Report for Plots and Dendograms for Hierarchal Clustering Linkage Type

Dataset : Play

Clustering Type : Hierarchal Clustering and its Linkage types

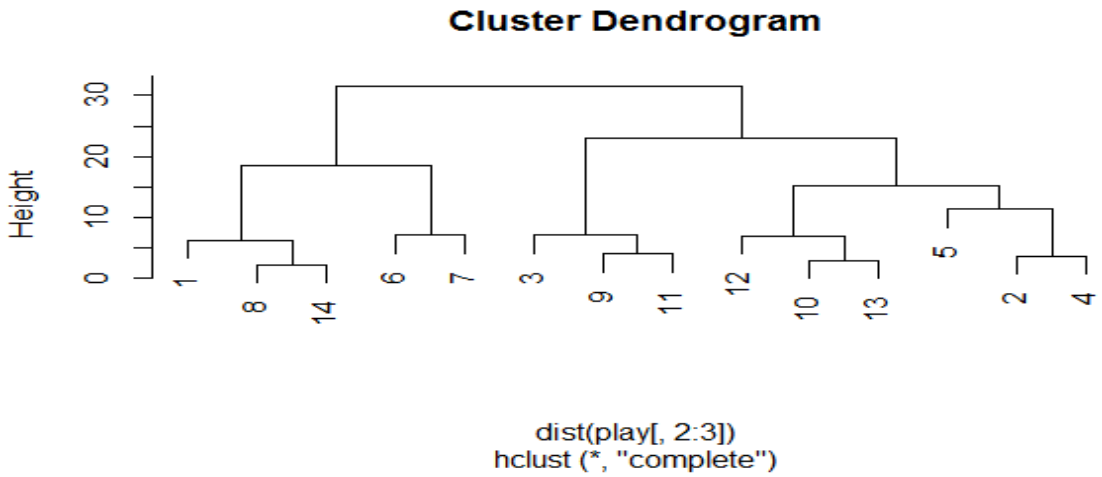
Motive: To check the clustering plots and dendograms of different linkages in Hierarchal Clustering

Observation :

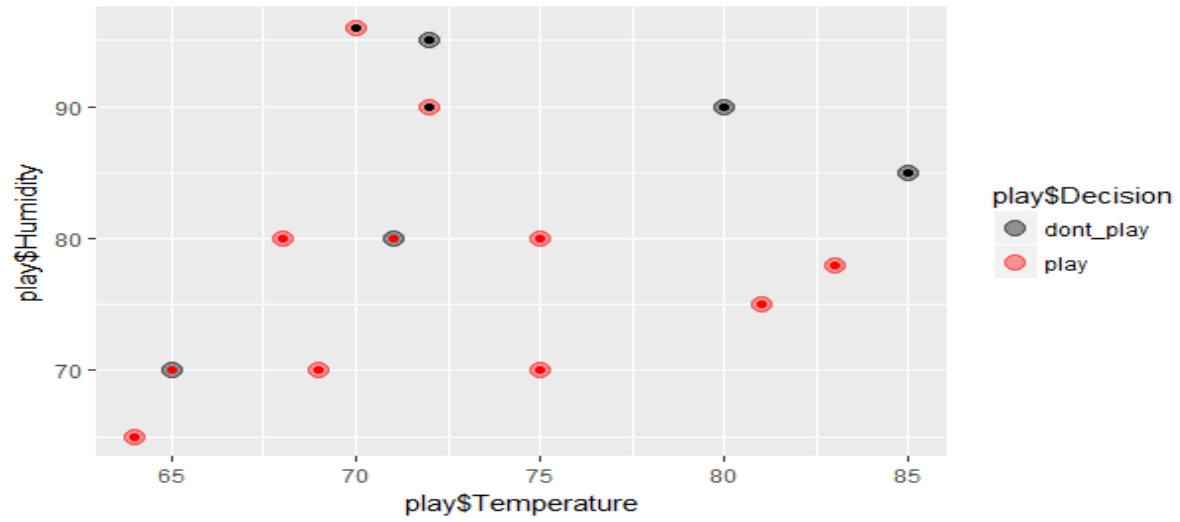
R-Studio

The given IRIS hierarchical clustering shows the below result in R :

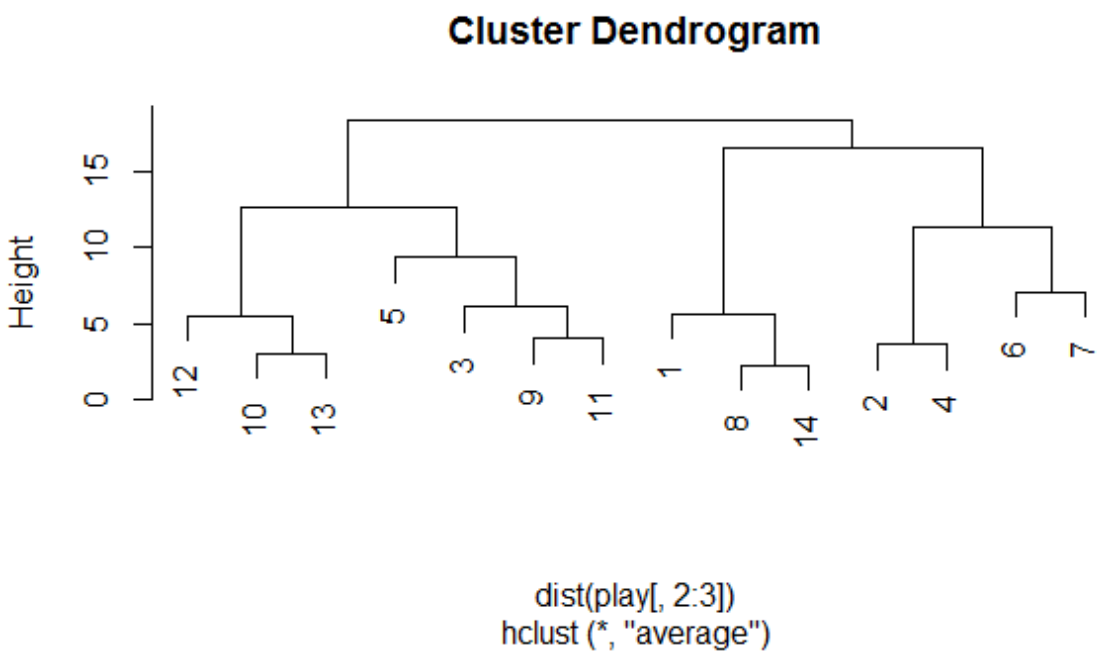
Complete Linkage Hierarchal Cluster Dendogram



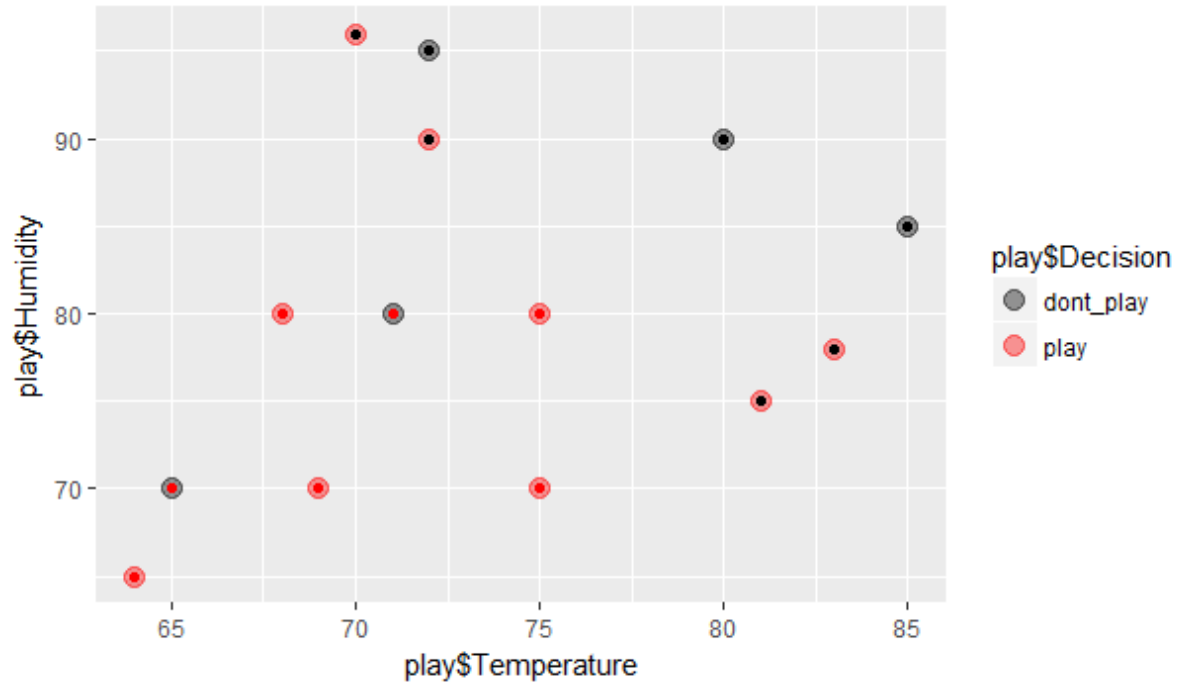
Plot for Complete Linkage Heirarichal Cluster



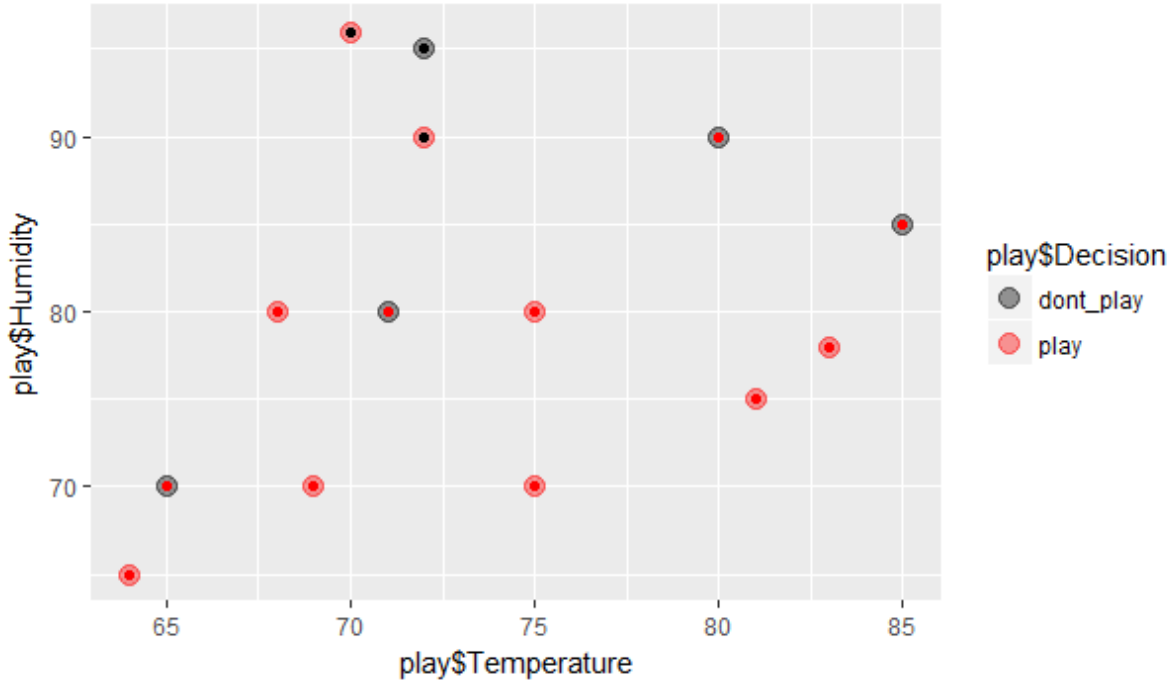
Dendogram for Average Linkage Heirarichal Cluster



