**Exercise 1: K-means**

1. Use the `mvrnorm` command to construct a dataset of $n = 100$ points in $\mathbb{R}^2$ with two clusters.

2. Read the documentation of the `kmeans` command.

3. Use the `kmeans` command to cluster your data. Examine the centers, withinss, and betweenss of the resulting clustering.
Exercise 2: Spectral Clustering

1. Load the **kernlab** library.
2. Load the **spirals** dataset and plot the data.
3. Use the K-means algorithm to find $K = 2$ clusters, and display the resulting clustering:

   ```r
   library(grDevices)
   mypal = rainbow(2)
   plot(spirals, col=mypal[c$cluster])
   ``

4. Repeat the above exercise using spectral clustering:

   ```r
   sc = specc(spirals, centers=2)
   plot(spirals, col=mypal[sc])
   ```