LAB ASSIGNMENT 3

1. R Project
   Prepare a dataset related to your own project and perform k-Means, k-Medians, Expectation Maximization (EM), Hierarchical Clustering and report the results.

   Solution:

   The dataset created consists of different diseases and the pulse rate, sugar level and the high and low blood pressure levels of the diseases.

   The following lines of codes are used to perform following operations and then plot them:

   a) K-Means Clustering:

      > result<-kmeans(data_ft,4,15)

      > plot(data_ft,col=result$cluster)

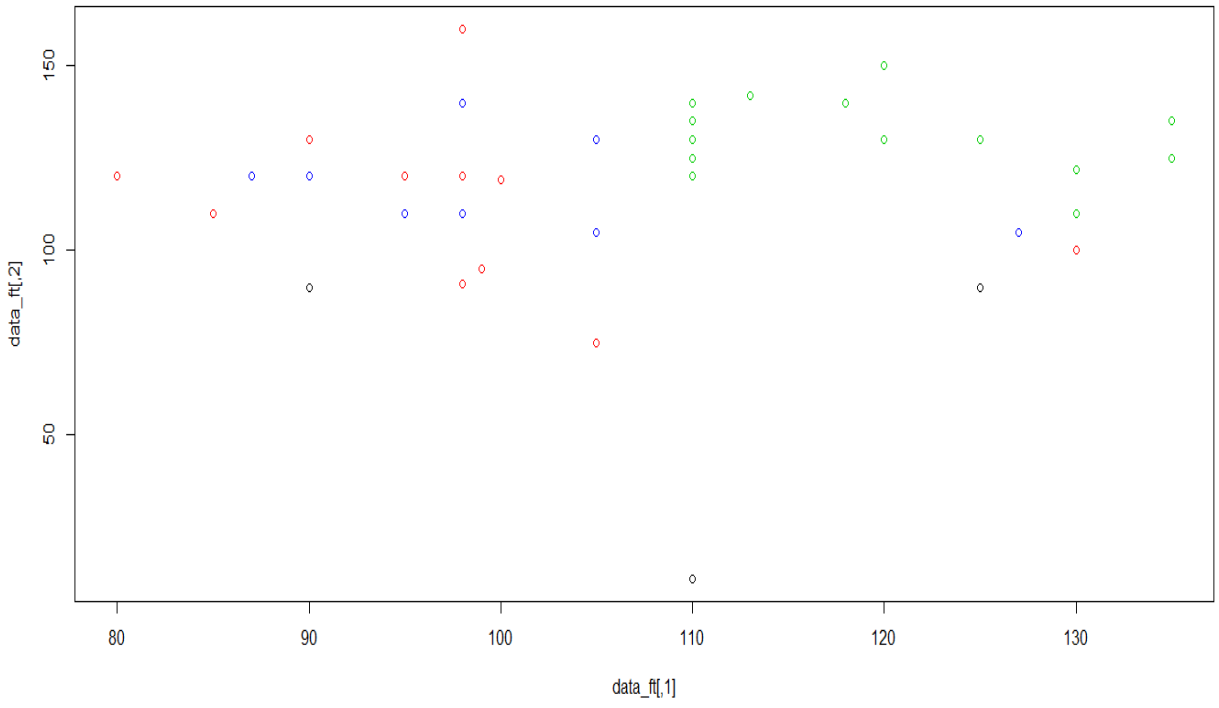

Figure 1.K-means Clustering

b) K-Medians Clustering:

> result3 <- kcca(data_ft, k=2, family=kccaFamily("kmedians"), save.data=TRUE)
> plot(result3)

