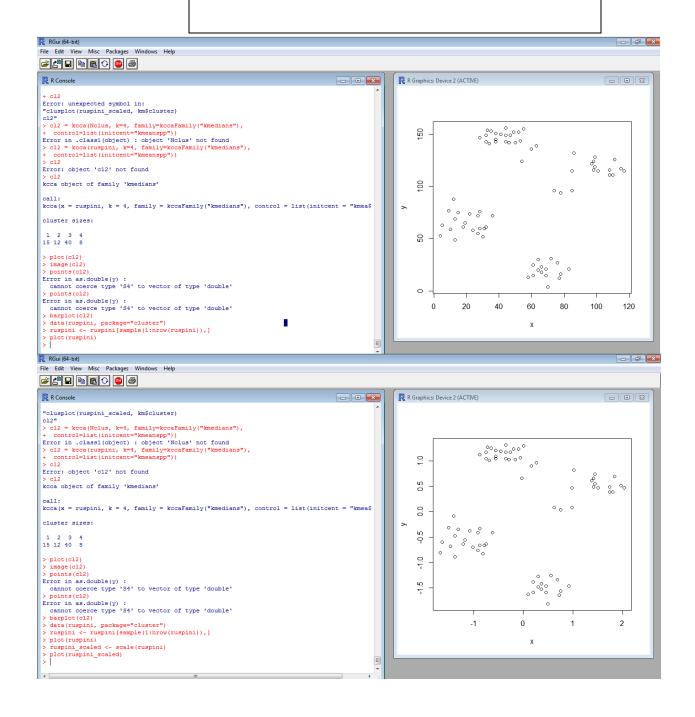
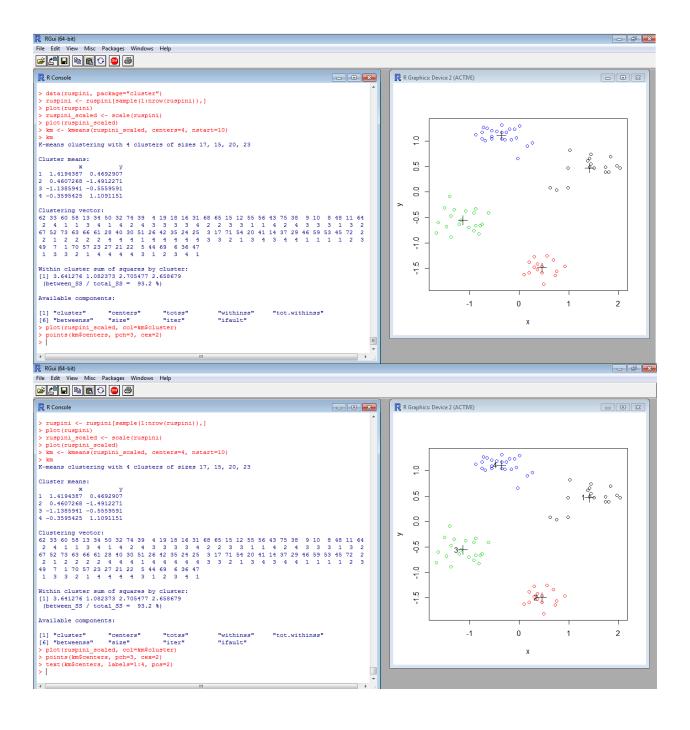
## R Visualization Screen Shots

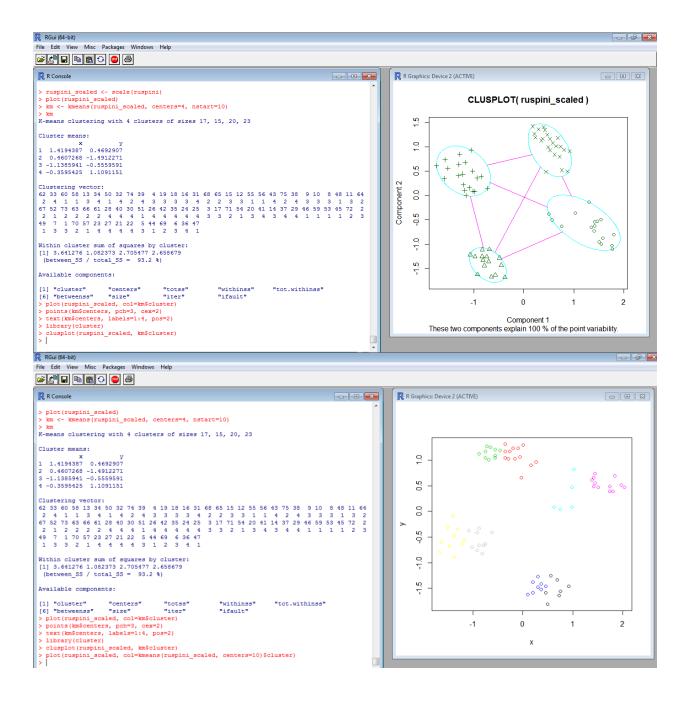


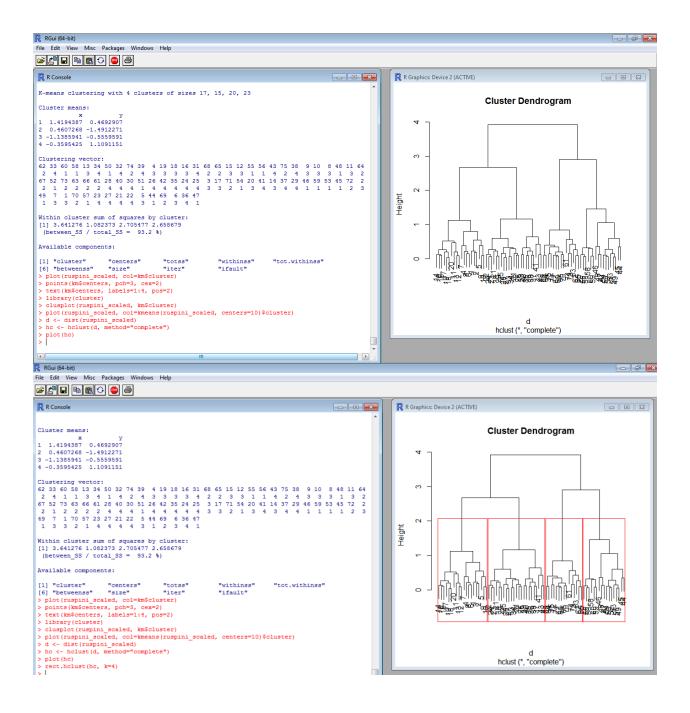
```
K-means clustering with 4 clusters of sizes 17, 15, 20, 23
Cluster means:
1 1.4194387 0.4692907
2 0.4607268 -1.4912271
3 -1.1385941 -0.5559591
4 -0.3595425 1.1091151
Clustering vector:
62 33 60 58 13 34 50 32 74 39 4 19 18 16 31 68 65 15 12 55 56 43 75 38 9 10 8 48 11 64
 2 4 1 1 3 4 1 4 2 4 3 3 3 3 4 2 2 3 3 1 1 4 2 4 3 3 3 1 3 2
67 52 73 63 66 61 28 40 30 51 26 42 35 24 25 3 17 71 54 20 41 14 37 29 46 59 53 45 72 2
 2 1 2 2 2 2 4 4 4 1 4 4 4 4 4 3 3 2 1 3 4 3 4 4 1 1 1 1 2 3
49 7 1 70 57 23 27 21 22 5 44 69 6 36 47
 1 3 3 2 1 4 4 4 4 3 1 2 3 4 1
Within cluster sum of squares by cluster:
[1] 3.641276 1.082373 2.705477 2.658679
 (between SS / total SS = 93.2 %)
Available components:
[1] "cluster"
                               "centers"
                                                       "totss"
                                                                               "withinss"
                                                                                                        "tot.withinss"
[6] "betweenss"
                            "size"
                                                       "iter"
                                                                              "ifault"
