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DBSCAN Clustering

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DBSCAN looks for densely packed observations and makes no assumptions about the number or shape of clusters.

- 1. A random observation, x; , is selected
- 2. If x; has a minimum of close neighbors, we consider it part of a cluster.
- 3. Step 2 is repeated recursively for all of x's neighbors, then heighbors' neighbors etc... These are the cluster's core members.
- 4. Once Step 3 runs out of observations, a new random point is chosen

Afterwards, observations not part of a core are assigned to a nearby cluster or marked as outliers.

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Preliminaries

```
# Load libraries
from sklearn import datasets
from sklearn.preprocessing import StandardScaler
from sklearn.cluster import DBSCAN
```

Load Iris Flower Dataset

```
# Load data
iris = datasets.load_iris()
X = iris.data
```

1 de 2 05/04/2018 16:47

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2 de 2 05/04/2018 16:47