**K Nearest Neighbor**

**kNN**

What does kNN do for you?

* Let’s imagine we have a scenario where we have 2 categories already present in our dataset. One is category 1 and the other is category 2.
* Now let’s say we add a new data point into our dataset. The question is, should it fall into category 1 or category 2?
* This is where the kNN algorithm comes in.

Diagram

Description automatically generated

How does kNN work?

* Step 1: Choose the k number of neighbors that you will have in your algorithm. Most common value is 5.
* Step 2: Take the k nearest neighbors of the new data point, according to the Euclidean distance. You don’t necessarily have to use Euclidean distance, you can use other distances, for instance Manhattan distance.
* Step 3: Among these k neighbors, count the number of data points in each category.
* Step 4: Assign the new data point to the category where you counted the most neighbors.
* And your model is ready.