

What are some examples of variables that show no correlation?

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Variables that show no correlation refer to a lack of relationship or connection between two or more variables. This means that changes in one variable do not have any impact on the other variable, and vice versa. Some examples of variables that show no correlation include the number of hours spent studying and shoe size, the amount of sleep and hair color, or the type of music listened to and eye color. These variables do not have any apparent relationship and do not affect each other in any way. In other words, there is no discernible pattern or trend between these variables, and they are considered to have no correlation.

4 Examples of No Correlation Between Variables

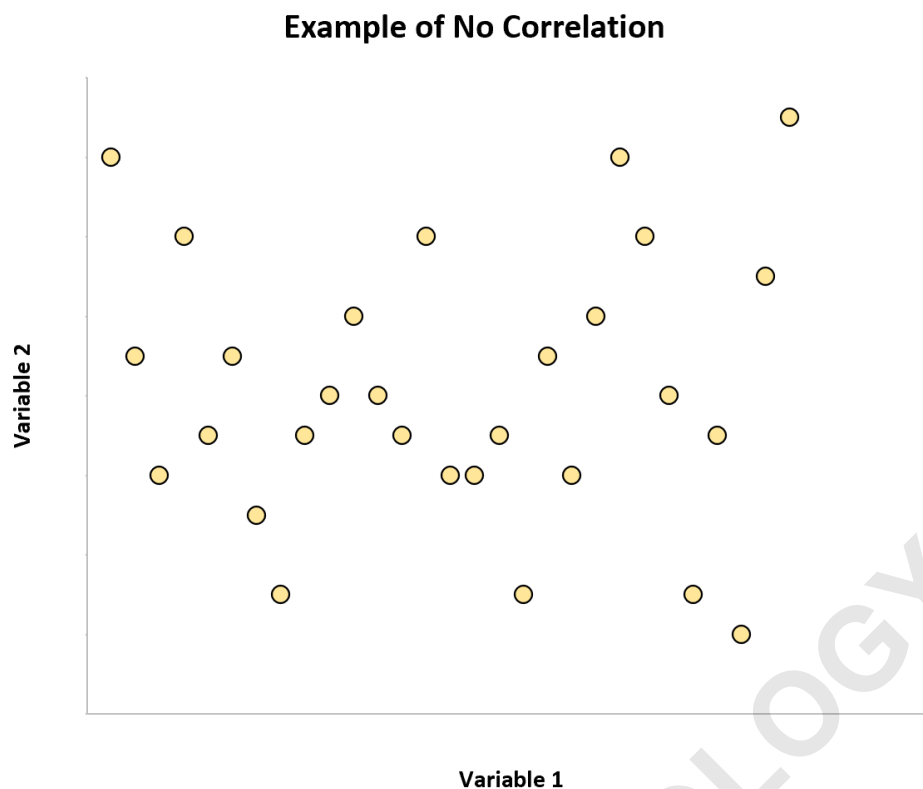
In statistics, correlation is a measure of the linear relationship between two variables.

The value for a correlation coefficient is always between -1 and 1 where:

**-1 indicates a perfectly negative linear correlation between two variables
0 indicates no linear correlation between two variables
1 indicates a perfectly positive linear correlation between two variables**

If two variables have a correlation of zero, it indicates that they're not related in any way. In other words, knowing the value of one variable doesn't give us any idea of what the value of the other variable may be.

If we create a of two variables that have zero correlation, there will be no clear pattern in the plot:



