Usage of cube DEMO

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Introduction

This is not a good example yet - there is not real message nor flow in the document. TODO(mja): fix it.

Create DEMO sample table from CSV file

This script creates the result and codelist for a simple DEMO table.

```
library(rrdfancillary)
devtools::load_all(pkg="../..")
```

Loading rrdfqbcrndex

```
library(rrdfqbcrnd0)
library(rrdfqb)

cubeVocabularyFn<- system.file("extdata/cube-vocabulary-rdf","cube.ttl", package="rrdfqb")

dataCubeFile<- system.file("extdata/sample-rdf", "DC-DEMO-sample.ttl", package="rrdfqbcrndex")

store <- new.rdf()  # Initialize

cat("Loading cube specfication from ", cubeVocabularyFn, "\n")</pre>
```

Loading cube specfication from /home/ma/R/x86_64-redhat-linux-gnu-library/3.2/rrdfqb/extdata/cube-v

```
tmp<- load.rdf(cubeVocabularyFn, format="TURTLE", appendTo= store)
cat("Loading cube from ", dataCubeFile, "\n")</pre>
```

Loading cube from /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DC-DEMO-sample

```
tmp<- load.rdf(dataCubeFile, format="TURTLE", appendTo= store)
summarize.rdf(store)</pre>
```

```
## [1] "Number of triples: 3375"
```

Execute the DEMO* SPARQL queries

```
rqFiles<- system.file("extdata/sample-rdf", list.files(system.file("extdata/sample-rdf", package="rrdf

for (rqFile in rqFiles) {
    cat("File ", rqFile, "\n")
    rq<- pasteO(readLines(rqFile),collapse="\n")
    res<- data.frame(sparql.rdf(store, rq),stringsAsFactors=FALSE)
    print(nrow(res))
    if (nrow(res)>0) {
        print(knitr::kable(res))
        }
}
```

```
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOattributes.rq
## [1] 6
##
##
## p
## -----
## crnd-attribute:cellpartno
## crnd-attribute:measurefmt
## crnd-attribute:colno
## crnd-attribute:denominator
## crnd-attribute:unit
## crnd-attribute:rowno
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOcodelist.rq
## [1] 43
##
##
## DataStructureDefinition dimension
                                                        cprefLabel
                                                                                     cl
## ds:dsd-DEMO
                                                                                     code:agegr1-65-80
                             crnd-dimension:agegr1
                                                        Codelist scheme: agegr1
## ds:dsd-DEMO
                             crnd-dimension:agegr1
                                                        Codelist scheme: agegr1
                                                                                     code:agegr1-_65
## ds:dsd-DEMO
                             {\tt crnd-dimension:agegr1}
                                                        Codelist scheme: agegr1
                                                                                     code:agegr1-_80
## ds:dsd-DEMO
                             crnd-dimension:agegr1
                                                        Codelist scheme: agegr1
                                                                                     code:agegr1-_ALL_
## ds:dsd-DEMO
                             crnd-dimension:agegr1
                                                        Codelist scheme: agegr1
                                                                                     code:agegr1-_NONMI
## ds:dsd-DEMO
                             crnd-dimension:ethnic
                                                        Codelist scheme: ethnic
                                                                                     code:ethnic-HISPAN
## ds:dsd-DEMO
                             crnd-dimension:ethnic
                                                        Codelist scheme: ethnic
                                                                                     code:ethnic-NOT_HI
## ds:dsd-DEMO
                             crnd-dimension:ethnic
                                                        Codelist scheme: ethnic
                                                                                     code:ethnic-_ALL_
## ds:dsd-DEMO
                             crnd-dimension:ethnic
                                                        Codelist scheme: ethnic
                                                                                     code:ethnic-_NONMI
## ds:dsd-DEMO
                             crnd-dimension:factor
                                                        Codelist scheme: factor
                                                                                     code:factor-_ALL_
## ds:dsd-DEMO
                             crnd-dimension:factor
                                                        Codelist scheme: factor
                                                                                     code:factor-_NONMI
```

```
## ds:dsd-DEMO
                              crnd-dimension:factor
                                                          Codelist scheme: factor
                                                                                        code:factor-age
## ds:dsd-DEMO
                              crnd-dimension:factor
                                                          Codelist scheme: factor
                                                                                        code:factor-propor
                                                          Codelist scheme: factor
## ds:dsd-DEMO
                              crnd-dimension:factor
                                                                                        code:factor-quanti
## ds:dsd-DEMO
                              crnd-dimension:factor
                                                          Codelist scheme: factor
                                                                                        code:factor-weight
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-cou
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-max
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-mean
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-med
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-min
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-n
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-per
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-q1
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
                                                                                        code:procedure-q3
                                                                                        code:procedure-std
## ds:dsd-DEMO
                              crnd-dimension:procedure
                                                          Codelist scheme: procedure
## ds:dsd-DEMO
                                                                                        code:race-AMERICAN
                              crnd-dimension:race
                                                          Codelist scheme: race
## ds:dsd-DEMO
                              crnd-dimension:race
                                                          Codelist scheme: race
                                                                                        code:race-ASIAN
## ds:dsd-DEMO
                              crnd-dimension:race
                                                          Codelist scheme: race
                                                                                        code:race-BLACK_OR
## ds:dsd-DEMO
                              crnd-dimension:race
                                                          Codelist scheme: race
                                                                                        code:race-NATIVE_H
## ds:dsd-DEMO
                              crnd-dimension:race
                                                          Codelist scheme: race
                                                                                        code:race-WHITE
## ds:dsd-DEMO
                              crnd-dimension:race
                                                          Codelist scheme: race
                                                                                        code:race-_ALL_
## ds:dsd-DEMO
                              crnd-dimension:race
                                                          Codelist scheme: race
                                                                                        code:race-_NONMISS
## ds:dsd-DEMO
                              crnd-dimension:sex
                                                          Codelist scheme: sex
                                                                                        code:sex-F
## ds:dsd-DEMO
                                                          Codelist scheme: sex
                              crnd-dimension:sex
                                                                                        code:sex-M
## ds:dsd-DEMO
                              crnd-dimension:sex
                                                          Codelist scheme: sex
                                                                                        code:sex-U
## ds:dsd-DEMO
                              crnd-dimension:sex
                                                          Codelist scheme: sex
                                                                                        code:sex-UN
## ds:dsd-DEMO
                              crnd-dimension:sex
                                                          Codelist scheme: sex
                                                                                        code:sex-_ALL_
## ds:dsd-DEMO
                              crnd-dimension:sex
                                                          Codelist scheme: sex
                                                                                        code:sex-_NONMISS_
## ds:dsd-DEMO
                              crnd-dimension:trt01a
                                                          Codelist scheme: trt01a
                                                                                        code:trt01a-Placeb
## ds:dsd-DEMO
                                                          Codelist scheme: trt01a
                                                                                        code:trt01a-Xanome
                              crnd-dimension:trt01a
## ds:dsd-DEMO
                              crnd-dimension:trt01a
                                                          Codelist scheme: trt01a
                                                                                        code:trt01a-Xanome
## ds:dsd-DEMO
                              crnd-dimension:trt01a
                                                          Codelist scheme: trt01a
                                                                                        code:trt01a-_ALL_
## ds:dsd-DEMO
                              crnd-dimension:trt01a
                                                          Codelist scheme: trt01a
                                                                                        code:trt01a-_NONMI
        /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOcodelistfull.rq
##
##
## DataStructureDefinition
                              component
                                               dimension
                                                                                             cprefLabel
## ds:dsd-DEMO
                                                                                             Codelist sche
                              dccs:agegr1
                                               crnd-dimension:agegr1
                                                                            code:agegr1
## ds:dsd-DEMO
                                               crnd-dimension:agegr1
                                                                            code:agegr1
                                                                                             Codelist sche
                              dccs:agegr1
## ds:dsd-DEMO
                              dccs:agegr1
                                               crnd-dimension:agegr1
                                                                            code:agegr1
                                                                                             Codelist sche
## ds:dsd-DEMO
                                               crnd-dimension:agegr1
                                                                           code:agegr1
                                                                                             Codelist sche
                              dccs:agegr1
## ds:dsd-DEMO
                              dccs:agegr1
                                               crnd-dimension:agegr1
                                                                            code:agegr1
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:ethnic
                                               crnd-dimension:ethnic
                                                                            code:ethnic
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:ethnic
                                               crnd-dimension:ethnic
                                                                           code:ethnic
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:ethnic
                                               crnd-dimension:ethnic
                                                                           code:ethnic
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:ethnic
                                               crnd-dimension:ethnic
                                                                            code:ethnic
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:factor
                                               crnd-dimension:factor
                                                                            code:factor
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:factor
                                               crnd-dimension:factor
                                                                            code:factor
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:factor
                                               crnd-dimension:factor
                                                                            code:factor
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:factor
                                                crnd-dimension:factor
                                                                            code:factor
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:factor
                                               crnd-dimension:factor
                                                                           code:factor
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:factor
                                               crnd-dimension:factor
                                                                           code:factor
                                                                                             Codelist sche
```

crnd-dimension:procedure

code:procedure

Codelist sche

dccs:procedure

ds:dsd-DEMO

```
## ds:dsd-DEMO
                              dccs:procedure
                                               crnd-dimension:procedure
                                                                           code:procedure
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:procedure
                                               crnd-dimension:procedure
                                                                           code:procedure
                                                                                             Codelist sche
                                               crnd-dimension:procedure
## ds:dsd-DEMO
                             dccs:procedure
                                                                           code:procedure
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:procedure
                                               crnd-dimension:procedure
                                                                           code:procedure
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:race
                                               crnd-dimension:race
                                                                           code:race
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:race
                                               crnd-dimension:race
                                                                           code:race
                                                                                             Codelist sche
## ds:dsd-DEMO
                              dccs:race
                                               crnd-dimension:race
                                                                           code:race
                                                                                             Codelist sche
## ds:dsd-DEMO
                                               crnd-dimension:race
                                                                                             Codelist sche
                             dccs:race
                                                                           code:race
## ds:dsd-DEMO
                             dccs:race
                                               crnd-dimension:race
                                                                           code:race
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:race
                                               crnd-dimension:race
                                                                           code:race
                                                                                             Codelist sche
## ds:dsd-DEMO
                                               crnd-dimension:race
                                                                           code:race
                                                                                             Codelist sche
                             dccs:race
## ds:dsd-DEMO
                                               crnd-dimension:sex
                                                                           code:sex
                                                                                             Codelist sche
                             dccs:sex
## ds:dsd-DEMO
                                               crnd-dimension:sex
                                                                           code:sex
                                                                                             Codelist sche
                             dccs:sex
## ds:dsd-DEMO
                                               crnd-dimension:sex
                                                                           code:sex
                                                                                             Codelist sche
                             dccs:sex
## ds:dsd-DEMO
                             dccs:sex
                                               crnd-dimension:sex
                                                                           code:sex
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:sex
                                               crnd-dimension:sex
                                                                           code:sex
                                                                                             Codelist sche
## ds:dsd-DEMO
                                               crnd-dimension:sex
                                                                                             Codelist sche
                             dccs:sex
                                                                           code:sex
## ds:dsd-DEMO
                             dccs:trt01a
                                               crnd-dimension:trt01a
                                                                           code:trt01a
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:trt01a
                                               crnd-dimension:trt01a
                                                                           code:trt01a
                                                                                             Codelist sche
                             dccs:trt01a
## ds:dsd-DEMO
                                               crnd-dimension:trt01a
                                                                           code:trt01a
                                                                                             Codelist sche
## ds:dsd-DEMO
                             dccs:trt01a
                                               crnd-dimension:trt01a
                                                                           code:trt01a
                                                                                             Codelist sche
## ds:dsd-DEMO
                                               crnd-dimension:trt01a
                                                                           code:trt01a
                                                                                             Codelist sche
                              dccs:trt01a
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOdimensions.rq
## [1] 7
##
##
## crnd-dimension:ethnic
## crnd-dimension:race
## crnd-dimension:procedure
## crnd-dimension:agegr1
## crnd-dimension:factor
## crnd-dimension:trt01a
## crnd-dimension:sex
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEM0factor-codelist.rq
## [1] 62
##
##
## code:factor-weightbl
                                         skos:topConceptOf
                                                                            code:factor
## code:factor-weightbl
                                         skos:prefLabel
                                                                            weightbl
## code:factor-weightbl
                                         skos:inScheme
                                                                            code:factor
## code:factor-weightbl
                                         rrdfqbcrnd0:R-selectionvalue
                                                                            weightbl
## code:factor-weightbl
                                         rrdfqbcrnd0:R-selectionoperator
## code:factor-weightbl
                                         rrdfqbcrnd0:DataSetRefD2RQ
                                                                            rrdfqbcrnd0:ADSL_WEIGHTBL
## code:factor-weightbl
                                         rdfs:comment
                                                                            Coded values from data source
## code:factor-weightbl
                                         rdf:type
                                                                            skos:Concept
```

```
## code:factor-weightbl
                                         rdf:type
                                                                            code:Factor
                                                                            code:factor
## code:factor-age
                                         skos:topConceptOf
## code:factor-age
                                         skos:prefLabel
                                         skos:inScheme
## code:factor-age
                                                                            code:factor
## code:factor-age
                                         rrdfqbcrnd0:R-selectionvalue
                                                                            age
## code:factor-age
                                         rrdfqbcrnd0:R-selectionoperator
## code:factor-age
                                         rrdfqbcrnd0:DataSetRefD2RQ
                                                                            rrdfqbcrnd0:ADSL AGE
                                         rdfs:comment
                                                                            Coded values from data source
## code:factor-age
## code:factor-age
                                         rdf:type
                                                                            skos:Concept
## code:factor-age
                                         rdf:type
                                                                            code:Factor
## code:factor-_ALL_
                                         skos:topConceptOf
                                                                            code:factor
## code:factor-_ALL_
                                         skos:prefLabel
                                                                             _{
m ALL}_{
m }
## code:factor-_ALL_
                                         skos:inScheme
                                                                            code:factor
                                         rdfs:comment
                                                                            NON-CDISC: Represents all cod
