DP_Third_Laboratory

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```
library(sdcMicro)
```

```
#sdcApp()
```

```
inputdata <- readMicrodata(path="testdata", type="rdf", convertCharToFac=FALSE, drop_all_missings=FALSE)
obj <- data.frame(matrix(nrow=nrow(inputdata), ncol=0))
obj$inputdata <- inputdata
inputdataB <- obj$inputdata
```

```
inputdata <- varToFactor(obj=inputdataB, var="urbrur")
inputdata <- varToFactor(obj=inputdataB, var="roof")
inputdata <- varToFactor(obj=inputdataB, var="walls")
inputdata <- varToFactor(obj=inputdataB, var="water")
inputdata <- varToFactor(obj=inputdataB, var="electcon")
inputdata <- varToFactor(obj=inputdataB, var="relat")
inputdata <- varToFactor(obj=inputdataB, var="sex")
inputdata <- varToFactor(obj=inputdataB, var="age")
inputdata <- varToFactor(obj=inputdataB, var="hhcivil")
## Set up sdcMicro object
sdcObj <- createSdcObj(dat=inputdata,
    keyVars=c("urbrur","roof","walls","water","electcon","relat","sex","age","hhcivil"),
    numVars=NULL,
    weightVar=NULL,
    hhId=NULL,
    strataVar=NULL,
    pramVars=NULL,
    excludeVars=NULL,
    seed=0,
    randomizeRecords=FALSE,
    alpha=c(1))
```

```
slotNames(sdcObj)
```

```
##  [1] "origData"          "keyVars"           "pramVars"
##  [4] "numVars"           "ghostVars"         "weightVar"
##  [7] "hhId"              "strataVar"         "sensibleVar"
## [10] "manipKeyVars"      "manipPramVars"     "manipNumVars"
## [13] "manipGhostVars"    "manipStrataVar"    "originalRisk"
## [16] "risk"              "utility"           "pram"
## [19] "localSuppression"  "options"           "additionalResults"
## [22] "set"               "prev"              "deletedVars"
```

```
str(sdcObj@risk)
```

```
## List of 2
##  $ global    :List of 5
##   ..$ risk     : num 0.561
##   ..$ risk_ER  : num 2571
##   ..$ risk_pct : num 56.1
##   ..$ threshold: num 0
##   ..$ max_risk : num 0.01
##  $ individual: num [1:4580, 1:3] 0.333 0.333 0.143 0.1 1 ...
##   ..- attr(*, "dimnames")=List of 2
##   .. ..$ : NULL
##   .. ..$ : chr [1:3] "risk" "fk" "Fk"
```

```
riskBefore <- sdcObj@risk$global$risk

riskBeforeVector <- sdcObj@risk$individual[,"risk"]
```

```
mean(riskBeforeVector)
```

```
## [1] 0.5613537
```

```
sdcObjAfter <- kAnon(sdcObj, importance=c(1,6,3,7,4,8,2,9,5), combs=NULL, k=c(5))
```

```
str(sdcObjAfter@risk)
```

```
## List of 2
##  $ global    :List of 5
##   ..$ risk     : num 0.0366
##   ..$ risk_ER  : num 168
##   ..$ risk_pct : num 3.66
##   ..$ threshold: num 0.0101
##   ..$ max_risk : num 0.01
##  $ individual: num [1:4580, 1:3] 0.00909 0.00862 0.02778 0.02564 0.02 ...
##   ..- attr(*, "dimnames")=List of 2
##   .. ..$ : NULL
##   .. ..$ : chr [1:3] "risk" "fk" "Fk"
```

```
riskAfter <- sdcObjAfter@risk$global$risk

riskAfterVector <- sdcObjAfter@risk$individual[,"risk"]
```

```
mean(riskAfterVector)
```

```
## [1] 0.03662031
```

```
#sdcApp()
```

```
indivRisk3 <- c(0.004975, 0.004975, 0.001664, 0.001110)
```

```
1 - prod(1-indivRisk3)
```

```
## [1] 0.01266989
```

Higher

Check_hhrk_2.3:

```
testdatadf<-as.data.frame(testdata)

#categorical vars must be factors
inputdata <- varToFactor(obj=testdatadf, var=c("urbrur","roof","walls","water","electcon","relat","sex"

#defining the sdcObject
sdcObj <- createSdcObj(
  dat=inputdata,
  keyVars=c("urbrur","roof","walls","water","electcon","relat","sex","age","hhcivil"),
  weightVar=c("sampling_weight"),
  hhId=c("ori_hid"),
)

#obtaining the household risk from the object
hh_rk <- sdcObj@risk$individual[sdcObj@origData$ori_hid==1,"hier_risk"]
cat("The household risk for hh_id=1 is:",hh_rk[1])
```

```
## The household risk for hh_id=1 is: 0.01266991
```

```
data(francdat)
```

```
#sdcApp()
```

```
testdatadf<-as.data.frame(francdat)

#categorical vars must be factors
inputdata <- varToFactor(obj=testdatadf, var=c("Key1","Key2","Key4"))

#defining the sdcObject
sdcObj <- createSdcObj(
  dat=inputdata,
  keyVars=c("Key1","Key2","Key4")
)

sdcObj <- varToFactor(sdcObj, "Key1")
sdcObj <- varToFactor(sdcObj, "Key2")
sdcObj <- varToFactor(sdcObj, "Key4")
```

```
sdcSuda <- suda2(obj = sdcObj)

sdcSuda@risk$suda2$score
```

```
## [1] 0 0 0 3 2 2 3 0
```