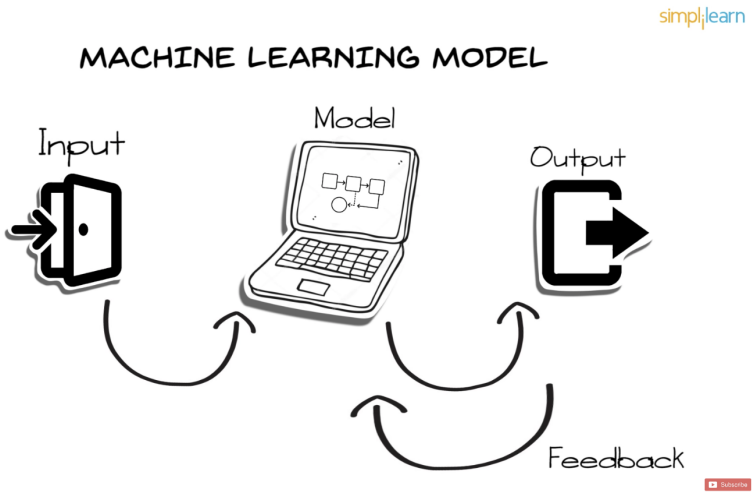
# Basics of Machine Learning

## Overview

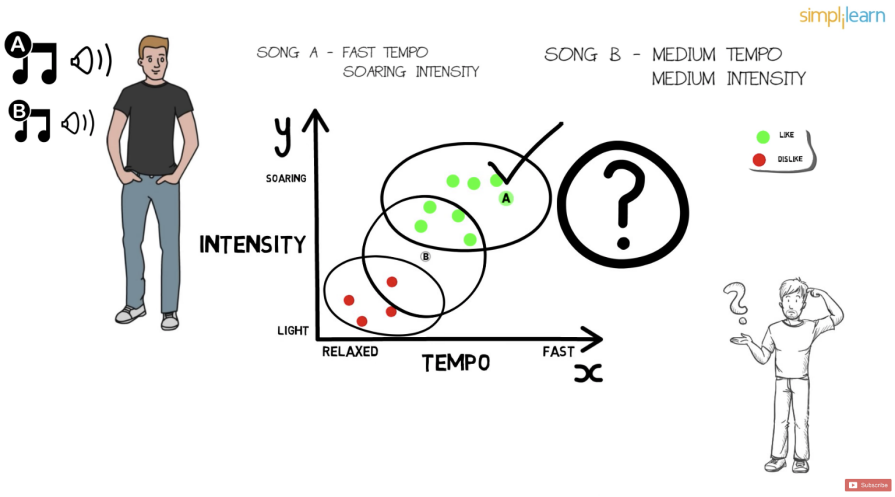



Input is given to a machine learning model which then gives output according to the algorithm applied.

If the output is correct, we take the output as a final result else we provide feedback to the model and ask it to predict until it learns.

## Basic Example

Paul is listening to music, can we predict if he will like a new the song?




Song A - This song clearly falls into the grouping of songs which Paul will like.

