fMRI_Analysis

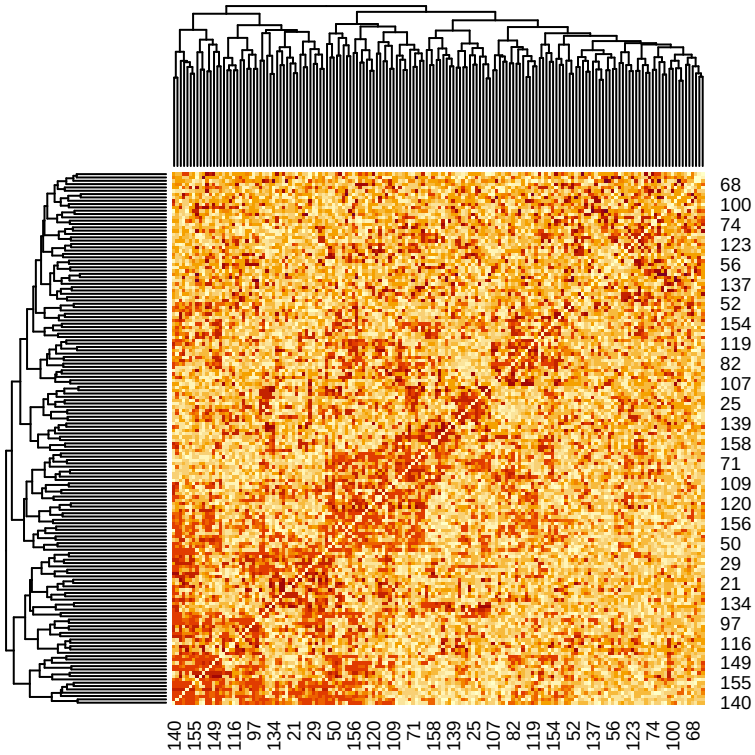
2022-11-27

Import data

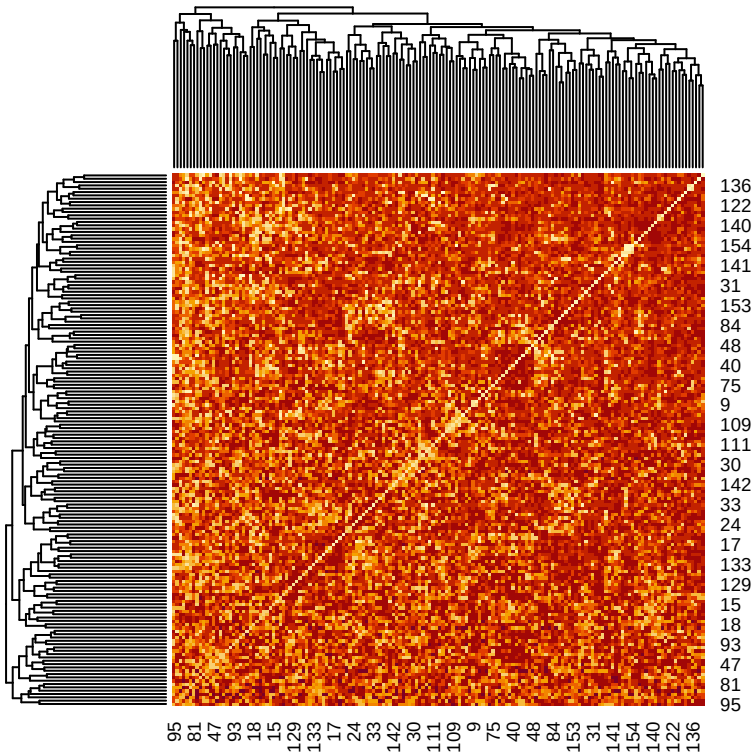
```
# Change file extension
# path <- "./data/data/"
# old_names <- list.files(path)
# new_names <- gsub(".1D", ".csv", old_names)
# file.rename(paste0(path, file_names), paste0(path, new_names))

# Import data
dat1 <- fread("./data/data/CMU_a_0050642_rois_dosenbach160.csv", select = c(1:160))
dat2 <- fread("./data/data/CMU_b_0050643_rois_dosenbach160.csv", select = c(1:160))

library(pcalg)
```

```
## Warning: package 'pcalg' was built under R version 4.1.2
```

```
set.seed(2022)

indepTest <- gaussCItest

# data 1
suffStat_1 <- list(C = cor(dat1), n = nrow(dat1))
pc_est_11 <- pc(suffStat_1, indepTest, alpha = 0.5, p = 160,
             m.max = 1, verbose = FALSE)
a <- pc_est_11@pMax
b <- 1 - (a - min(a))/(max(a) - min(a))
heatmap(b)
```




```
pc_est_12 <- pc(suffStat_1, indepTest, alpha = 0.05, p = 160,
                m.max = 1, verbose = FALSE)
a <- pc_est_12@pMax
b <- 1 - (a - min(a))/(max(a) - min(a))
heatmap(b)
```



```
## data 2
suffStat_2 <- list(C = cor(dat2), n = nrow(dat2))
pc_est_21 <- pc(suffStat_2, indepTest, alpha = 0.5, p = 160,
                m.max = 1, verbose = FALSE)
a <- pc_est_21@pMax
b <- 1 - (a - min(a))/(max(a) - min(a))
heatmap(b)
```