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# Numerical classification

## TWINSPAN - hierarchical divisive classification

### library (twinspanR)

I created experimental R library with TWINSPAN algorithm - you may install it from GitHub repository (note: this library is currently in beta stage under development, and some parts may not be functional). To install any library from GitHub, you will need to first install package `devtools` written by Hadley Wickham, which contains a set of tools for development of R packages. After installing `devtools`, use the function `install_github`. Note that the use of the library has some limitations: it can be installed only on Windows platform (since the engine of the library is based on running \*.exe file externally) and you need permanent access to the folder where the library is installed (usually in Program Files/R/R-x.x.x/library, but could be also in some other personalized place). Without the access to this folder the function `twinspan` cannot run correctly.

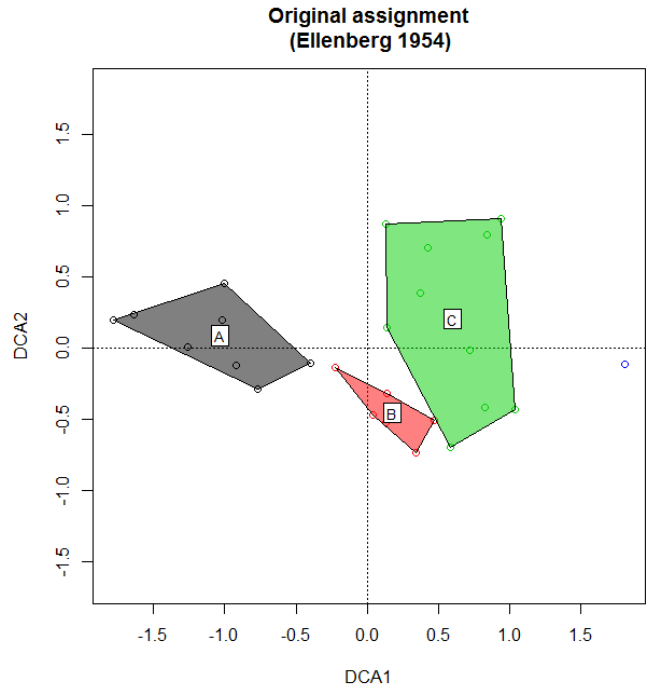
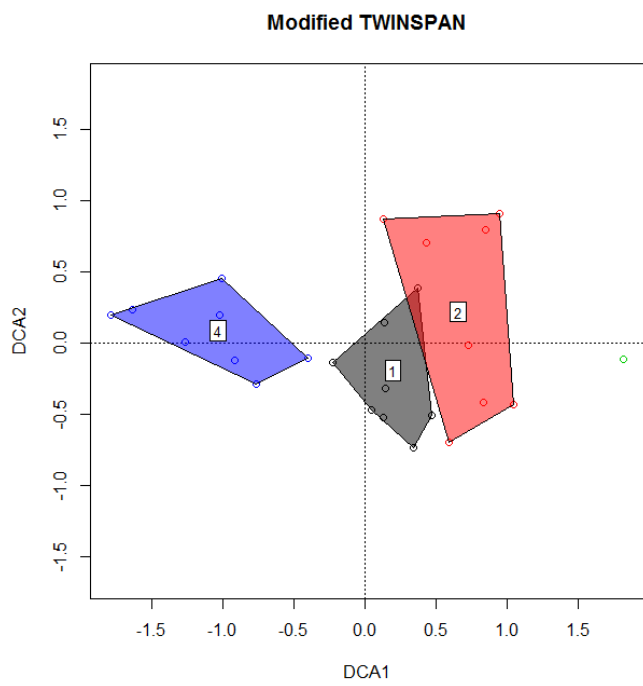
### Install the library

```
install.packages ('devtools')
devtools::install_github("zdealveindy/twinspanR")
```

### Example

Run TWINSPAN example<sup>1</sup>, which shows modified TWINSPAN on traditional Ellenberg's Danube meadow dataset, projected on DCA ordination diagram and compared with original classification into three vegetation types (plus one not-classified releve) made by tabular sorting:

```
library (twinspanR)
library (vegan)
data (danube)
res <- twinspan (danube$spe, modif = TRUE, clusters = 4)
k <- cut (res)
dca <- decorana (danube$spe)
par (mfrow = c(1,2))
ordiplot (dca, type = 'n', display = 'si', main = 'Modified TWINSPAN')
points (dca, col = k)
for (i in c(1,2,4)) ordihull (dca, groups = k, show.group = i, col = i,
  draw = 'polygon', label = TRUE)
ordiplot (dca, type = 'n', display = 'si', main = 'Original assignment\n
  (Ellenberg 1954)')
points (dca, col = danube$env$veg.type)
for (i in c(1:3)) ordihull (dca, groups = danube$env$veg.type,
  show.group = unique (danube$env$veg.type)[i], col = i,
  draw = 'polygon', label = TRUE)
```



**Video**



**Video**

1)  
You would get the same result as the script below if you run `example (twinspan)` - this will run the example which comes with the help file of `twinspan` function (see the section *Examples* in `?twinspan`).

From:

<https://anadat-r.davidzeleny.net/> - **Analysis of community ecology data in R**

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<https://anadat-r.davidzeleny.net/doku.php/en:hier-divisive?rev=1439282641>

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