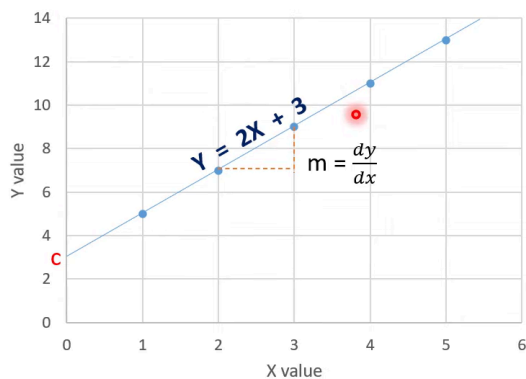


# Training ML model

Example:

In the LinearRegression function , the (x\_train, y\_train) is the part where we are fitting the data according to the x and y. It is the same as plotting the graph for a linear graph when we have given a set of values.

## Machine Learning Model



**Inference:** The above Line equation is a function that relates X and Y.  
For a given value of X, we can find the corresponding value of Y

Equation of a Straight Line :  $Y = mX + c$

**Find the values of m and c:**

Point P1 (2,7)

Point P2 (3,9)

Siddhardhan

$$\text{Slope, } m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 7}{3 - 2} = 2$$

**m = 2**

**Intercept, c:**

Point (4,11)

$$Y = 2X + c$$

$$11 = 2(4) + c$$

**c = 3**



This is how a ML model works. It tries to find relation between the features and the target. We can't have a linear relationship all the time.

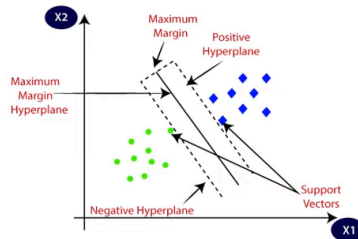
A **Machine Learning Model** is a function that tries to find the relationship between the Features and the Target variable.

It tries to find the pattern in the data, understand the data and trains on the data. Based on this learning, a Machine Learning Model makes Predictions and recognize patterns.

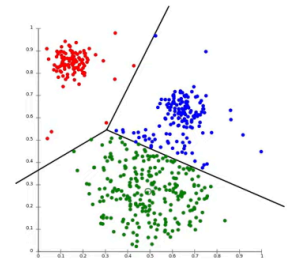
Siddhard



Logistic Regression



Support Vector Machine



K-Means Clustering

1. [Supervised and unsupervised model](#)
2. [Model Selection](#)
3. [Overfitting and Underfitting](#)
4. [Bias Variance Tradeoff](#)
5. [Loss Function](#)
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