Examples of No Correlation

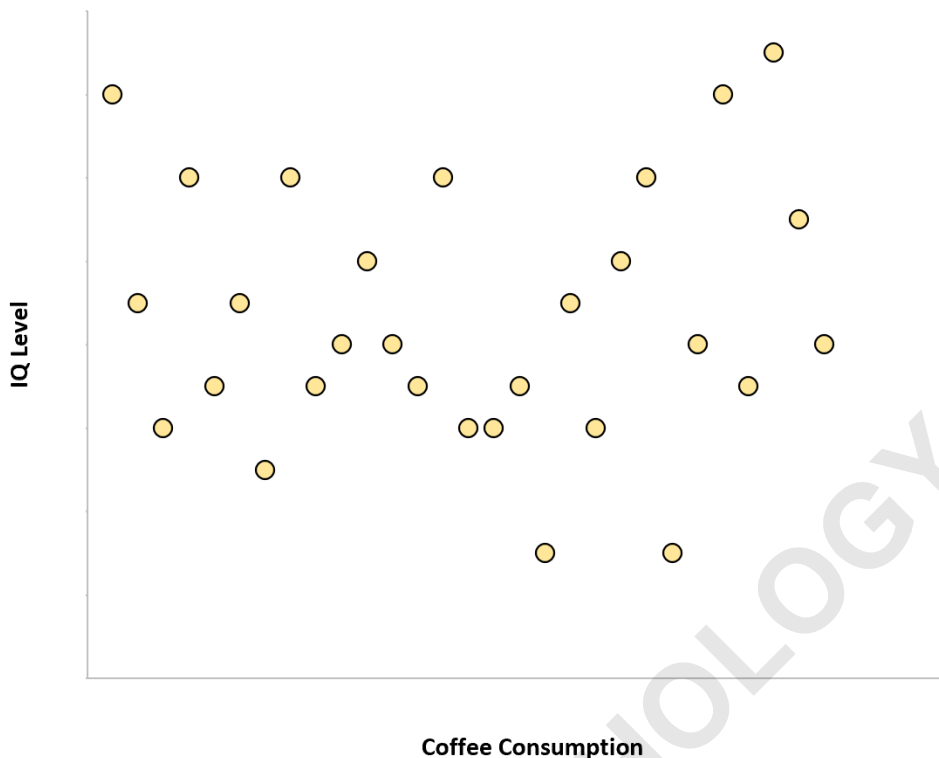
The following examples illustrate scenarios where two variables have no correlation.

Example 1: Coffee Consumption vs. Intelligence

The amount of coffee that individuals consume and their IQ level has a correlation of zero. In other words, knowing how much coffee an individual drinks doesn't give us an idea of what their IQ level might be.

If we created a scatterplot of daily coffee consumption

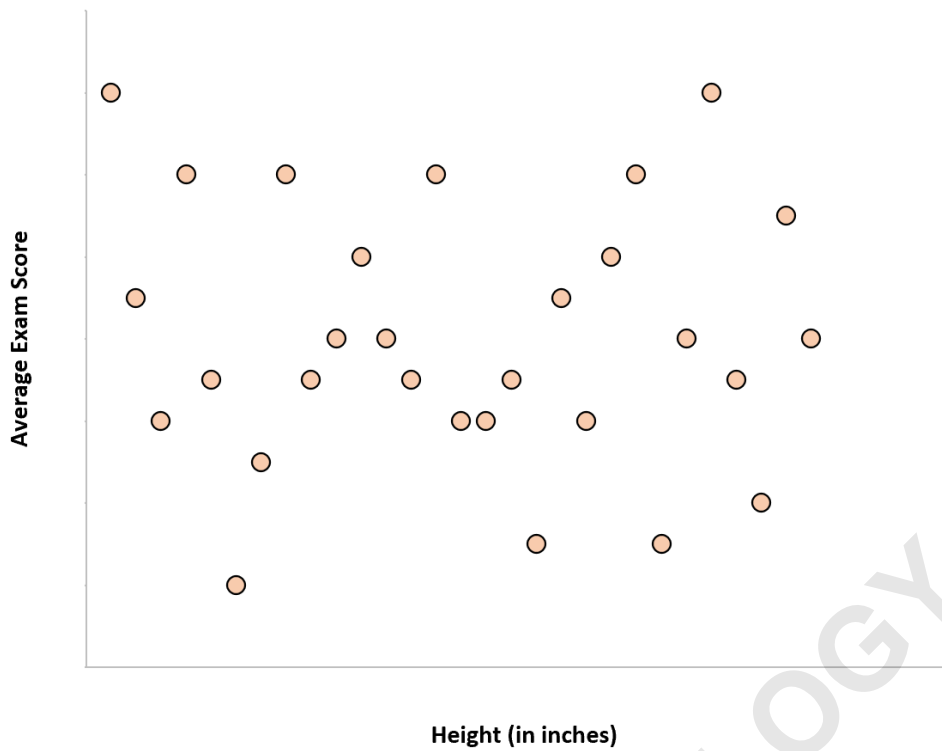
vs. IQ level, it would look like this:



