center;

codigo

September 6, 2020

0.0.1. JUPYTER COSAS

[14]:
```
if (!require(cluster)){
  install.packages("cluster", repos='http://cran.us.r-project.org')
}
if (!require(purrr)){
  install.packages("purrr", repos='http://cran.us.r-project.org')
}
if (!require(fpc)){
  install.packages("fpc", repos='http://cran.us.r-project.org')
}
if (!require(dbscan)){
  install.packages("dbscan", repos='http://cran.us.r-project.org')
}
if (!require(factoextra)){
  install.packages("factoextra", repos='http://cran.us.r-project.
  ↪org')
}
if (!require(Matrix)){
  install.packages("Matrix", repos='http://cran.us.r-project.org')
}
if (!require(xtable)){
  install.packages("xtable", repos='http://cran.us.r-project.org')
}
library(cluster)
library(purrr)
library(fpc)
library(dbscan)
library(factoextra)
library(Matrix)
library(xtable)
```

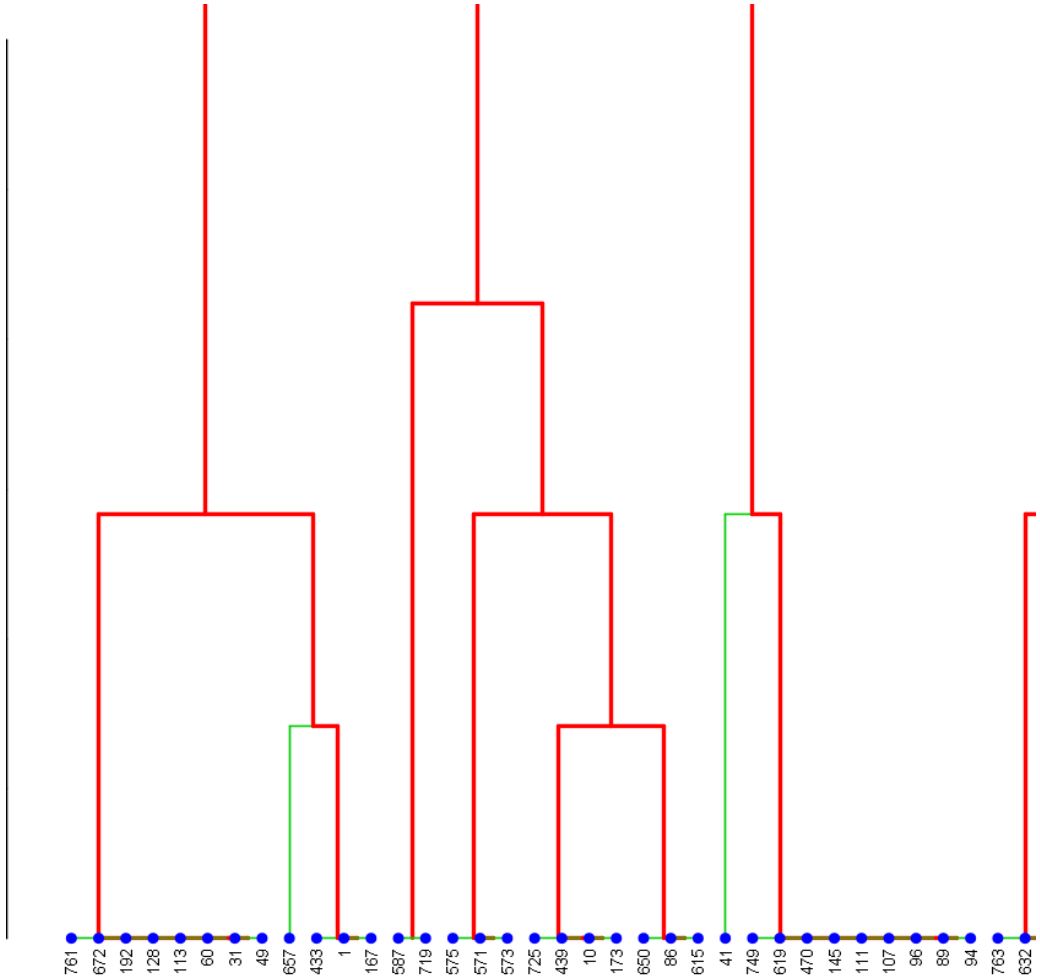
[19]:
```
pokemon <- read.csv("Pokemon.csv", encoding="UTF-8", header=TRUE,␣
  ↪sep=",", strip.white=TRUE)[ ,c('Name', 'Total')]
pokemon <- data.frame(pokemon)
pokemon_fig <- head(pokemon, 10)
pokemon_fig
```

A data.frame: 10 × 2

	Name <fct>	Total <int>
1	Bulbasaur	318
2	Ivysaur	405
3	Venusaur	525
4	VenusaurMega Venusaur	625
5	Charmander	309
6	Charmeleon	405
7	Charizard	534
8	CharizardMega Charizard X	634
9	CharizardMega Charizard Y	634
10	Squirtle	314

[22]:
```
d <- dist(pokemon, method="euclidian")
hc1 <- hclust(d, method="complete")
hc1 <- as.dendrogram(hc1)
par(mar = c(2,0,0,0))
nodePar <- list(lab.cex=0.6, pch=c(NA, 19), cex=0.7, col="blue")
plot(hc1, nodePar=nodePar, edgePar=list(col=2:3, lwd=2:1),␣
  ↪labels=NULL, cex=0.6, xlim=c(0,35), ylim=c(0,6))
```

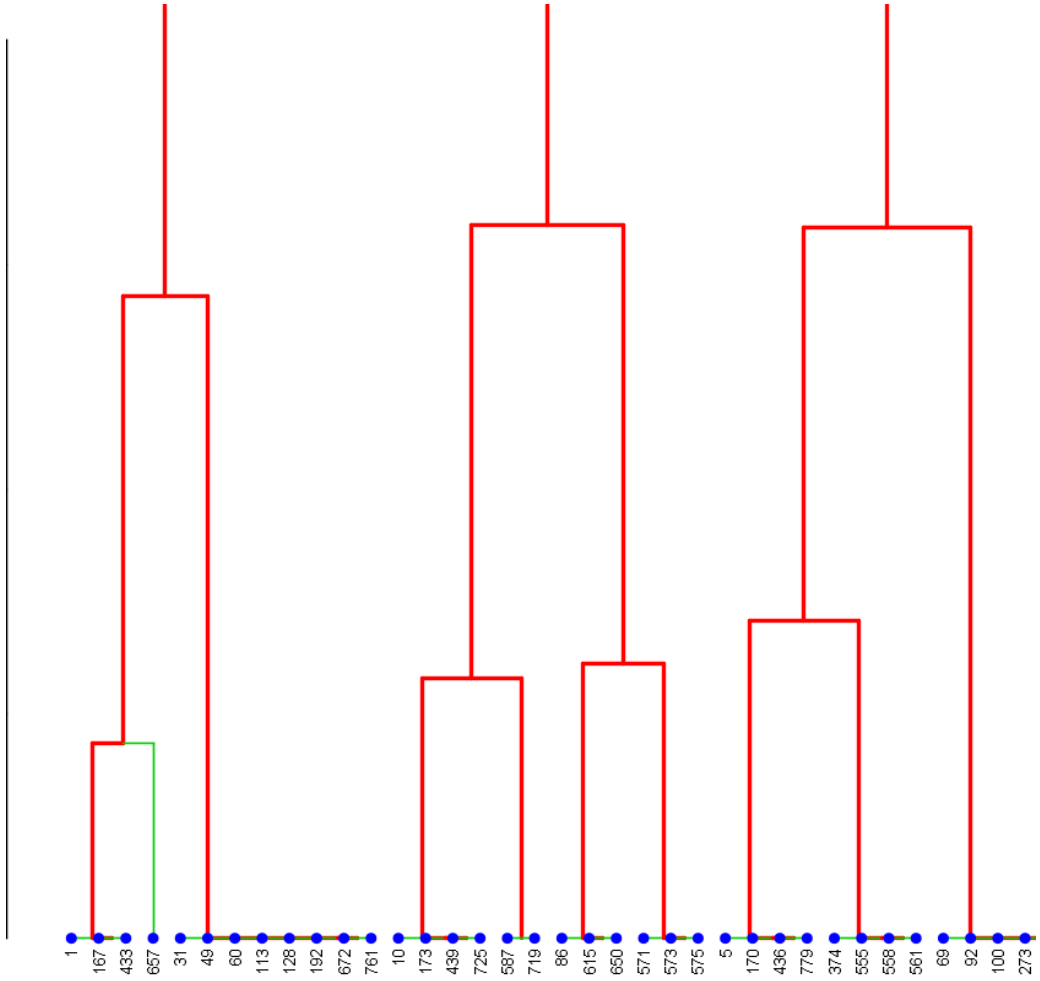
```
Warning message in dist(pokemon, method = "euclidian"):
"NAs introducidos por coerción"
```



[24]:
```
hc2 <- agnes(d, method="complete")
m <- c( "average", "single", "complete", "ward")
names(m) <- c( "average", "single", "complete", "ward")
ac <- function(x) {
    agnes(d,method=x)$ac
}
map_dbl(m, ac)
```