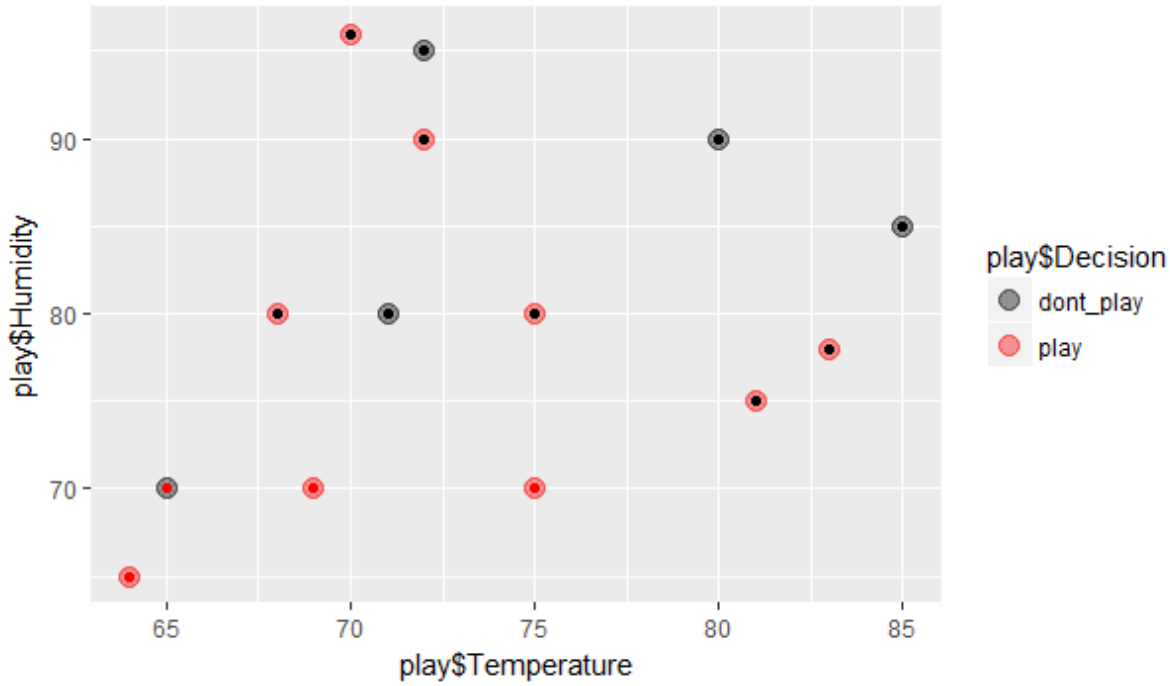
Plot for Average Linkage Hierarchal Cluster



Plot for Single Linkage Hierarchal Cluster



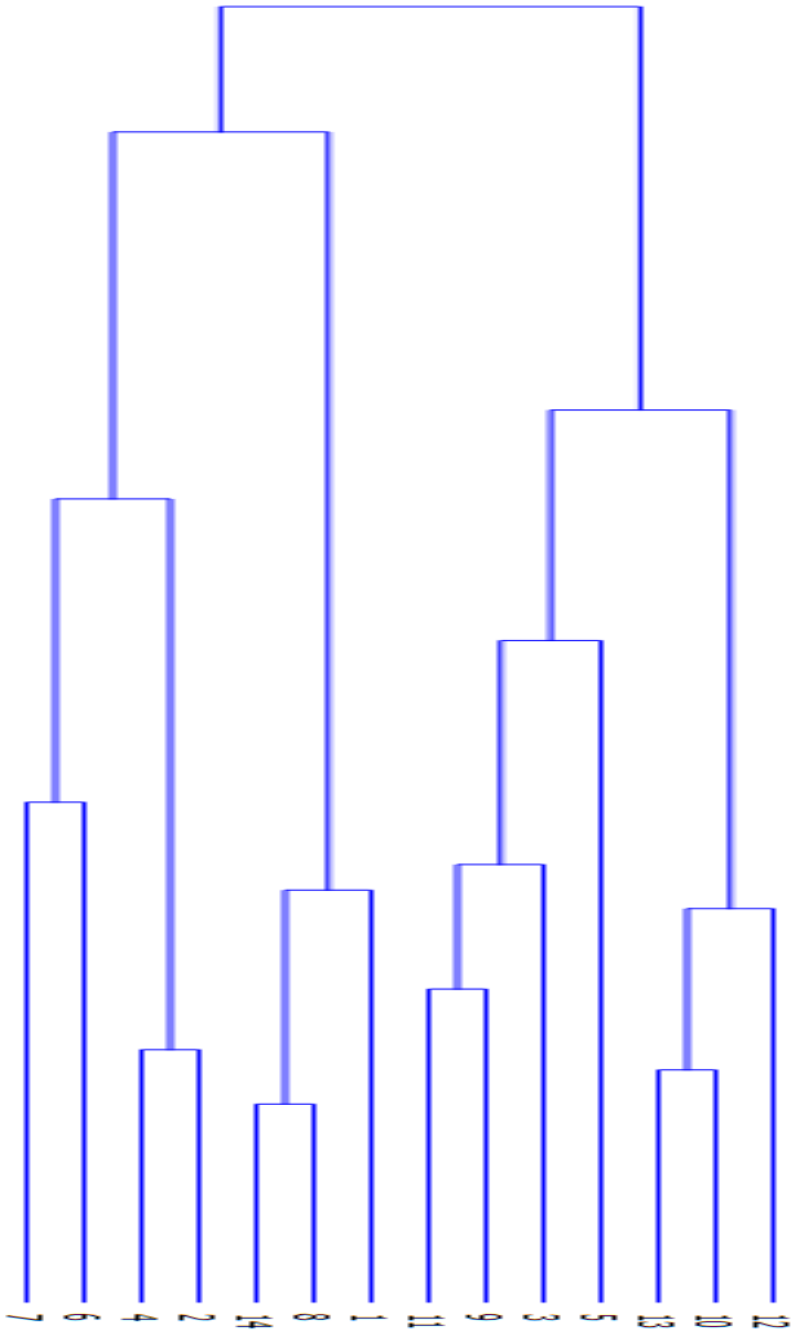
Plot for Ward Linkage Hierarchal Cluster



