PRACTICAL NO.8

Q. Perform the data clustering using clustering algorithm.

> newiris <- iris

> newiris$Species <- NULL

> (kc <- kmeans(newiris,3))

K-means clustering with 3 clusters of sizes 38, 50, 62

Cluster means:

Sepal.Length Sepal.Width Petal.Length Petal.Width

1 6.850000 3.073684 5.742105 2.071053

2 5.006000 3.428000 1.462000 0.246000

3 5.901613 2.748387 4.393548 1.433871

Clustering vector:

[1] 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

[96] 3 3 3 3 3 1 3 1 1 1 1 3 1 1 1 1 1 1 3 3 1 1 1 1 3 1 3 1 3 1 1 3 3 1 1 1 1 1 3 1 1 1 1 3 1 1 1 3 1 1 1 3 1 1 3

Within cluster sum of squares by cluster:

[1] 23.87947 15.15100 39.82097

(between\_SS / total\_SS = 88.4 %)

Available components:

[1] "cluster" "centers" "totss" "withinss" "tot.withinss" "betweenss" "size" "iter" "ifault"

> table(iris$Species,kc$cluster)

1 2 3

setosa 0 50 0

versicolor 2 0 48

virginica 36 0 14

> png(file="E:/kmeans.png")

> plot(newiris[c("Sepal.Length","Sepal.Width")],col=kc$cluster)

> points(kc$centers[,c("Sepal.Length","Sepal.Width")],col=1:3,pch=8,cex=2)

> dev.off()

null device

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