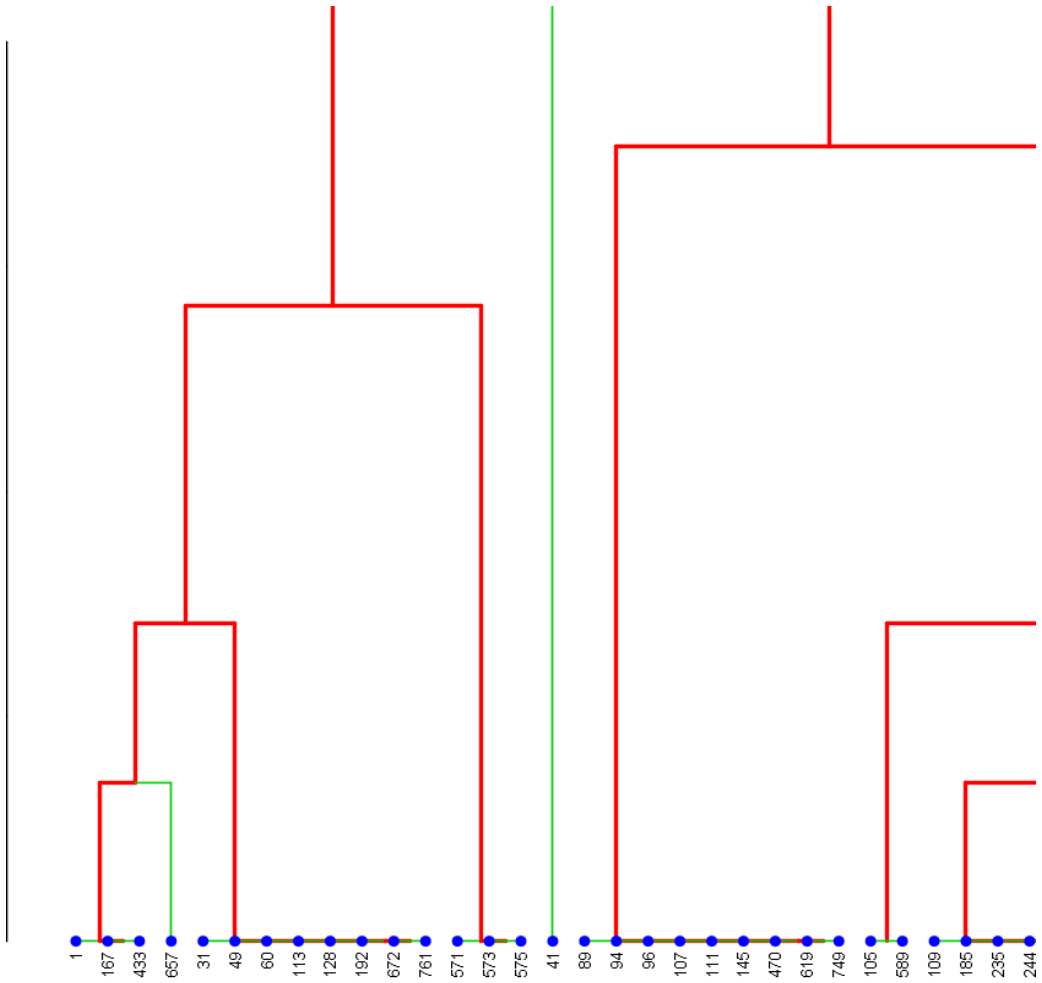
average 0.999318908624144 **single** 0.996050000000001 **complete** 0.999622916666667 **ward** 0.999933844937563

[27]:
```
hc3 <- as.dendrogram(agnes(d, method="ward"))
par(mar = c(2,0,0,0))
plot(hc3, nodePar=nodePar ,edgePar=list(col=2:3, lwd=2:1),␣
  ↪labels=NULL, cex=0.6, xlim=c(0,35), ylim=c(0,8))
```



[28]:
```
hc4 <- diana(d)
hc4d <- as.dendrogram(hc4)
par(mar = c(2,0,0,0))
```

```
plot(hc4d, nodePar=nodePar ,edgePar=list(col=2:3, lwd=2:1),
  ↪labels=NULL, cex=0.6, xlim=c(0,30), ylim=c(0,8))
```



[32]:
```
pokemon <- head(pokemon, 100)
d <- dist(pokemon, method="euclidian")
hc4 <- diana(d)
clust <- cutree(hc4, k=5)
fviz_cluster(list(data = d, cluster=clust))
```

```
Warning message in dist(pokemon, method = "euclidian"):
```

```
"NAs introducidos por coerción"
```