## code:factor-_ALL_
## code:factor-_ALL_
                                         rdf:type
                                                                            skos:Concept
## code:factor-_ALL_
                                         rdf:type
                                                                            code:Factor
## code:factor-quantity
                                         skos:topConceptOf
                                                                            code:factor
## code:factor-quantity
                                         skos:prefLabel
                                                                            quantity
                                         skos:inScheme
## code:factor-quantity
                                                                            code:factor
## code:factor-quantity
                                         rrdfqbcrnd0:R-selectionvalue
                                                                            quantity
## code:factor-quantity
                                         rrdfqbcrnd0:R-selectionoperator
## code:factor-quantity
                                         rdfs:comment
                                                                            Coded values from data source
## code:factor-quantity
                                         rdf:type
                                                                            skos:Concept
## code:factor-quantity
                                         rdf:type
                                                                            code:Factor
## code:factor- NONMISS
                                         skos:topConceptOf
                                                                            code:factor
## code:factor- NONMISS
                                         skos:prefLabel
                                                                            NONMISS
## code:factor-_NONMISS_
                                         skos:inScheme
                                                                            code:factor
## code:factor-_NONMISS_
                                         rrdfqbcrnd0:R-selectionfunction
                                                                            is.na
## code:factor-_NONMISS_
                                         rdfs:comment
                                                                            NON-CDISC: Represents the non-
## code:factor-_NONMISS_
                                         rdf:type
                                                                            skos:Concept
## code:factor-_NONMISS_
                                         rdf:type
                                                                            code:Factor
## code:factor-proportion
                                         skos:topConceptOf
                                                                            code:factor
## code:factor-proportion
                                         skos:prefLabel
                                                                            proportion
                                         skos:inScheme
## code:factor-proportion
                                                                            code:factor
## code:factor-proportion
                                         rrdfqbcrnd0:R-selectionvalue
                                                                            proportion
## code:factor-proportion
                                         rrdfqbcrnd0:R-selectionoperator
## code:factor-proportion
                                         rdfs:comment
                                                                            Coded values from data source
## code:factor-proportion
                                         rdf:type
                                                                            skos:Concept
## code:factor-proportion
                                         rdf:type
                                                                            code:Factor
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Race
## code:CODING ERROR- no decode value
                                                                            code:Ethnic
                                         rdf:type
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Procedure
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Trt01a
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Sex
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Factor
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code: Agegr1
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            skos:Concept
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            rdfs:Resource
## code:factor-proportion
                                         rdf:type
                                                                            rdfs:Resource
## code:factor-_NONMISS_
                                         rdf:type
                                                                            rdfs:Resource
## code:factor-quantity
                                         rdf:type
                                                                            rdfs:Resource
## code:factor- ALL
                                         rdf:type
                                                                            rdfs:Resource
## code:factor-age
                                         rdf:type
                                                                            rdfs:Resource
## code:factor-weightbl
                                         rdf:type
                                                                            rdfs:Resource
```

```
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOfactor.rq
## [1] 6
##
##
## factor
                           prefLabel
                                         DataSetRefD2RQ
                                                                     Rselectionvalue
                          -----
## -----
                           _ALL_
## code:factor-_ALL_
## code:factor-proportion
                           proportion
                                                                     proportion
## code:factor-weightbl
                           weightbl
                                        rrdfqbcrnd0:ADSL_WEIGHTBL
                                                                     weightbl
## code:factor-_NONMISS_
                            _NONMISS_
## code:factor-quantity
                           quantity
                                         NA
                                                                     quantity
                                         rrdfqbcrnd0:ADSL_AGE
## code:factor-age
                            age
                                                                     age
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOobservations-R-data-par
## [1] 0
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOobservations-R-data.rq
## [1] 0
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOobservations-R-selection
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOobservations.rq
##
##
## s
              ethnic
                                                    race
                                                                                         procedure
## ds:obs001
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs002
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs003
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs004
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs005
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs006
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs007
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs008
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code:CODING ER
## ds:obs009
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs010
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs011
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs012
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs013
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs014
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs015
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
## ds:obs016
                                                                                         code: CODING ER
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
## ds:obs017
                                                                                         code: CODING ER
## ds:obs018
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
## ds:obs019
                                                                                         code: CODING ER
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
## ds:obs020
                                                                                         code: CODING ER
              code:CODING ERROR- no decode value
## ds:obs021
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
              code:CODING ERROR- no decode value
## ds:obs022
                                                    code:CODING ERROR- no decode value
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## ds:obs023
              code:CODING ERROR- no decode value
                                                    code: CODING ERROR- no decode value
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              code:CODING ERROR- no decode value
                                                    code: CODING ERROR- no decode value
## ds:obs024
                                                                                         code: CODING ER
                                                                                         code:CODING ER
## ds:obs025
              code:CODING ERROR- no decode value
                                                    code: CODING ERROR- no decode value
## ds:obs026
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs027
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
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              code:CODING ERROR- no decode value
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## ds:obs028
                                                                                         code: CODING ER
## ds:obs029
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
                                                                                         code: CODING ER
## ds:obs030
              code:CODING ERROR- no decode value
                                                    code:CODING ERROR- no decode value
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## ds:obs031
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs032
## ds:obs033
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs034
## ds:obs035
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               code:CODING ERROR- no decode value
## ds:obs036
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## ds:obs037
               code:CODING ERROR- no decode value
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## ds:obs038
## ds:obs039
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs040
## ds:obs041
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs042
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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## ds:obs043
               code:CODING ERROR- no decode value
                                                      code: CODING ERROR- no decode value
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## ds:obs044
## ds:obs045
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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## ds:obs046
               code:CODING ERROR- no decode value
                                                      code: CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs047
## ds:obs048
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs049
## ds:obs050
               code:CODING ERROR- no decode value
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## ds:obs051
               code:CODING ERROR- no decode value
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## ds:obs052
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               code:CODING ERROR- no decode value
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## ds:obs053
               code:CODING ERROR- no decode value
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## ds:obs054
               code:CODING ERROR- no decode value
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## ds:obs055
               code:CODING ERROR- no decode value
## ds:obs056
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## ds:obs057
               code:CODING ERROR- no decode value
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## ds:obs058
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## ds:obs059
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## ds:obs060
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## ds:obs061
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## ds:obs062
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## ds:obs063
## ds:obs064
               code:CODING ERROR- no decode value
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## ds:obs065
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## ds:obs066
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## ds:obs067
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## ds:obs068
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## ds:obs069
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## ds:obs070
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## ds:obs071
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## ds:obs072
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## ds:obs073
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## ds:obs074
               code:CODING ERROR- no decode value
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## ds:obs075
               code:CODING ERROR- no decode value
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## ds:obs076
## ds:obs077
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs078
## ds:obs079
               code:CODING ERROR- no decode value
                                                      code: CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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## ds:obs080
## ds:obs081
               code:CODING ERROR- no decode value
                                                      code: CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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## ds:obs082
## ds:obs083
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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## ds:obs084
               code:CODING ERROR- no decode value
                                                     code: CODING ERROR- no decode value
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```

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## ds:obs085
               code:CODING ERROR- no decode value
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## ds:obs086
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs087
               code:CODING ERROR- no decode value
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## ds:obs088
## ds:obs089
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
## ds:obs090
                                                      code:CODING ERROR- no decode value
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## ds:obs091
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs092
## ds:obs093
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs094
## ds:obs095
               code:CODING ERROR- no decode value
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## ds:obs096
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## ds:obs097
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## ds:obs098
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## ds:obs099
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
## ds:obs100
                                                      code:CODING ERROR- no decode value
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## ds:obs101
               code:CODING ERROR- no decode value
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## ds:obs102
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## ds:obs103
               code: CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs104
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## ds:obs105
               code:CODING ERROR- no decode value
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## ds:obs106
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs107
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## ds:obs108
               code: CODING ERROR- no decode value
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                                                      code:CODING ERROR- no decode value
               code:CODING ERROR- no decode value
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## ds:obs109
## ds:obs110
               code:CODING ERROR- no decode value
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## ds:obs111
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs112
               code:CODING ERROR- no decode value
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## ds:obs113
               code:CODING ERROR- no decode value
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## ds:obs114
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               code:CODING ERROR- no decode value
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## ds:obs115
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## ds:obs116
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               code:CODING ERROR- no decode value
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## ds:obs117
## ds:obs118
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
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## ds:obs119
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## ds:obs120
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
                                                                                            code: CODING ER
## ds:obs121
               code:CODING ERROR- no decode value
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## ds:obs122
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## ds:obs123
               code:CODING ERROR- no decode value
                                                     code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
## ds:obs124
                                                                                            code: CODING ER
## ds:obs125
               code:CODING ERROR- no decode value
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               code:CODING ERROR- no decode value
                                                     code:CODING ERROR- no decode value
## ds:obs126
                                                                                            code: CODING ER
               code:CODING ERROR- no decode value
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## ds:obs127
               code:CODING ERROR- no decode value
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## ds:obs128
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
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## ds:obs129
               code:CODING ERROR- no decode value
                                                     code:CODING ERROR- no decode value
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## ds:obs130
               code:CODING ERROR- no decode value
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## ds:obs131
                                                                                            code: CODING ER
               code:CODING ERROR- no decode value
                                                      code:CODING ERROR- no decode value
                                                                                            code: CODING ER
## ds:obs132
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOprocedure-codelist.rq
## [1] 109
##
##
```