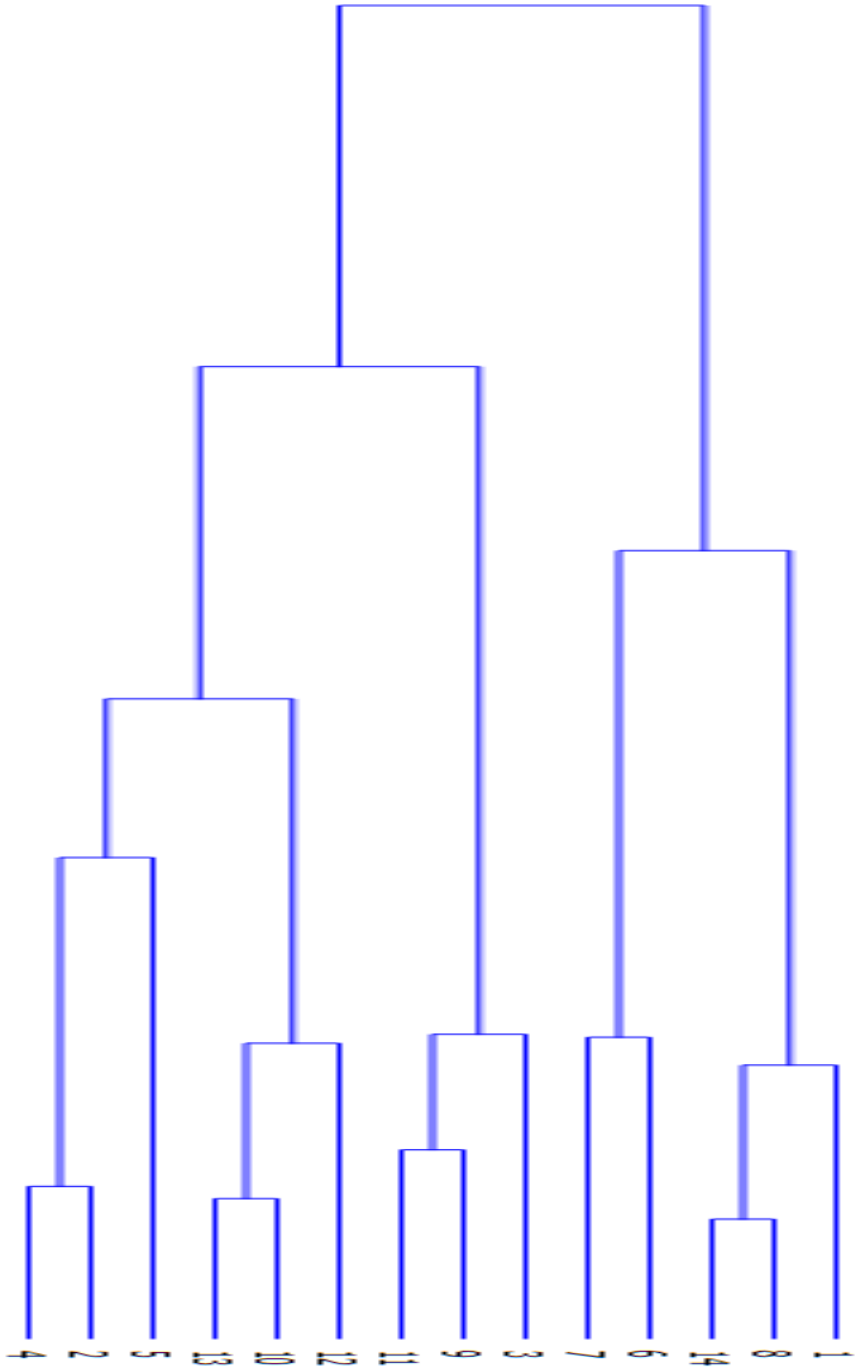
Orange

The play dataset consists of categorical values which need to be converted here into continuous values by using the widget "Continuize" in order to display the data in Hierarchal cluster and its types of linkages :

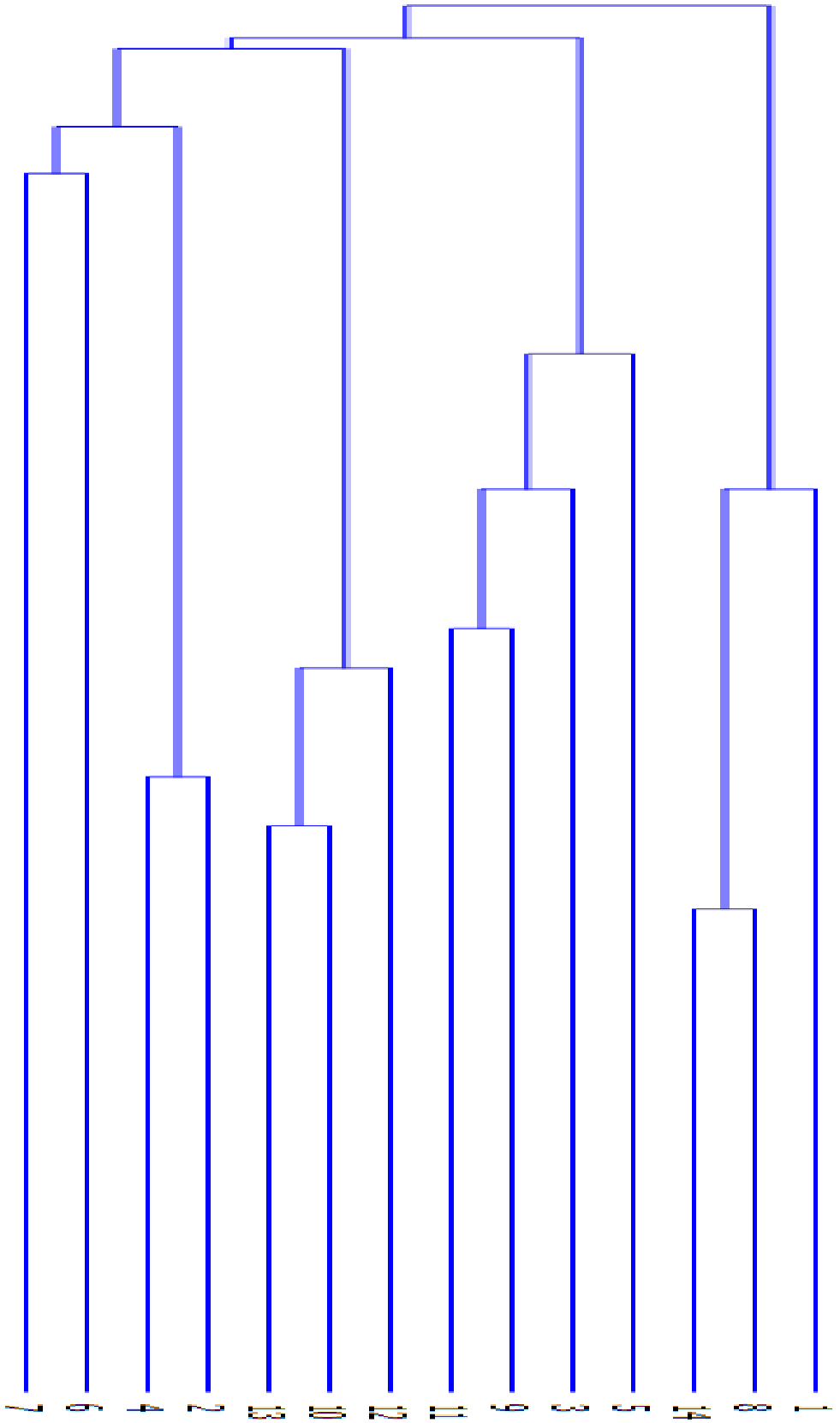
Dendogram Average Linkage Hierarchal Cluster



