

DAY 1

Math.

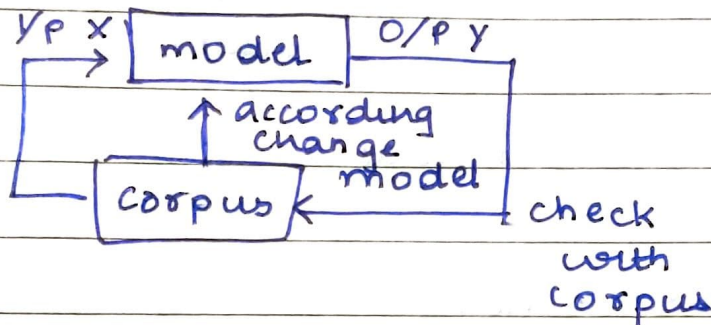
linear algebra

probability

statistics

3 Blue 1 Brown

Math

Custom  
implementation  
of algorithms

Since it is  
dependent  
on  
data,  
this is ML

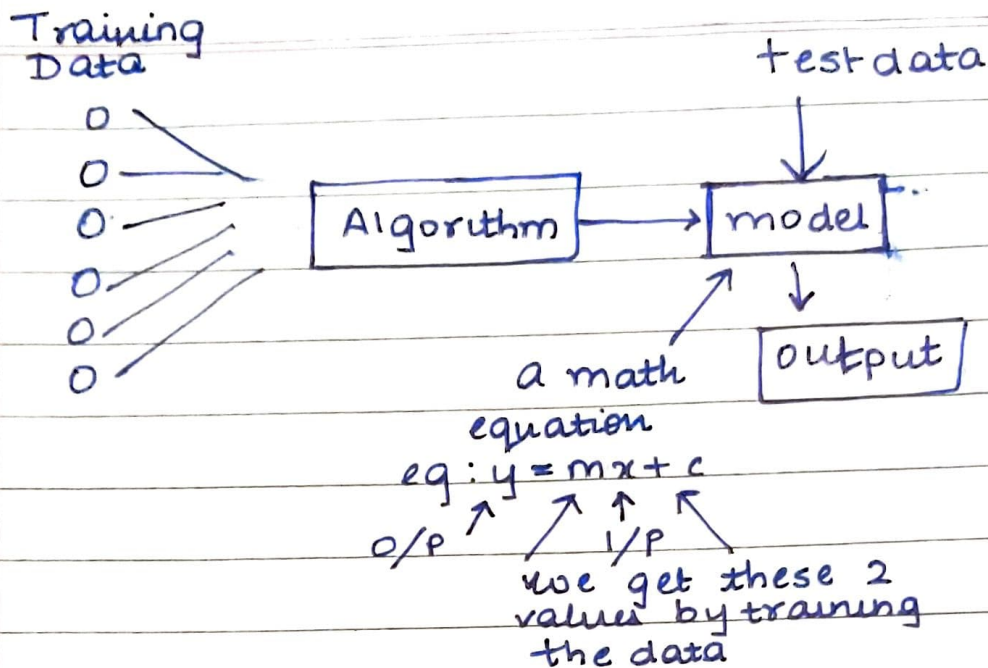
corpus → the collection of something, in this case, it is data

DNN → deep neural networks

neurons help in exchanging bits of information

AI → achieved by ML

ML → making algorithms learning from past experiences & improving the mathematical model.



Data  $\rightarrow$  linear data (like house prediction.)

Train  $\rightarrow$  to understand how to calculate

Test  $\rightarrow$  to check if machine can calculate

★ you can also combine many algorithms.

cross validation

When we replace the algorithm with a deep neural network, it is deep learning

ML

Supervised



whatever you  
do is monitored.

If you do something  
wrong, you are  
asked to correct it.

You have both  
 $x$  &  $y$ .

(continuous values)

→ Regression

(eg. predicting house  
prices.

Unsupervised

If you have only  $x$  but  
not sure what  $y$  is.

→ Clustering

(you have to create the  
model that tells you  
which tells you object  
belongs to which class

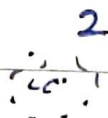
→ Classification

cat or dog

(0/1)

★

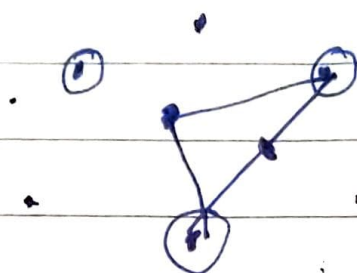
Pizza Problem → Start a shop wrt to  
the other 3 places



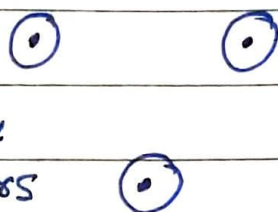
it'll be the  
centre wrt  
the rest of the  
3 places



Four points ?