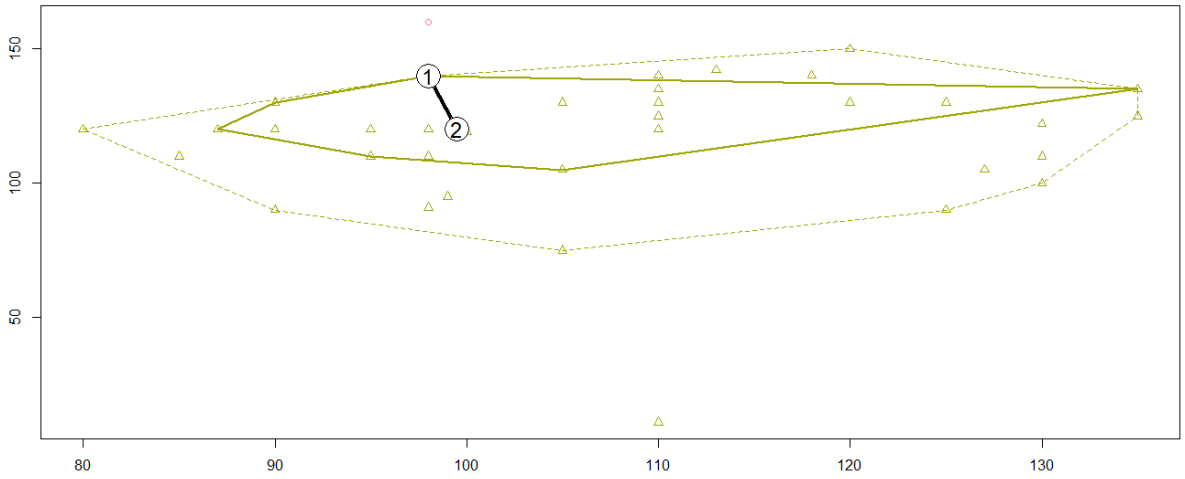

Figure 2.K-medians Clustering

c) Expectation Maximization (EM):

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Type 'citation("mclust")' for citing this R package in publications.

> library(mclust)

> result <- Mclust(dataset[,1:4],3)

> plot(result,what="classification",dimens=c(3,4))

> table(dataset$Disease,result$classification)

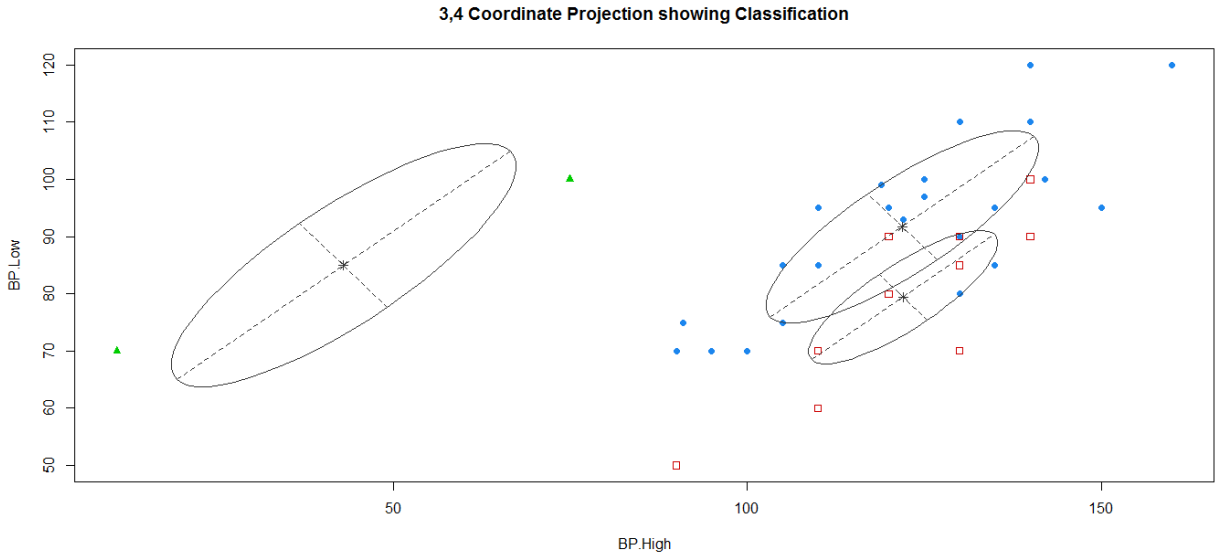

Figure 3.Expectation Maximization

d) Hierarchical clustering:

> d <- dist(as.matrix(data_ft))

> hc <- hclust(d)

> plot(hc)