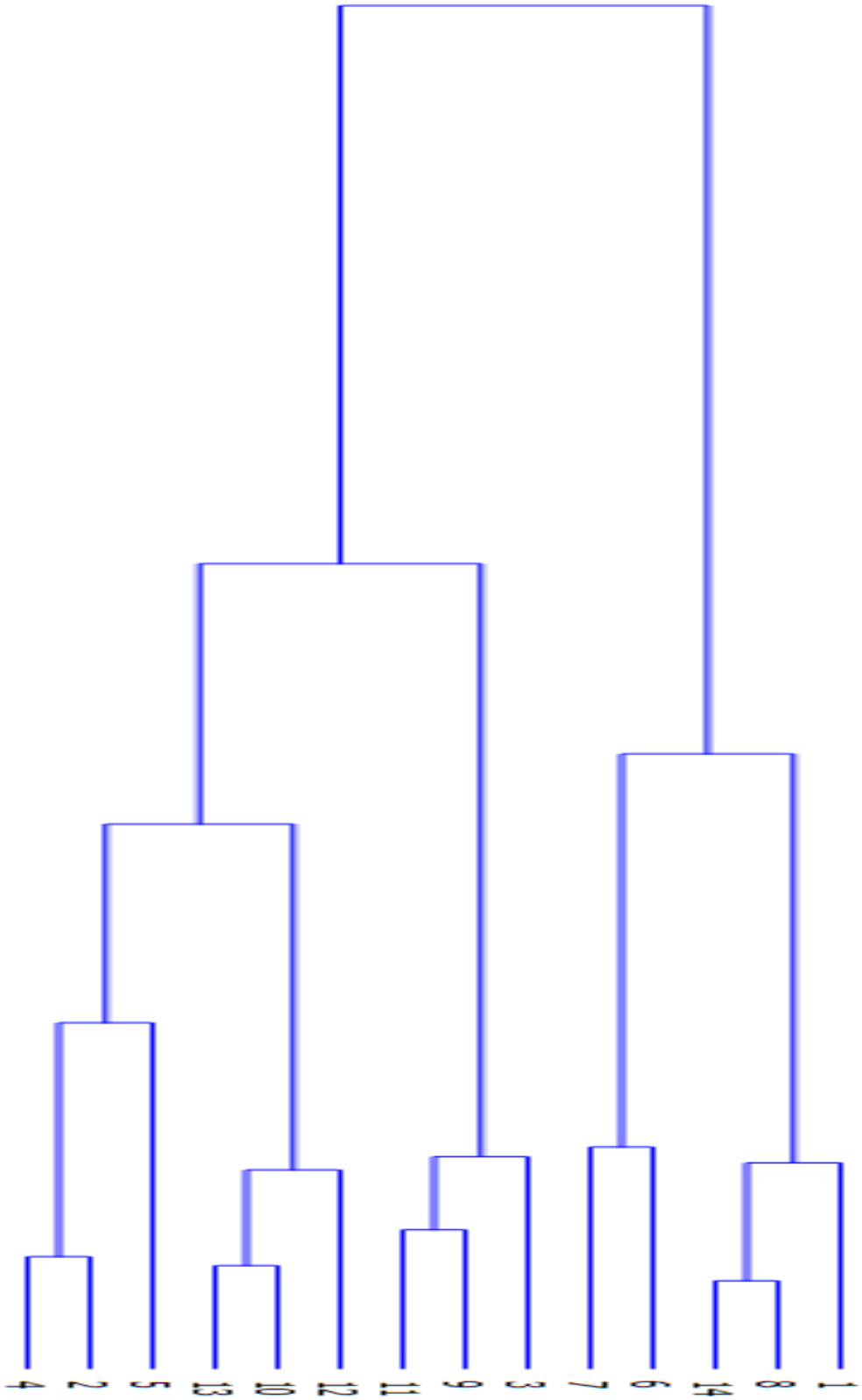
Dendogram – Complete Linkage Hierarchal Cluster



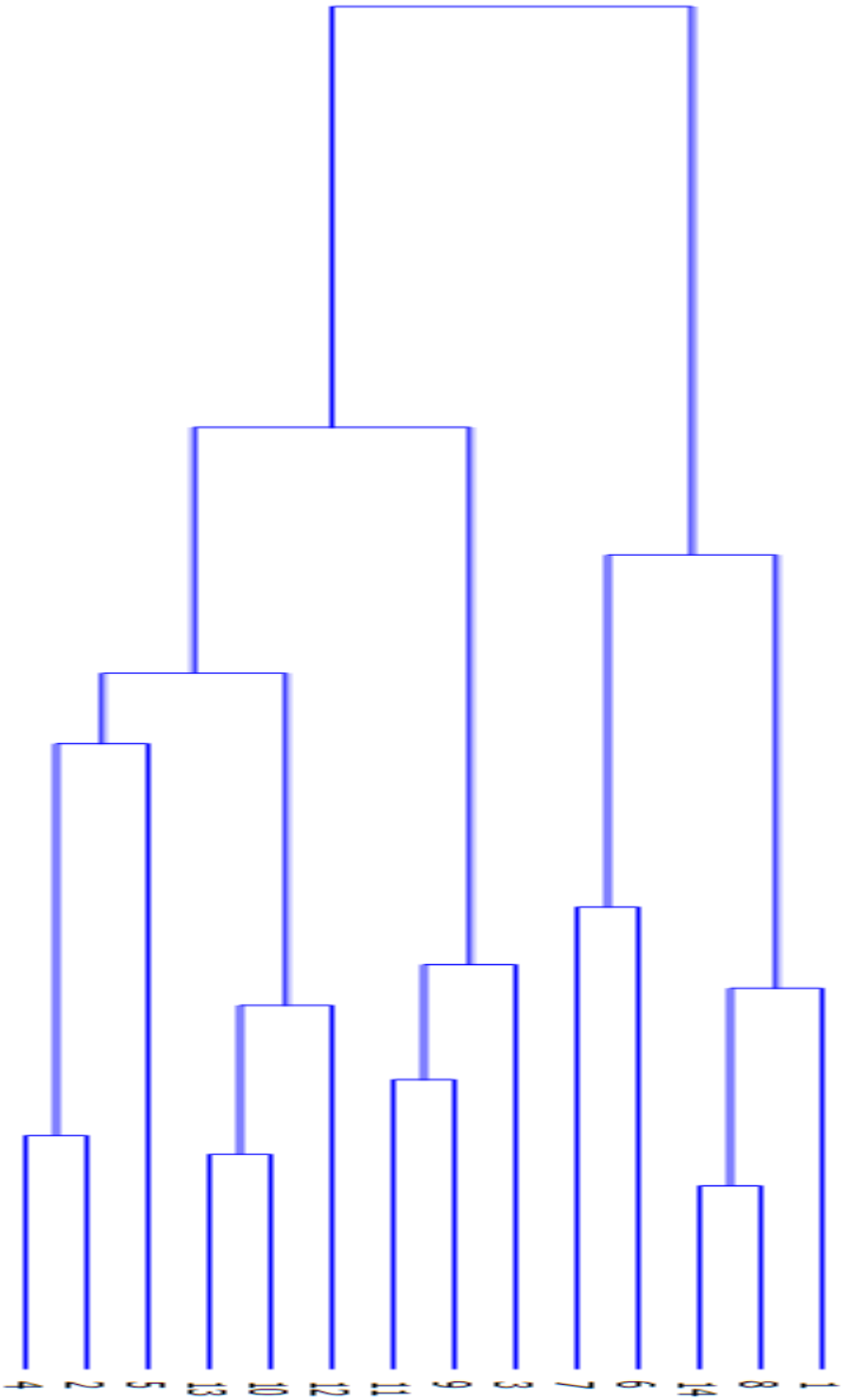
Dendogram- Single Linkage Hierarchal Cluster