	code:procedure-min	skos:topConceptOf	code:procedure
## (and a three and three mir		
	code:procedure-min	skos:prefLabel skos:inScheme	min code:procedure
	code:procedure-min	rrdfqbcrnd0:RdescStatDefFun	function (x) { min(x, na
	code:procedure-min	rrdfqbcrnd0:R-selectionvalue	min
	code:procedure-min	-	min ==
	code:procedure-min	<pre>rrdfqbcrnd0:R-selectionoperator rdfs:comment</pre>	
	code:procedure-min		Descriptive statistics min
	code:procedure-min	rdf:type	skos:Concept code:Procedure
	code:procedure-min	rdf:type	
	code:procedure-std	skos:topConceptOf skos:prefLabel	code:procedure
	code:procedure-std	skos:inScheme	std
	code:procedure-std		<pre>code:procedure function (x) { sd(x, na.:</pre>
	code:procedure-std	rrdfqbcrnd0:RdescStatDefFun	
	code:procedure-std	rrdfqbcrnd0:R-selectionvalue	std ==
	code:procedure-std	rrdfqbcrnd0:R-selectionoperator	
	code:procedure-std	rdfs:comment	Descriptive statistics std
	code:procedure-std	rdf:type	skos:Concept
	code:procedure-std	rdf:type	code:Procedure
	code:procedure-q3	skos:topConceptOf	code:procedure
	code:procedure-q3	skos:prefLabel	q3
	code:procedure-q3	skos:inScheme	code:procedure
	code:procedure-q3	rrdfqbcrnd0:RdescStatDefFun	function (x) { quantile(:
	code:procedure-q3	rrdfqbcrnd0:R-selectionvalue	q3
	code:procedure-q3	rrdfqbcrnd0:R-selectionoperator	==
	code:procedure-q3	rdfs:comment	Descriptive statistics q3
	code:procedure-q3	rdf:type	skos:Concept
	code:procedure-q3	rdf:type	code:Procedure
	code:procedure-median	skos:topConceptOf	code:procedure
	code:procedure-median	skos:prefLabel	median
	code:procedure-median	skos:inScheme	code:procedure
	code:procedure-median	rrdfqbcrnd0:RdescStatDefFun	<pre>function (x) { median(x,</pre>
	code:procedure-median	rrdfqbcrnd0:R-selectionvalue	median
	code:procedure-median	rrdfqbcrnd0:R-selectionoperator	==
	code:procedure-median	rdfs:comment	Descriptive statistics median
	code:procedure-median	rdf:type	skos:Concept
	code:procedure-median	rdf:type	code:Procedure
	code:procedure-count	skos:topConceptOf	code:procedure
	code:procedure-count	skos:prefLabel	count
	code:procedure-count	skos:inScheme	code:procedure
	code:procedure-count	rrdfqbcrnd0:RdescStatDefFun	function (x) { length(x)
	code:procedure-count	rrdfqbcrnd0:R-selectionvalue	count
	code:procedure-count	rrdfqbcrnd0:R-selectionoperator	==
	code:procedure-count	rdfs:comment	Descriptive statistics count
	code:procedure-count	rdf:type	skos:Concept
	code:procedure-count	rdf:type	code:Procedure
	code:procedure-max	skos:topConceptOf	code:procedure
	code:procedure-max	skos:prefLabel	max
	code:procedure-max	skos:inScheme	code:procedure
	code:procedure-max	rrdfqbcrnd0:RdescStatDefFun	function (x) { $max(x, na)$
	code:procedure-max	rrdfqbcrnd0:R-selectionvalue	max
	code:procedure-max	rrdfqbcrnd0:R-selectionoperator	==
	code:procedure-max	rdfs:comment	Descriptive statistics max
##	code:procedure-max	rdf:type	skos:Concept
	code:procedure-max	rdf:type	code:Procedure

```
## code:procedure-mean
                                         skos:topConceptOf
                                                                            code:procedure
## code:procedure-mean
                                         skos:prefLabel
                                                                            mean
## code:procedure-mean
                                         skos:inScheme
                                                                            code:procedure
                                         rrdfqbcrnd0:RdescStatDefFun
## code:procedure-mean
                                                                            function (x) {
                                                                                                 mean(x, n
## code:procedure-mean
                                         rrdfqbcrnd0:R-selectionvalue
                                         rrdfqbcrnd0:R-selectionoperator
## code:procedure-mean
## code:procedure-mean
                                         rdfs:comment
                                                                            Descriptive statistics mean
## code:procedure-mean
                                         rdf:type
                                                                            skos:Concept
## code:procedure-mean
                                         rdf:type
                                                                            code:Procedure
## code:procedure-q1
                                         skos:topConceptOf
                                                                            code:procedure
## code:procedure-q1
                                         skos:prefLabel
                                                                            q1
## code:procedure-q1
                                         skos:inScheme
                                                                            code:procedure
## code:procedure-q1
                                         rrdfqbcrnd0:RdescStatDefFun
                                                                            function (x) {
                                                                                                 quantile(
                                         rrdfqbcrnd0:R-selectionvalue
## code:procedure-q1
                                                                            q1
## code:procedure-q1
                                         rrdfqbcrnd0:R-selectionoperator
## code:procedure-q1
                                         rdfs:comment
                                                                            Descriptive statistics q1
## code:procedure-q1
                                         rdf:type
                                                                            skos:Concept
## code:procedure-q1
                                         rdf:type
                                                                            code:Procedure
## code:procedure-n
                                         skos:topConceptOf
                                                                            code:procedure
## code:procedure-n
                                         skos:prefLabel
## code:procedure-n
                                         skos:inScheme
                                                                            code:procedure
## code:procedure-n
                                         rrdfqbcrnd0:RdescStatDefFun
                                                                            function (x) {
                                                                                                 length(x[
                                         rrdfqbcrnd0:R-selectionvalue
## code:procedure-n
## code:procedure-n
                                         rrdfqbcrnd0:R-selectionoperator
## code:procedure-n
                                         rdfs:comment
                                                                            Descriptive statistics n
## code:procedure-n
                                         rdf:type
                                                                            skos:Concept