                                                                                                                                                    Ξ
>
RGui (64-bit)
File Edit View Misc Packages Windows Help
R Graphics: Device 2 (ACTIVE)
R Console
                                                                                                                                          - - X
> barplot(c12)
> data(ruspini, package="cluster")
> ruspini <- ruspini[sample(1:nrow(ruspini)),]
> plot(ruspini)
 . problemspini)
> ruspini_scaled <- scale(ruspini)
> plot(ruspini_scaled)
> km <- kmeans(ruspini_scaled, centers=4, nstart=10)
> km
                                                                                                           000000
                                                                                                                                     8 %
K-means clustering with 4 clusters of sizes 17, 15, 20, 23
                                                                                            0.5
Cluster means:
x y
1 1.4194387 0.4692907
2 0.4607268 -1.4912271
3 -1.1385941 -0.5559591
4 -0.3595425 1.1091151
                                                                                                                             000
                                                                                            0.0
                                                                                                 00000
Clustering vector: 62 33 60 58 13 34 50 52 74 39 4 19 18 16 31 68 65 15 12 55 56 43 75 38 9 10 8 48 11 64 2 4 1 1 3 4 1 4 2 4 3 3 3 3 4 2 2 3 3 1 1 4 2 4 3 3 3 1 3 3 3 5 6 52 67 52 73 63 66 61 28 40 30 51 26 42 35 24 25 3 25 17 71 58 20 41 14 3 7 29 46 59 53 45 72 2 2 1 2 2 2 2 4 4 4 1 1 4 4 4 4 4 3 3 3 2 1 3 4 3 4 4 1 1 1 1 2 3 4 9 7 1 1 70 57 23 27 21 22 5 44 69 6 36 67
 Clustering vector:
                                                                                            1.0
                                                                                                                       .%.,
                                                                                            5
Within cluster sum of squares by cluster:

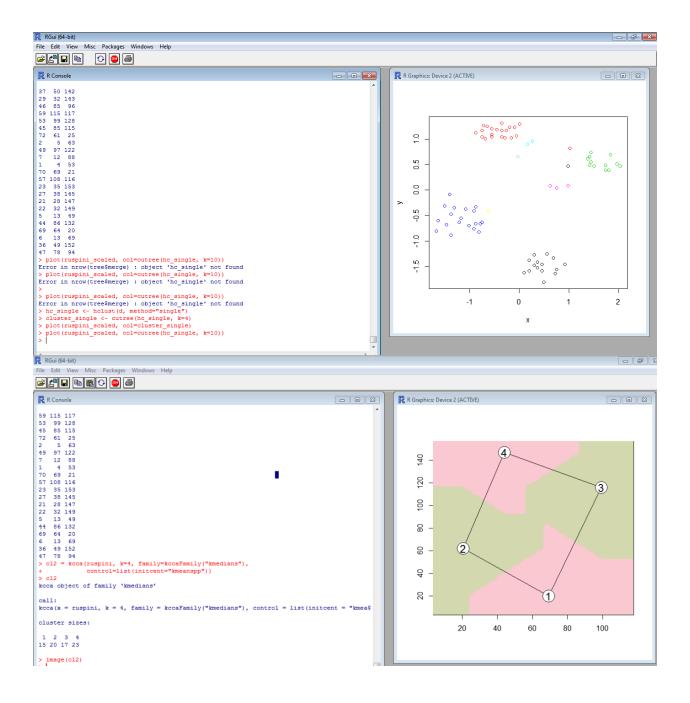
[1] 3.641276 1.082373 2.705477 2.658679

(between_SS / total_SS = 93.2 %)
Available components:
[1] "cluster" "centers" "totss"
[6] "betweenss" "size" "iter"
> plot(ruspini_scaled, col=km$cluster)
> |
                                             "withinss"
                                                         "tot.withinss"
                                            "ifault"
                                                                                  Ħ
```











## Android Screen Shots for Live Audio Recorder