Dendogram-Ward Linkage Hierarchal Cluster

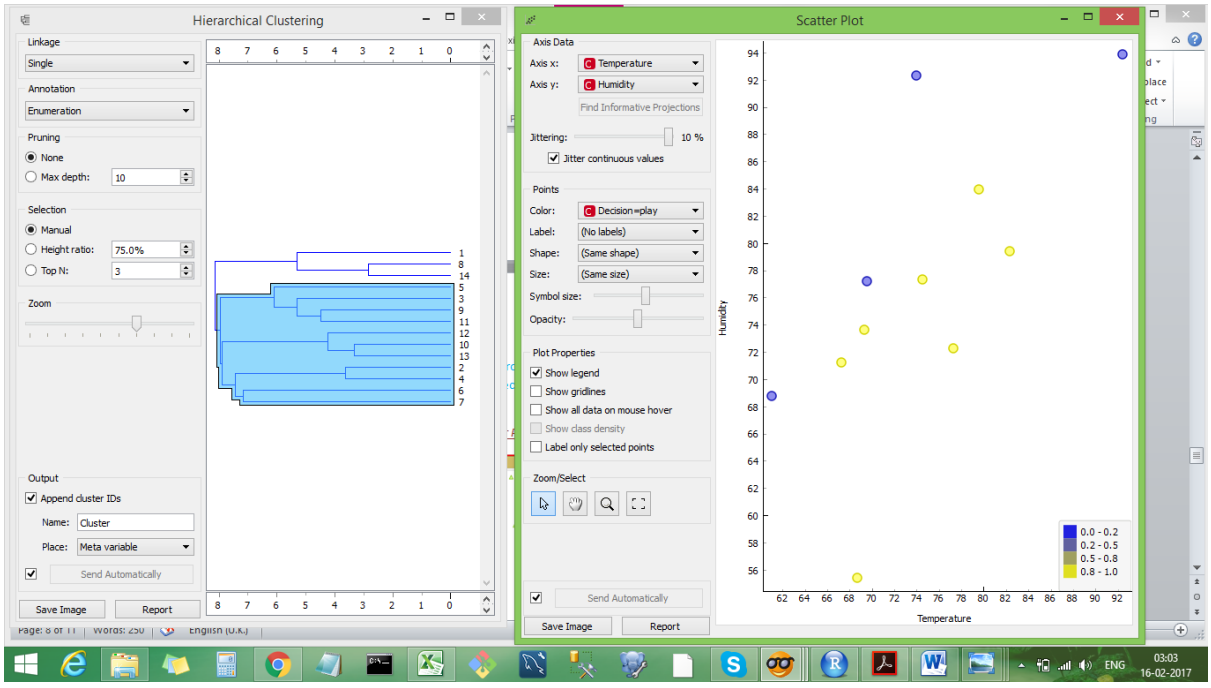


Dendogram-Weighted Linkage Hierarchal Cluster

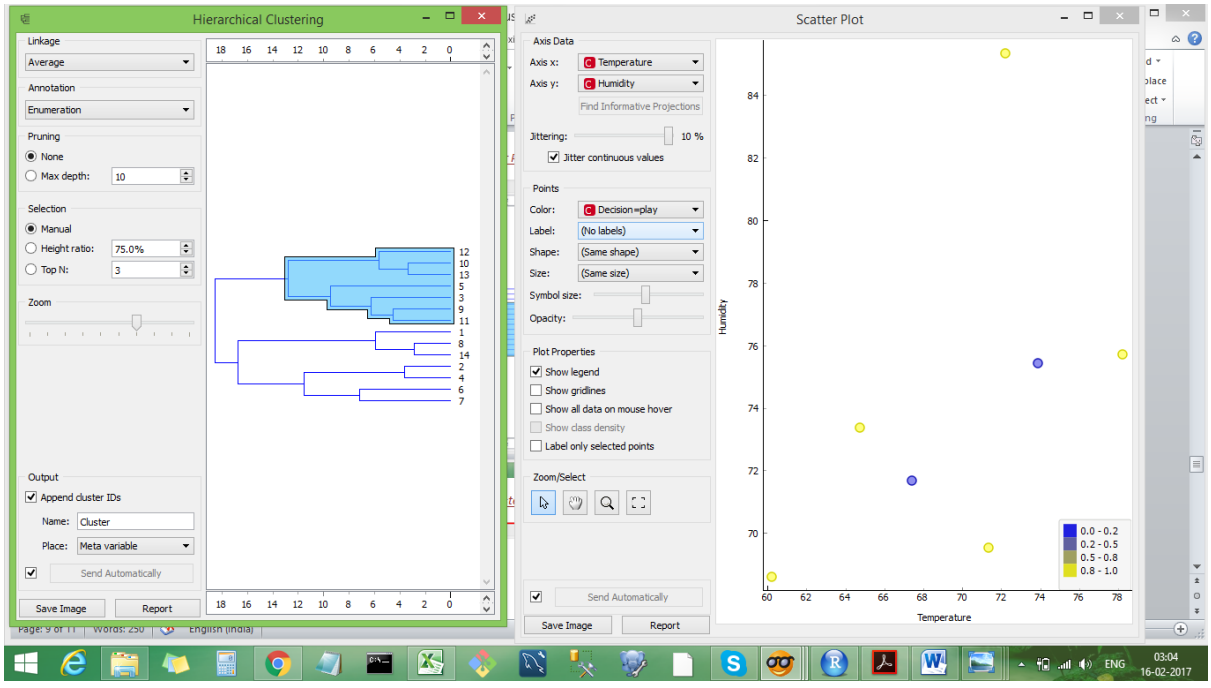


When we select a set of values from the above dendogram and check the scatter plots for each, we see the plots for each of the selected data set as below for the different types :