## code:procedure-n
                                         rdf:type
                                                                            code:Procedure
                                         skos:topConceptOf
## code:procedure-percent
                                                                            code:procedure
## code:procedure-percent
                                         skos:prefLabel
                                                                            percent
## code:procedure-percent
                                         skos:inScheme
                                                                            code:procedure
## code:procedure-percent
                                         rrdfqbcrnd0:RdescStatDefFun
                                                                            function (x) {
                                                                                                 -1 }
## code:procedure-percent
                                         rrdfqbcrnd0:R-selectionvalue
                                                                            percent
## code:procedure-percent
                                         rrdfqbcrnd0:R-selectionoperator
                                         rdfs:comment
## code:procedure-percent
                                                                            Descriptive statistics percen
## code:procedure-percent
                                         rdf:type
                                                                            skos:Concept
                                                                            code:Procedure
## code:procedure-percent
                                         rdf:type
## code: CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Race
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Ethnic
## code:CODING ERROR- no decode value
                                                                            code:Procedure
                                         rdf:type
## code:CODING ERROR- no decode value
                                                                            code:Trt01a
                                         rdf:type
                                                                            code:Sex
## code:CODING ERROR- no decode value
                                         rdf:type
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code:Factor
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            code: Agegr1
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            skos:Concept
## code:CODING ERROR- no decode value
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-q3
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-mean
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-q1
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-std
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-count
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-median
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-percent
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-min
                                         rdf:type
                                                                            rdfs:Resource
## code:procedure-max
                                         rdf:type
                                                                            rdfs:Resource
```

```
## code:procedure-n
                                                                       rdfs:Resource
                                      rdf:type
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOprocedure-median.rq
##
##
## s
## code:procedure-median
                          skos:topConceptOf
                                                          code:procedure
## code:procedure-median
                          skos:prefLabel
                                                          median
                          skos:inScheme
## code:procedure-median
                                                          code:procedure
## code:procedure-median
                          rrdfqbcrnd0:RdescStatDefFun
                                                           function (x) {
                                                                              median(x, na.rm = TRUE)
## code:procedure-median
                          rrdfqbcrnd0:R-selectionvalue
                                                           median
## code:procedure-median
                          rrdfqbcrnd0:R-selectionoperator
## code:procedure-median
                          rdfs:comment
                                                           Descriptive statistics median
## code:procedure-median
                          rdf:type
                                                           skos:Concept
## code:procedure-median
                          rdf:type
                                                           code:Procedure
## code:procedure-median
                          rdf:type
                                                          rdfs:Resource
## File /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/DEMOprocedure.rq
## [1] 10
##
##
                          prefLabel
## procedure
                                     functiondef
## -----
                         -----
                        max
                                      function (x) {
## code:procedure-max
                                                         max(x, na.rm = TRUE) }
## code:procedure-std
                          std
                                     function (x) {
                                                          sd(x, na.rm = TRUE) }
## code:procedure-mean
                          mean
                                     function (x) {
                                                         mean(x, na.rm = TRUE) }
## code:procedure-min
                                     function (x) {
                                                         min(x, na.rm = TRUE) }
                          min
## code:procedure-percent percent function (x) {
                                                         -1 }
## code:procedure-count
                                     function (x) {
                          count
                                                          length(x) }
## code:procedure-q3
                                      function (x) {
                                                          quantile(x, probs = c(0.75), na.rm = TRUE)
                           q3
                                      function (x) {
## code:procedure-n
                                                          length(x[!is.na(x)]) }
## code:procedure-median
                          median
                                      function (x) {
                                                          median(x, na.rm = TRUE) }
## code:procedure-q1
                                      function (x) {
                                                          quantile(x, probs = c(0.25), na.rm = TRUE)
                           q1
```

