are data on the populations and numbers of death row prisoners for several states.

Which state has the highest number of death row prisoners *relative to the size of its population*?

State	Population (in thousands)	Death Row Prisoners
California	36,756	678
Texas	24,327	358
Florida	18,382	402
Illinois	12,902	15
Nevada	2,600	79

Nevada