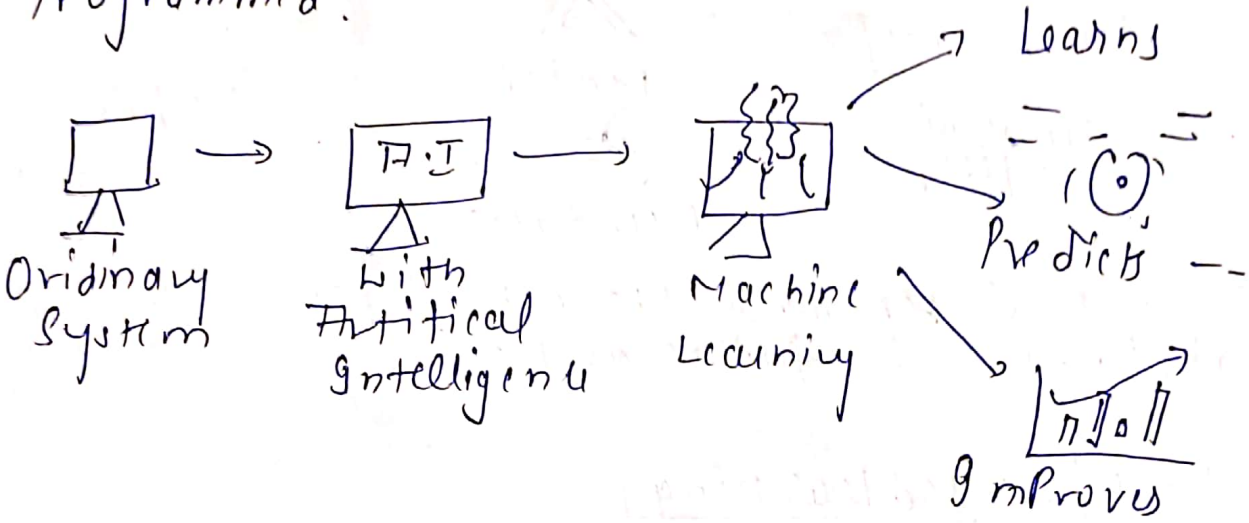
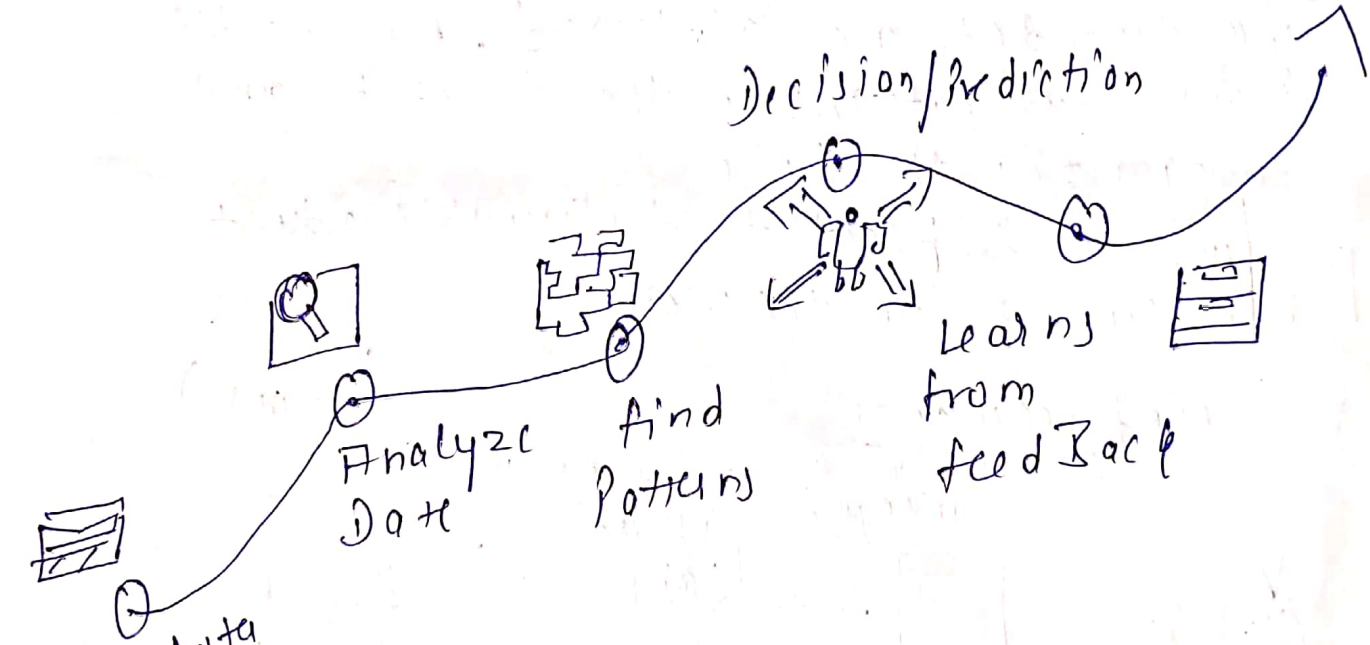
* Machine Learning is an application of A.I
# that Provides systems the ability to automatically learn and improves from the experience without being explicitly Programmed.

