**Linear Regression**

Linear Regression is supervised learning.

It is a statistical model which analyses the relationship between dependent and independent values, and it helps predict the continuous variables. Although it is not as sophisticated as other models it is one of the more popular algorithms chosen by data scientists for its simplicity.

Linear regression is useful to predict future outcomes. For example, house prices, weather forecasts and consumer trends.

An example where this algorithm has been used is to calculate the height of a child based on their age: Height = a +Age \* b

Value “a” is the intercept from where you start measuring. Value “b” is the slope which measures the change of height with respect to the age.

**Logistic Regression**

Logistic Regression is supervised learning.

It is a powerful statistical model which measures the relationship between the dependent variable and one or more independent variables by estimating probabilities using a logistic function. It helps you to understand how the typical value of the dependent variable changes when one of the independent variables are adjusted and the others remain the same.

Logistic regression is a classification technique and can be used to do gender classification.

Examples of use are medical researchers who want to find out how exercise and weight impact the probability of having a heart attack. The results have told researchers how changes in weight and exercise affect the probability in having a heart attack.

Another example is a business which wants to know whether an email is spam or not by using word count and country of origin to predict the probability.

**Naïve Bayes**

Naïve bayes is supervised learning. It is based on Bayes theorem and is a straightforward and fast classification algorithm. It assumes that the effect of a particular feature in a class is independent of other features and this assumption simplifies the computation hence why it is considered as naïve.

Naïve Bayes can be used to classify customers reviews, to identify whether a loan applicant is safe or to predict which patient can suffer from a particular disease.

For example, in the case of identifying a loan applicant, the bank manager would consider the customers occupation, income, age, location, previous loan history, transaction history and credit score. Naïve Bayes considers these features independently even if they are interdependent.