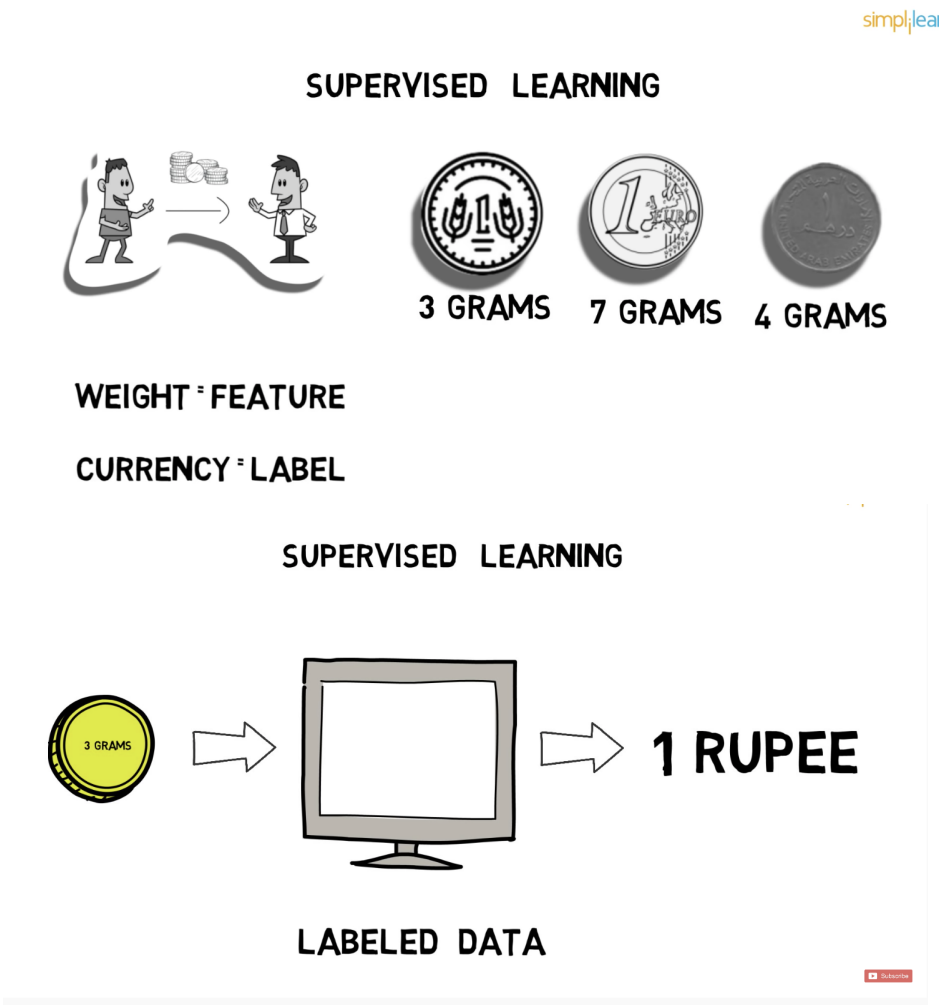
Song B - At first, it is not clear if Paul will like Song B since it lies between his grouping of like/disliked songs. Using K-Nearest Neighbours algorithm, we can assume that Paul will like Song B.

**More Data  Better Model  Higher Accuracy**

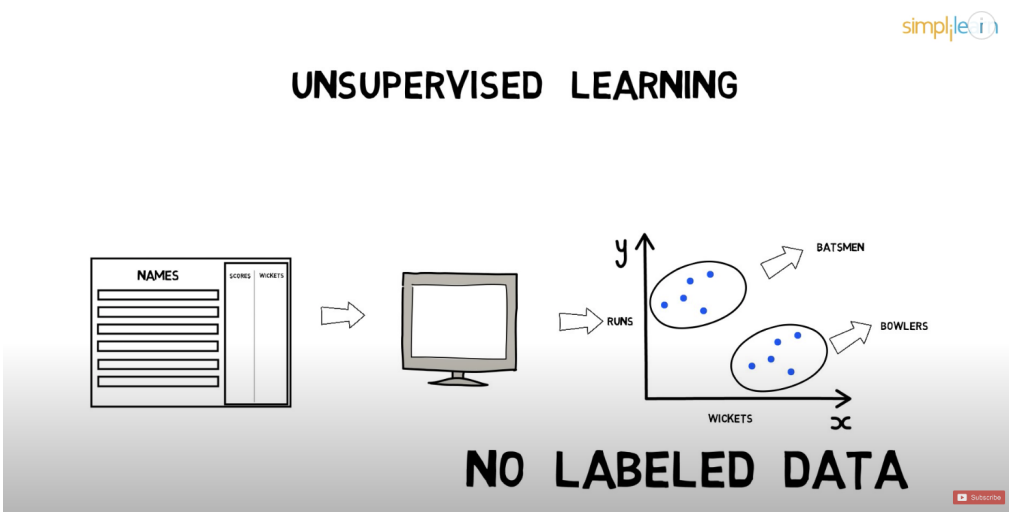
# Types of Learning

## Supervised Learning (Labeled Data)

Here the machine knows the labels associated with some features. Based on the features, it can predict the lablel.

