**Tasks for Week-7: Partitioning Based Clustering**

Understand the following operations/functions on ‘iris’ data and perform similar operations on ‘USArrests’ dataset based on given instructions.

rm(list=ls())

setwd("C:/Users/vitcc/Desktop/Plan-Fall-2020-21/DA-Lab")

data <- read.csv("iris.csv",row.names=1)

df <- scale(data)

set.seed(112)

fit<- kmeans(df,3)

fit$size

fit$withinss

fit$tot.withinss # Within Cluster Sum of Squares (WCSS)

Kmax <- 15

WCSS <- rep(NA,Kmax)

nClust <- list()

for (i in 1:Kmax){

fit<- kmeans(df,i)

WCSS[i] <- fit$tot.withinss

nClust[[i]] <- fit$size

}

plot(1:Kmax,WCSS,type="b",pch=19)

# install.packages("factoextra")

library(factoextra)

fviz\_nbclust(df, kmeans, method = "wss")

# install.packages("cluster")

library(cluster)

fit <- pam(df, 3, metric = "manhattan") # K-Medoids

print(fit)

fviz\_nbclust(df, pam, method = "silhouette")