KNN Algorith

- It comes under supervised.
- KNN is used to solve both regression and classification problem.

KNN Regression [Regressor]

- KNN Regressor used when data has continuous target.

KNN classifier

- KNN classifier used when date has categorical data

→ KNN algorithm is Lazy algorithm because it will not learn anything during training.

→ KNN assumes similar things exists in closer proximity.
↳ Imp.

→ KNN relies on similarities and distance measures to make predictions

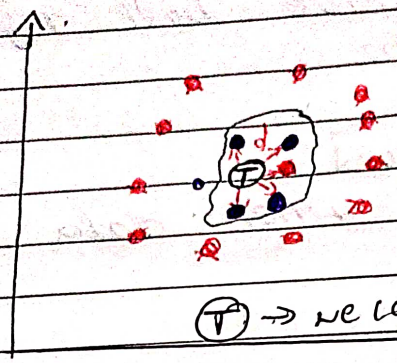
→ KNN is called as distance based algorithm because it will use distance measures.

K N N.

↙ ↓ ↘

no of nearest Neighbours

How KNN works?



● → diabetic
• → non diabetic
(T) → Test point, Test data
(T) → we can say non diabetic, max nearest neighbours are non diabetic

- plot data
- Take test data → (T)
- Find distance between test point and all other observation
- Define K, ex:- [3, 5, ...] (only odd)
  Let K = 5.
- Look for 5 nearest neighbors
- classify test data into one of the class based on ~~"majority voting"~~ "Majority voting"
- In Knn Regressor prediction will be average of all the nearest neighbors

√√
- Classification problem → Majority voting
- Regression problem → average