This works do not change

```
dsdName<- GetDsdNameFromCube( store )
domainName<- GetDomainNameFromCube( store )
cat("dsdName ", dsdName, ", domainName ", domainName, "\n")

## dsdName dsd-DEMO , domainName DEMO

forsparqlprefix<- GetForSparqlPrefix( domainName )
cat(forsparqlprefix, "\n")

## prefix rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
## prefix skos: <a href="http://www.w3.org/2004/02/skos/core#">http://www.w3.org/2004/02/skos/core#</a>
## prefix prov: <a href="http://www.w3.org/ns/prov#">http://www.w3.org/ns/prov#</a>
```

prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#>

prefix dcat: <http://www.w3.org/ns/dcat#>
prefix owl: <http://www.w3.org/2002/07/owl#>

```
## prefix xsd: <http://www.w3.org/2001/XMLSchema#>
## prefix pav: <http://purl.org/pav>
## prefix dc: <http://purl.org/dc/elements/1.1/>
## prefix dct: <http://purl.org/dc/terms/>
## prefix mms: <http://rdf.cdisc.org/mms#>
## prefix cts: <a href="http://rdf.cdisc.org/ct/schema">
## prefix cdiscs: <a href="http://rdf.cdisc.org/std/schema">
## prefix cdash-1-1: <http://rdf.cdisc.org/std/cdash-1-1#>
## prefix cdashct: <a href="http://rdf.cdisc.org/cdash-terminology">http://rdf.cdisc.org/cdash-terminology</a>
## prefix sdtmct: <http://rdf.cdisc.org/sdtm-terminology#>
## prefix sdtm-1-2: <http://rdf.cdisc.org/std/sdtm-1-2#>
## prefix sdtm-1-3: <http://rdf.cdisc.org/std/sdtm-1-3#>
## prefix sdtms-1-3: <a href="http://rdf.cdisc.org/sdtm-1-3/schema">
## prefix sdtmig-3-1-2: <http://rdf.cdisc.org/std/sdtmig-3-1-2#>
## prefix sdtmig-3-1-3: <http://rdf.cdisc.org/std/sdtmig-3-1-3#>
## prefix sendct: <http://rdf.cdisc.org/send-terminology#>
## prefix sendig-3-0: <http://rdf.cdisc.org/std/sendig-3-0#>
## prefix adamct: <a href="http://rdf.cdisc.org/adam-terminology">http://rdf.cdisc.org/adam-terminology</a>
## prefix adam-2-1: <http://rdf.cdisc.org/std/adam-2-1#>
## prefix adamig-1-0: <a href="http://rdf.cdisc.org/std/adamig-1-0#">http://rdf.cdisc.org/std/adamig-1-0#</a>
## prefix adamvr-1-2: <a href="http://rdf.cdisc.org/std/adamvr-1-2">http://rdf.cdisc.org/std/adamvr-1-2">
## prefix qb: <http://purl.org/linked-data/cube#>
## prefix rrdfqbcrnd0: <http://www.example.org/rrdfqbcrnd0/>
## prefix code: <a href="http://www.example.org/dc/code/">http://www.example.org/dc/code/</a>
## prefix dccs: <http://www.example.org/dc/demo/dccs/>
## prefix ds: <http://www.example.org/dc/demo/ds/>
## prefix crnd-dimension: <http://www.example.org/dc/dimension#>
## prefix crnd-attribute: <http://www.example.org/dc/attribute#>
## prefix crnd-measure: <a href="http://www.example.org/dc/measure#">http://www.example.org/dc/measure#>
##
```

S	p	0
	crnd-dimension:sex crnd-dimension:race	code:CODING ERROR- no decode value code:CODING ERROR- no decode value

s	p	0
	crnd-dimension:trt01a	code:CODING ERROR- no decode value
	crnd-dimension:agegr1	code:CODING ERROR- no decode value
ds:obs114	crnd-dimension:procedure	code:CODING ERROR- no decode value
ds:obs114	crnd-dimension:ethnic	code:CODING ERROR- no decode value
ds:obs114	crnd-dimension:factor	code:CODING ERROR- no decode value

Getting triples with information of object if literal

```
cons.rq<- paste( forsparqlprefix,
,
construct { ?s ?p ?o }
where {
    ?s ?p ?o .
BIND( datatype(?o) as ?datatype )
BIND( isLiteral(?o) as ?isLiteral )
BIND( lang(?o) as ?lang )
values (?s) {
    (ds:obs114)
}
}
,
"\n"
)</pre>
save.rdf(construct.rdf( store, cons.rq) , file.path(tempdir(), "rapperin.ttl"), "TURTLE")
```

```
## [1] "/tmp/RtmppNfirb/rapperin.ttl"
```

To see dot code generated by rapper:

```
rapper -i turtle -o dot /tmp/Rtmpcccgdg/rapperin.ttl
```

To display the dot code

```
rapper -i turtle -o dot /tmp/Rtmpcccgdg/rapperin.ttl | dot -x -Tpdf -ograph.pdf
```

See also (http://www.bioconductor.org/packages/release/bioc/vignettes/Rgraphviz/inst/doc/Rgraphviz.pdf) for Rgraphviz package - may be used to display graphs.

ToDo(MJA): move this to another package - is more an example of R code for making Rgraphvis statement

```
rq<- paste( forsparqlprefix,
,
select *
where {
?s ?p ?o .
BIND( datatype(?o) as ?datatype )</pre>
```

```
BIND( isLiteral(?o) as ?isLiteral )
BIND( lang(?o) as ?lang )
values (?s) {
    (ds:obs114)
}
}

res<- sparql.rdf(store, rq)
knitr::kable(res)

dimnames(res)

allIRI<- c( res[,1],res[,2])
    uallIRI<- unique(allIRI)
L<- list()
    for (i in 1:length(uallIRI) ) {
    L[[ uallIRI[i] ]] <- paste( "L", i, sep="" )
}

rowcols<- cbind( as.matrix(apply(res[,1:2],c(1,2),function(x) as.character(L[[x]] ))),as.matrix(res[,3] cat(paste(rowcols, sep=", "),"\n")</pre>
```

Check the statistics

ToDo(MJA): move this to another package - maybe the check package

```
stmtSQL<- GetSQLFromCube(store)
cat(stmtSQL$summStatSQL)</pre>
```