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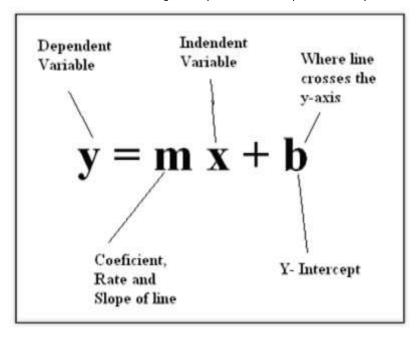
# Reading: Define and Demonstrate Linear Regression

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After learning this topic, you will be having knowledge about: Statistical Linear Regression.

## Statistical Linear Regression:

A statistical measure that attempts to determine the strengths of the relationship between one dependent variable (usually denoted by Y) and a series of the other changing variable (Known as the independent variable).

- In other words: Regression is a mathematical technique used to estimate the cause and effect relationship among variables.

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**Application of Linear Regression:**



**Types of Linear Regression:**

**Example of Linear Regression**

In this example, medical insurance data has been used to calculate the RMSE value.

**RMSE**: Root Mean Square Error (RMSE) is the standard deviation of the residuals (prediction errors).

Residuals are a measure of how far from the regression line data points are; RMSE is a measure of how to spread out these residuals are. In other words, it tells you how concentrated the data is around the line of best fit.

Click on the links below to learn how to use linear regression.

Download the data set:

https://gitlab.com/Pallavi_rai/python-labs/-/raw/master/insurance.csv

Download the Jupyter notebook:

https://gitlab.com/Pallavi_rai/python-labs/-/blob/master/project-medical_insurance_-linear_reg.ipynb



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