Preparing for the GAM course

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Software setup

You will need a working R environment, version 3.4.4 or above.

On MAC you will also need to install XQuartz, which you can find at https://www.xquartz.org/.

NB: R version < 3.4.4 might not work, and R version < 3.4 will definitely not work!

Having installed R, please install all the relevant packages before the course. You can do it by running the following code in R:

```
install.packages("devtools")
library(devtools)
install_github("mfasiolo/mgcFam")
install_github("mfasiolo/testGam") # mgcFam and testGam in this order
```

To test whether all is ok with your installation, run the following code in R. The call to `plotRGL` should open an interactive x11 window (On Mac it is important that you check that this works - please let me know if it doesn't). The call to `plot` should instead produce the image below.

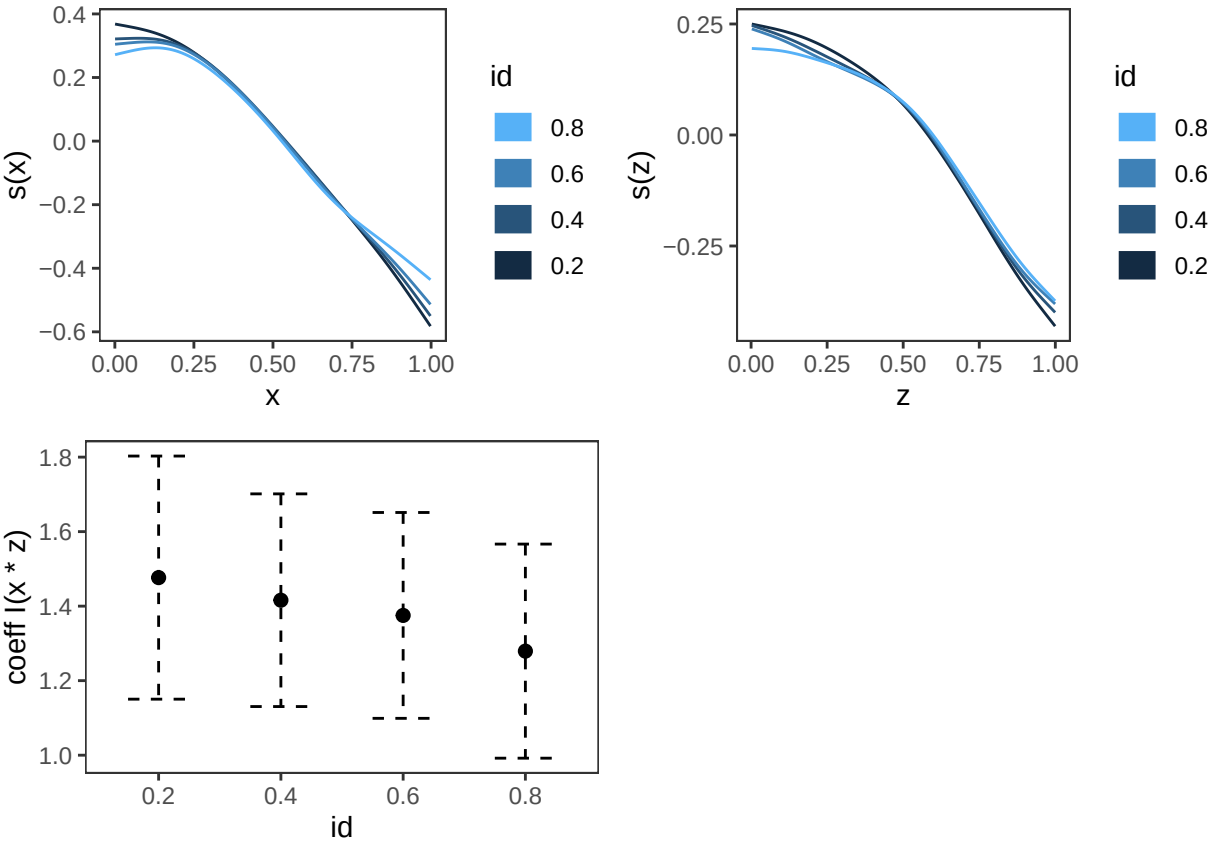
```
library(mgcViz)
set.seed(2) ## simulate some data...
dat <- gamSim(2,n=500,dist="normal",scale=0.25)$data

b <- qgamV(y ~ s(x, z), data = dat, qu = 0.5)

plotRGL(sm(b, 1), residuals = TRUE)

# Fit GAM and get gamViz object
b <- mqgamV(y~s(x) + s(z) + I(x*z), data = dat, qu = c(0.2, 0.4, 0.6, 0.8),
            aQgam = list(argGam = list(select = TRUE)), aViz = list("nsim" = 0))

# Either way, we all effects by doing
print(plot(b, allTerms = TRUE), pages = 1)
```


0.4
0.2
0.0
−0.2
−0.4
−0.6
s(x)
0.00
0.25
0.50
0.75
1.00
x
id
0.8
0.6
0.4
0.2
0.25
0.00
−0.25
s(z)
z
id
0.8
0.6
0.4
0.2

1.8
1.6
1.4
1.2
1.0
coeff I(x * z)
0.2
0.4
0.6
0.8
id