```
## Load libraries
library(splines)
library(MASS)
library(xtable)
library(qvalue)

##Source functions
source("../functions.R")
```

Nothing from alternative distribution, since this is for the global null:

```
folder <- "global_null"</pre>
```

Make FDR-TPR table:

```
print(folder)
## [1] "global_null"
##For each simulation, get the FDR-TPR table: (BL = Boca-Leek method)
scen0 <- NULL
##-----##
#Load p-values and \pounds \setminus pi_0(x)\pounds estimates for the simulations:
for(l in listSimRes(folder, 0))
 load(1)
##Get BH and Storey q-values for each simulation:
qValuesSimsBH <- getQValuesSimsBH(pValuesSims)</pre>
qValuesSimsStorey <- getQValuesSimsStorey(pValuesSims)</pre>
print(mean(qValuesSimsStorey))
## [1] 0.9283267
##Get estimated FDR for each simulation for the final estimates
FDRreg <- getFDRregSims(pi0EstSim, qValuesSimsBH)</pre>
##get FDR-TPR table
scen0 <- estFDR.TPR(FDR.BL = FDRreg,</pre>
                    FDR.BH = qValuesSimsBH, FDR.Storey = qValuesSimsStorey,
                    FDR.Scott = FDR.ScottMat, FDR.Scott_emp = FDR.ScottMat_emp, nullHypSims
print("Scenario 0")
```

```
## [1] "Scenario 0"
print(scen0)
##
                 FDR TPR Percent used
## BL
           0.0520000 0 100.0
## Scott
          0.0170000 0
                              100.0
## Scott_emp 0.2142132 0
                              98.5
## Storey
           0.0500000 0
                               100.0
## BH
           0.0450000 0
                               100.0
save(list=c("scen0"),
 file=paste(folder, "FDR_TPR_sims_additional_global.RData", sep="/"))
```

Session info:

```
devtools::session_info()
## Session info -----
## setting value
## version R version 3.3.1 (2016-06-21)
## system x86_64, mingw32
## ui
          RTerm
## language (EN)
## collate English_United States.1252
## tz America/New_York
## date
         2018-09-17
## Packages -----
## package
          * version date
                             source
## colorspace 1.2-6 2015-03-11 CRAN (R 3.3.1)
## devtools 1.12.0 2016-06-24 CRAN (R 3.3.3)
## digest
            0.6.12 2017-01-27 CRAN (R 3.3.3)
## evaluate 0.10
                     2016-10-11 CRAN (R 3.3.1)
## ggplot2 2.2.1 2016-12-30 CRAN (R 3.3.3)
## gtable
            0.2.0 2016-02-26 CRAN (R 3.3.1)
            0.6 2016-05-09 CRAN (R 3.3.1)
## highr
## knitr * 1.17
                     2017-08-10 CRAN (R 3.3.3)
## lazyeval 0.2.0 2016-06-12 CRAN (R 3.3.1)
## magrittr 1.5 2014-11-22 CRAN (R 3.3.1)
        * 7.3-45 2016-04-21 CRAN (R 3.3.1)
## MASS
## memoise 1.0.0 2016-01-29 CRAN (R 3.3.1)
## munsell
            0.4.3 2016-02-13 CRAN (R 3.3.1)
             1.8.4 2016-06-08 CRAN (R 3.3.1)
## plyr
## qvalue * 2.4.2 2016-05-16 Bioconductor
```

```
## Rcpp 0.12.13 2017-09-28 CRAN (R 3.3.3)
## reshape2
               1.4.1
                       2014-12-06 CRAN (R 3.3.1)
## rlang
               0.1.4
                       2017-11-05 CRAN (R 3.3.3)
                       2016-11-09 CRAN (R 3.3.3)
## scales
               0.4.1
## stringi
               1.1.1
                       2016-05-27 CRAN (R 3.3.0)
## stringr
               1.2.0
                       2017-02-18 CRAN (R 3.3.3)
                       2017-05-28 CRAN (R 3.3.3)
## tibble
               1.3.3
## withr
               1.0.2
                       2016-06-20 CRAN (R 3.3.1)
                       2016-02-05 CRAN (R 3.3.1)
## xtable
             * 1.8-2
```