41. K_Nearest Neighbours (Classification)

- Used for non-linear data
- K-NN can be used for regression as well as for classification but mostly it is used for the classification problems
- K-NN is a non-parametric algorithm, which means it does not make any assumption on underlying data
- It is also called a **lazy learner algorithm**

41.1 How does K-NN Work?

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- It calculate distance from all neighboring data point and find the nearest data point
- It will calculate the nature of that data point
- The distance is calculated based on nature of projects based on two methods:

1. Manhattan distance (L1)
2. Euclidean distance (L2)

- K-value varies according to dataset. It is a hypo-parameter which needs tuning

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