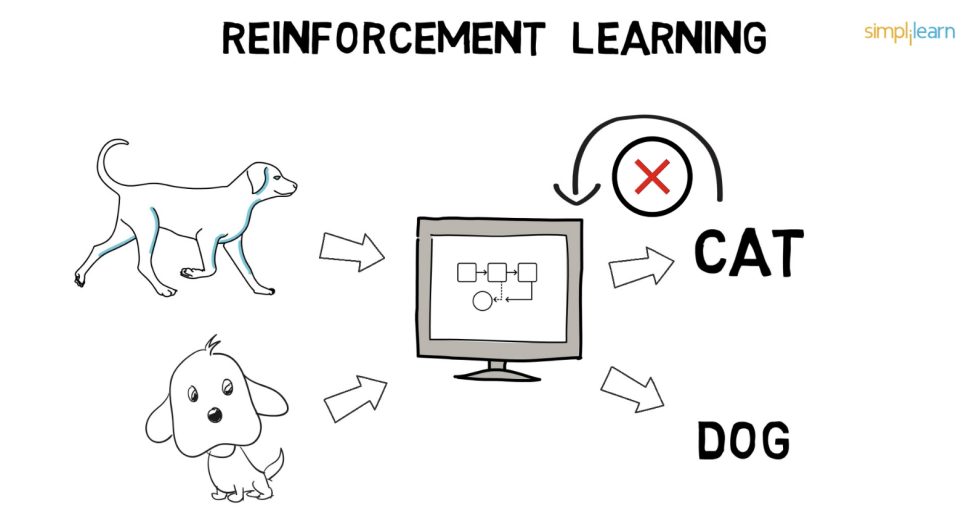



## Unsupervised Learning



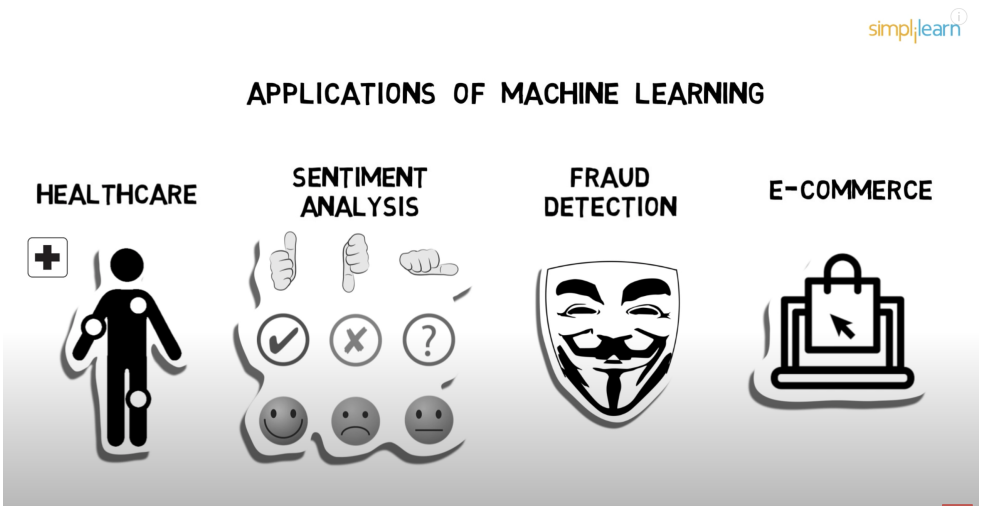

## Reinforcement Learning

- Reward based learning




Feedback to the model helps it with future predictions.

# Applications of Machine Learning




## References

| Reference | URL |
| --- | --- |
| Machine Learning Basics \| What Is Machine Learning? | https://www.youtube.com/watch?v=ukzFI9rgwfU |