



MACHINE LEARNING  
WITH R

**ACADGILD**

# Session 2: Nearest Neighbor Classification

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Assignment 1

## *Session 2: Nearest Neighbor Classification*

### Assignment

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## 1. Introduction

In this assignment, you will work with K-NN.

## 2. Objective

The objective of this course is to solve problems on K-NN.

## 3. Prerequisites

Not applicable.

## 4. Associated Data Files

Not applicable.

## 5. Problem Statement

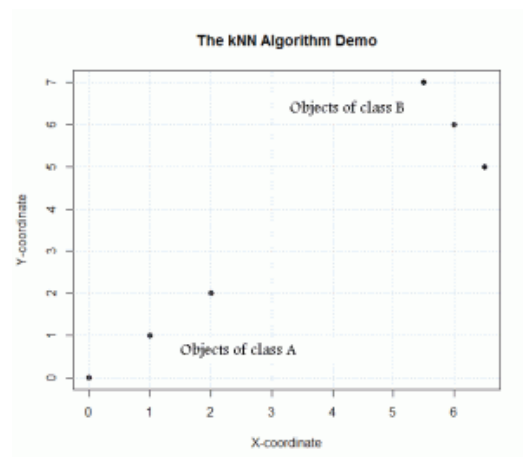
Objects in classes A and B have two numeric attributes/properties that we map to X and Y Cartesian coordinates so that we can plot class instances (cases) as points on a 2-D chart. In other words, our cases are represented as points with X and Y coordinates ( $p(X,Y)$ ).

Our simple classes A and B will have 3 object instances (cases) each.

Class A will include points with coordinates (0,0), (1,1), and (2,2).

Class B will include points with coordinates (6,6), (5.5, 7), and (6.5, 5).

Here is how the classification training objects for class A and class B are arranged on the chart



The object to be classified is (4,4)

Use KNN to classify the above object

Also test for (3.5, 3.5)

## **6. Expected Output**

The objects are classified using K-NN.

## **7. Approximate Time to Complete Task**