Euclidean Distance
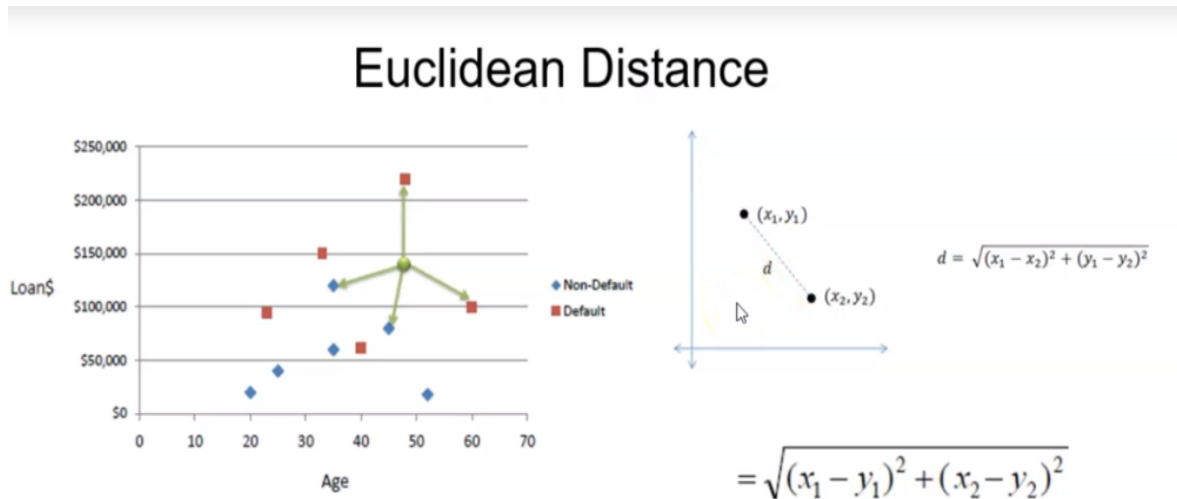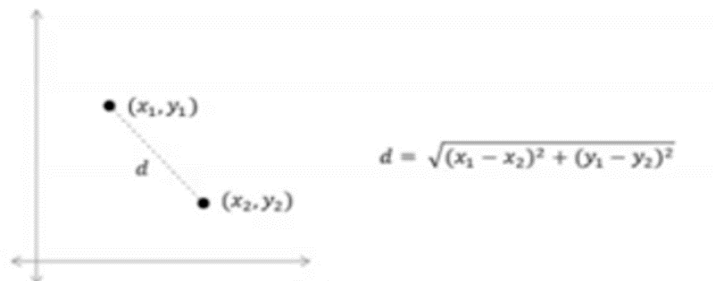
Euclidean distance is a method in geometry that is used to find the distance between two points.

Euclidean Distance

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

$$= \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2}$$

Suppose you want to get the distance between the two points that are plotted in X-axis and Y-axis with coordinates (X1, Y1) and (X2, Y2). To find the distance between these points, use the Euclidean distance. The formula is

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

When applied to K Nearest Neighbor, like in the following figure with K = 4 (4 arrows), The two points in blue color are the nearest points to the point of reference while the other two points in red color are farther from the point of reference. So, the point belongs to the blue category.