Example 2: Height & Exam Scores

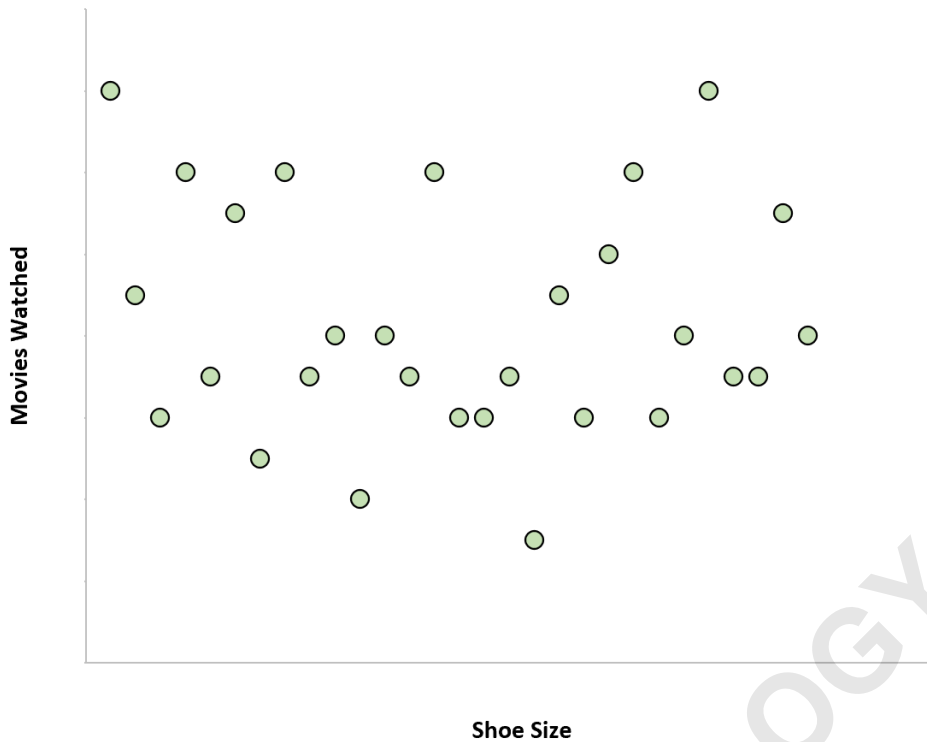
The height of students and their average exam scores has a correlation of zero. In other words, knowing the height of an individual doesn't give us an idea of what their average exam score might be.

If we created a scatterplot of height vs. average exam score, it would look like this:



Example 3: Shoe Size & Movies Watched

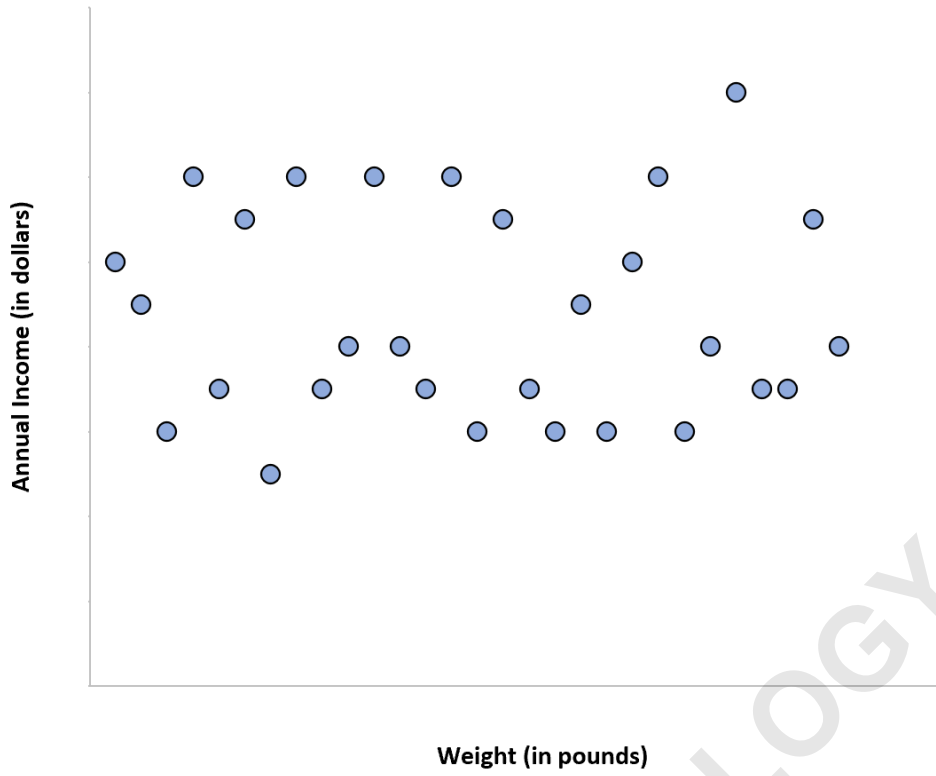
If we created a scatterplot of shoe size vs. number of movies watched, it would look like this:



Example 4: Weight & Income

The weight of individuals and their annual income has a correlation of zero. In other words, knowing the weight of a person doesn't give us an idea of what their annual income might be.

If we created a scatterplot of weight vs. income, it would look like this:



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