Descriptive

1.organize, summarize using graphs and numbers.
2.Data summary
3.Mean,mode and mode
4.Range, variance and standard deviation

Inferential

1.using data to draw conclusion
2.determining how confident we can be that the conclusions are correct

Mean, Median, Mode, and Range

1.mean=∑values/number of values
2.median: if n is odd, the median is the middle number.
n is even, median is the average of the two middle numbers.
3.mode: most frequent value, if no number is repeated the data set has no mode, data set can has two modes or more.
4.Range=the highest num - lowest num.

variance

It measures the spread between numbers in a data set.
sample variance:

$$S^2 = \frac{\sum(x_i - \bar{x})^2}{n-1}$$

$\bar{x}$=mean

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standard deviation

The variance represents how much are the data spread apart around the mean.

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{N}}$$

The Interquartile Range

min(zero percentile), max(100th percentile).
q1 is the median of the lower half of the data: 25th percentile.
q2 is the median of the data: the 50th percentile
q3 is the median of the upper half of the data: 75th percentile.

IQR=Q3-Q1

Outliers

the outliers is the numbers outside of:$[Q1 - 1.5 * IQR, Q3 + 1.5 * IQR]$