Frequency Tables:

- **Frequency** is a measure of the number of occurrences of a particular score in a given set of data.
- A **frequency table** is a method of organizing raw data in a compact form by displaying a series of scores in ascending or descending order, together with their frequencies, the number of times each score occurs in the respective data set.
- This is an example of a frequency table.

Scores: 1,1,2,2,2,2,2,3,3,3,3,4,4,5			
	Score	Frequency	
	1	2	
	2	5	
	3	4	
	4	2	
	5	1	

Histograms:

- A histogram is a graphical representation of the distribution of numerical data.
- This is an example of a histogram.



- When we have a histogram, we can see the distribution of data. In that distribution, we're usually looking for 2 things:

- 1. How spread out is the distribution. (Variability)
- 2. Where's the middle. (Central tendency)

Measures of Central Tendency (Mean, Median, Mode):

- Mean: The sum of a collection of numbers divided by the count of numbers in the collection. The problem with the mean is that outliers can distort it. It is the most commonly used measure.
- Median: The value separating the higher half from the lower half of a data set. It may be thought of as the "middle" value. The median can't be distorted by outliers.
- Mode: The value that appears most often in a data set. It is the least commonly used measure.

Measures of Variability (MAD, Variance, Standard Deviations):

- **Chance variation** is the difference between the predicted value of a variable and the actual value of the variable. For a fairly large sample size, these errors are seen to be uniformly distributed above and below the mean and cancel each other out, resulting in an expected value of zero.
- Mean Absolute Distribution (MAD): The average of the positive differences of each of the given data and the mean of that data set.
- **Variance:** The average of the squared differences of each of the given data and the mean of that data set.
- **Standard Deviation:** The square root of the variance.

Definitions:

- **Chance variation:** The difference between the predicted value of a variable and the actual value of the variable. For a fairly large sample size, these errors are seen to be uniformly distributed above and below the mean and cancel each other out, resulting in an expected value of zero.
- Descriptive Statistics: One of the two main branches of statistics. Descriptive statistics are brief descriptive coefficients that summarize a given data set, which can be either a representation of the entire or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability.
- **Frequency:** A measure of the number of occurrences of a particular score in a given set of data.
- **Frequency table:** A method of organizing raw data in a compact form by displaying a series of scores in ascending or descending order, together with their frequencies, the number of times each score occurs in the respective data set.
- Histogram: A graphical representation of the distribution of numerical data.
- It differs from a bar graph, in the sense that a bar graph relates two variables, but a histogram relates only one.
- Inferential Statistics: One of the two main branches of statistics.
- Inferential statistics use a random sample of data taken from a population to describe and make inferences about the population. Inferential statistics are valuable when examination of each member of an entire population is not convenient or possible.

- Mean: The sum of a collection of numbers divided by the count of numbers in the collection. The problem with the mean is that outliers can distort it. It is the most commonly used measure.
- **Mean Absolute Distribution (MAD):** The average of the positive differences of each of the given data and the mean of that data set.
- Median: The value separating the higher half from the lower half of a data set. It may be thought of as the "middle" value. The median can't be distorted by outliers.
- Mode: The value that appears most often in a data set. It is the least commonly used measure.
- **Standard Deviation:** The square root of the variance.
- **T-Tests:** A type of inferential statistic used to determine if there is a significant difference between the means of two groups.
- Variance: The average of the squared differences of each of the given data and the mean of that data set.