2 in one  
place &  
one each  
in the other  
two clusters

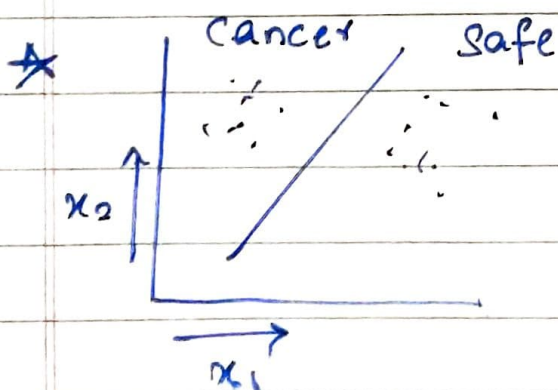


Which will have 2 pts ?  $\rightarrow$  whichever has the most values in cluster

★ Questions

$$\frac{0+1+1+2+6}{5} = 2 \quad \text{mean}$$

$$\text{median} = 1$$



$x_1$  &  $x_2$  are both features

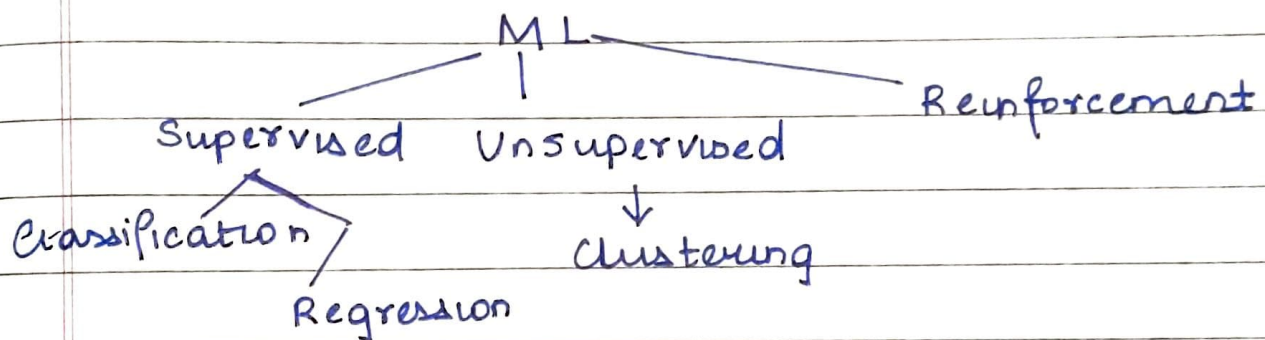
& the answer will be the cluster the pt will belong to.

Semi-supervised

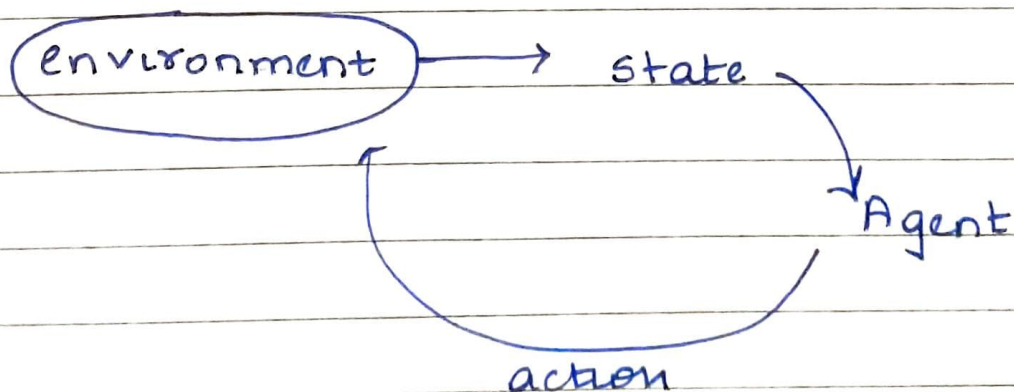


create a bigger algo by putting 2 algos in it.

Some part of the data is supervised i.e. labelled.



### Reinforcement Learning



[ If the action was right,  
send reward  
else send correction ]