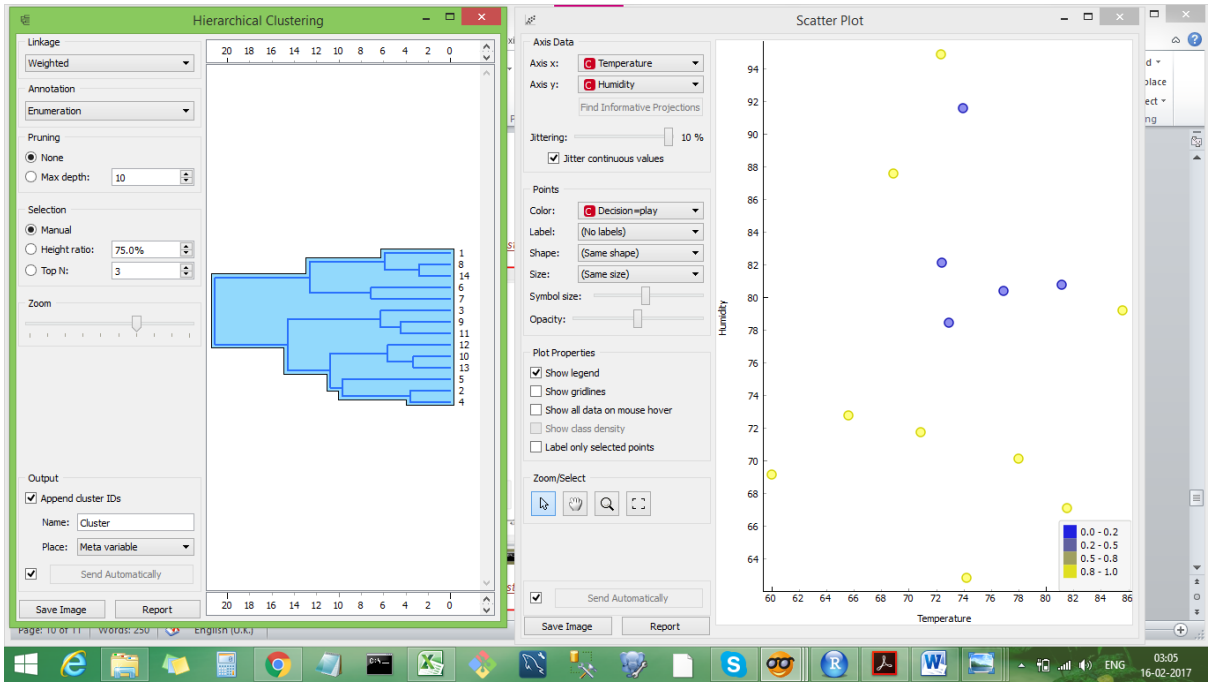
Single Linkage Hierarchal Cluster Plot



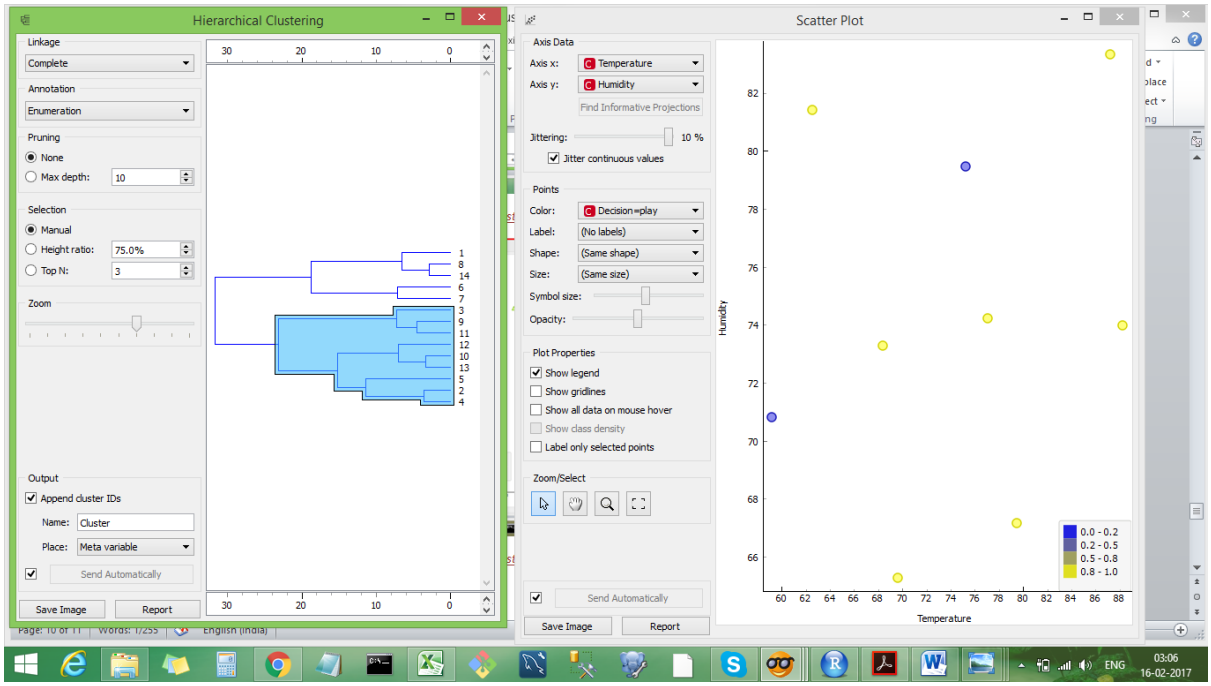
Average Linkage Hierarchal Cluster Plot



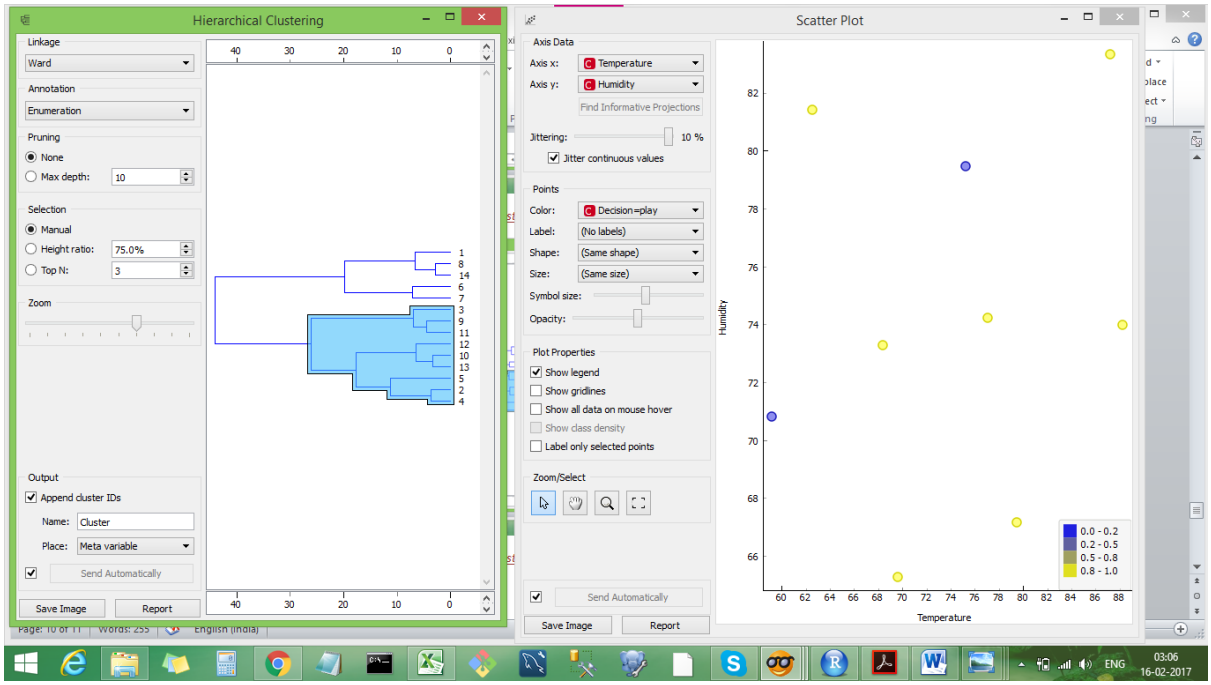
Weighted Linkage Hierarchal Cluster Plot



Complete Linkage Hierarchal Cluster Plot



Ward Linkage Hierarchal Cluster Plot



Conclusion :

The plots viewed on each platforms (R-studio and Orange) show that behaviour of the different linkage types in Hierarchal Clustering against the selected data from their respective dendograms remain same. These platforms act like a visual aid to help us understand the concept of Linkage in Hierarchal Clusters easier.