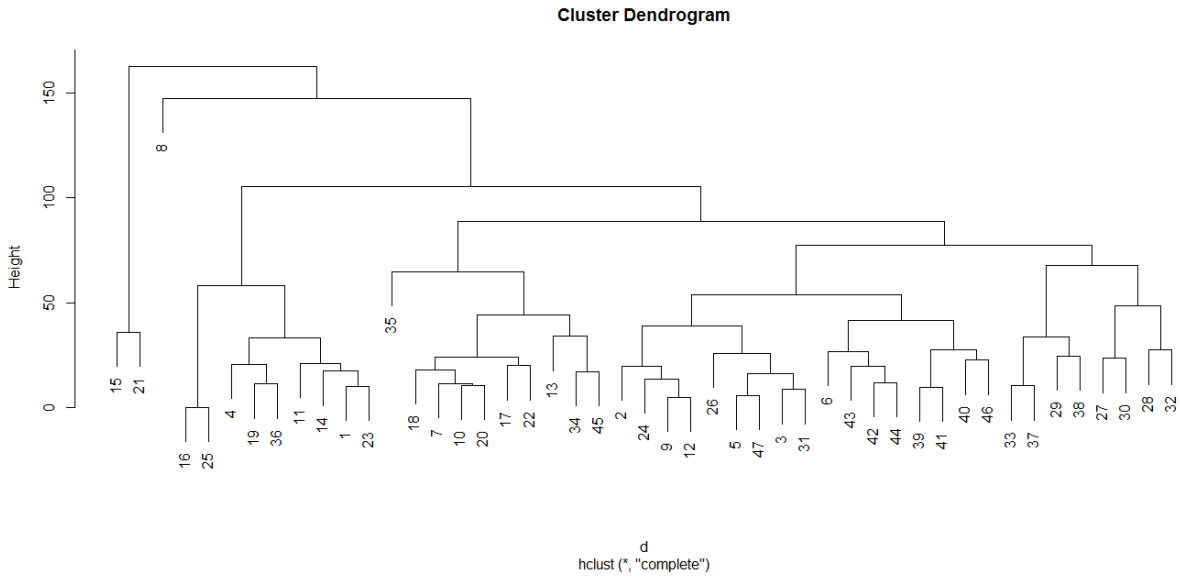

Figure 4.Hierarchical Clustering

2. Watch Application
Data collection related to your own project through Smart Phone and Watch, send notifications to watch using intuitive data analysis.

Solution:

The application developed consists of data collection from the using with the help of its different sensors which can help to determine the health condition of that person.

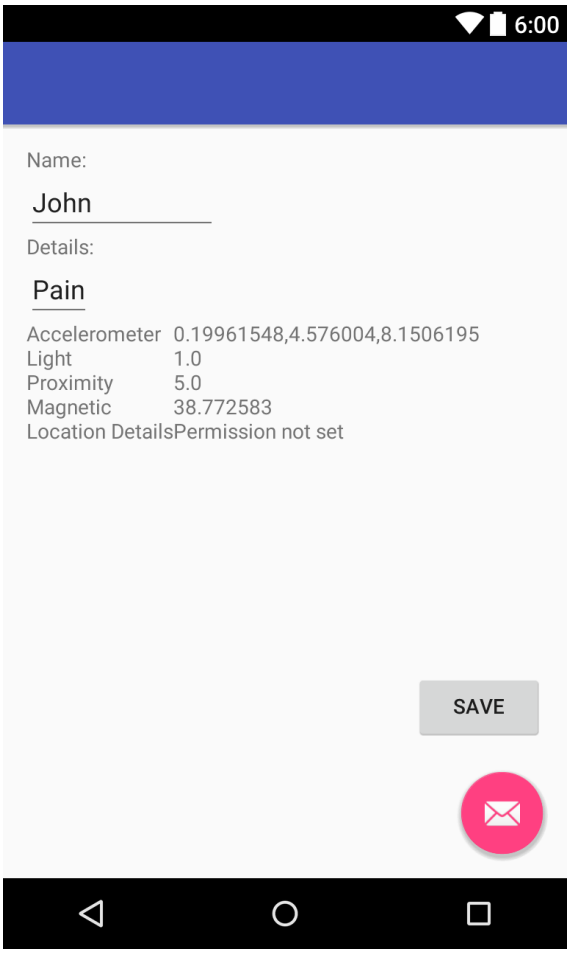

Figure 5.Screen shot