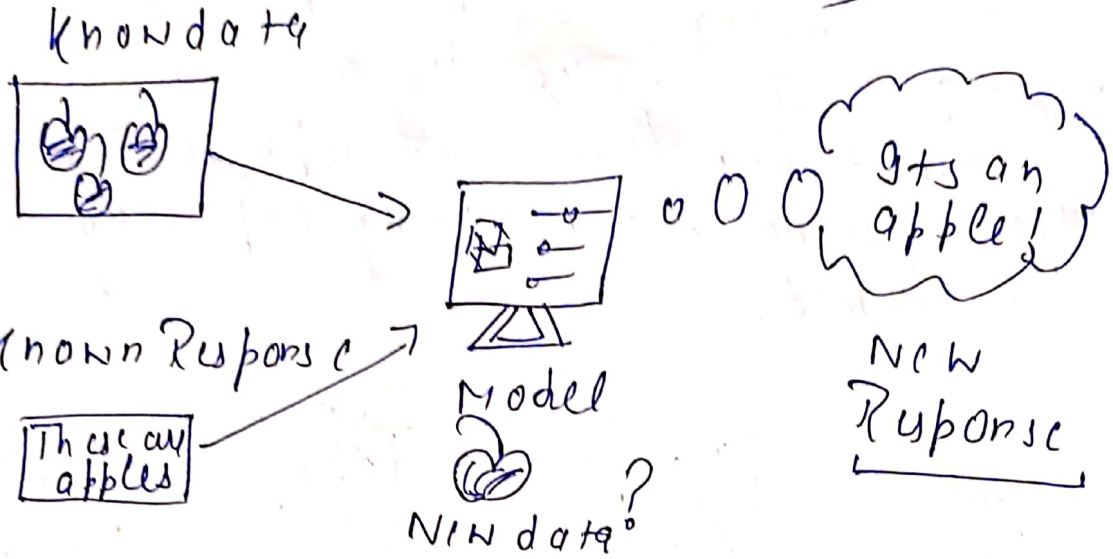




Types

- Supervised Learning (Machine Learns from training data that is labelled)
- Unsupervised [Non-Labelled] data
- Reinforcement [its own learn]

1) Supervised Learning :) eg [used in filtering spam mail]



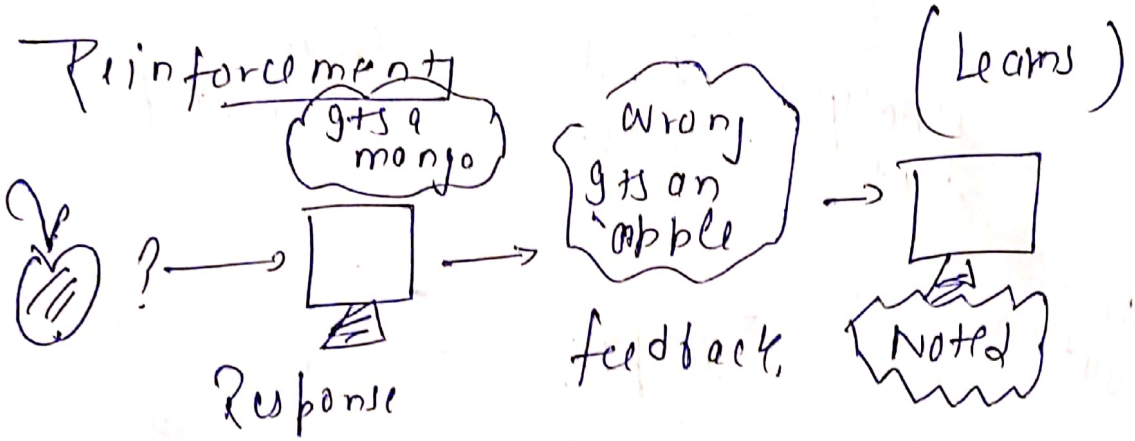
This will remember the new response and apply this in future as well.

2) Unsupervised Learning

The datasets are cluttered, model will figure out patterns in the datasets and categorizes the data

eg: used in flipcart to distinguish product well suited for the user.

3) Reinforcement



It learns from feedback and next time it gives Right answers

eg: (used in game.)

Diff. b/w Supervised & unsupervised M.L

Labeled Data	Non-Labeled data
Direct feedback	No feedback
Predict output	find Hiddin str. in data

Machine Learning Solution

① The Problem statement
(eg Predict the future stock market Prices } (supervised)

② Size, quality and nature.
eg. (if data is cluttered, we'll go for unsupervised)

③ Complexility of the algorithim.

↳ Methods to solve!

① Classification, which falls under supervised learning.
Output! (used when } -> is Yes or NO
A or B
True or false.

eg: (If a shopkeper has to predict, that customor will come to his shop next time he'll use classification algorithim)

Algorithims! → Decision Tree
→ Naive Bayes
→ Random forest
→ Logistic regression
→ KNN.

② Regression used when predicted data is numerical in nature

Algorithm used → Linear Regression

③ Clustering used when data needs to be organized to find patterns in the case of "Product Recommendation"

Q: (Searching inc, Recommdation system)

Algorithm used K Means

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four key Algorithms used widely

① K Nearest neighbour
② Linear Regression
③ Decision tree
④ Naive Bayes.