

First we introduce the function GLC_quadrature

```
GLC_quadrature <- function( xmin, xmax, wanted_level)
{
  # Generates an array of point corresponding to the Gauss-Lobatto-Tchebishev
  # quadrature comprised between user parameters xmin and xmax. The wanted
  # level for the quadrature is set by the wanted_level argument
  x <- rep(0,2^(wanted_level-1))
  Points <- 2^wanted_level
  index <- seq(from=2, to=Points,by=2)
  aux <- -cos(pi*(index-1)/Points)
  x<- xmin + (xmax-xmin)*(aux+1)/2
  return(x)
}
```

We use a library for the scatterplots and to write excel files:

```
#we use the library('scatterplot3d') and library('WriteXLS')
library('scatterplot3d')
library('WriteXLS')
```

Next we give maximal level for Gauss Lobatto Chebyshev quadratures:

```
#value of the maximal level for Gauss Lobatto Chebyshev quadratures
lvlmax <- 9
#min/max values for parameter 1
xmin_param_1 <- 0
xmax_param_1 <- 10
#min/max values for parameter 2
xmin_param_2 <- 10
```

```
xmax_param_2 <- -20
#min/max values for parameter 3
xmin_param_3 <- -10
xmax_param_3 <- 5
# !!! TO CLOSE ONE DIMENSION/PARAMETER, JUST PUT THE SAME VALUE FOR XMIN AND
#XMAX !!!
```

Now, we proceed to execute the rest of the R-code:



