**Types of data:**

* Unlabeled data
* Labeled data

**Machine Learning:**

* Supervised learning - Desired input and output to train a model
* Unsupervised learning - No Desired output
* Reinforcement learning - A machine automatically takes a decision based on the previous decision in a particular situation.

In other words:-

A reinforcement learning algorithm, or agent, learns by interacting with its environment. The agent receives rewards by performing correctly and penalties for performing incorrectly. The agent learns without intervention from a human by maximizing its reward and minimizing its penalty

**Supervised learning:**

* Classification
* Regression

Examples of binary classification problems:

* Will the customer buy this product or not buy this product?
* Is this email spam or not spam?
* Is this product a book or a farm animal?
* Is this review written by a customer or a robot?

Examples of multiclass classification problems:

* Is this product a book, movie, or clothing?
* Is this movie a romantic comedy, documentary, or thriller?
* Which category of products is most interesting to this customer?

Examples of regression problems:

* What will the temperature be in Seattle tomorrow?
* For this product, how many units will sell?
* How many days before this customer stops using the application?
* What price will this house sell for?

**Unsupervised learning:**

* Clustering

Call Record Detail Analysis:-

A call detail record (CDR) is the information captured by telecom companies during the call, SMS, and internet activity of a customer. This information provides greater insights about the customer’s needs when used with customer demographics. In [this article](https://www.kdnuggets.com/2017/06/k-means-clustering-r-call-detail-record-analysis.html), you will understand how you can cluster customer activities for 24 hours by using the unsupervised k-means clustering algorithm. It is used to understand segments of customers with respect to their usage by hours.

Microsoft Azure ML:

Cheat code for selecting Algorithms:

<https://tetranoodle.com/wp-content/uploads/2018/02/microsoft-machine-learning-algorithm-cheat-sheet-v6.pdf>

Workflow for basic ML project



