Package 'CohortAlgebra'

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Type Package

Title Cohort Algebra to create new cohort(s) from existing cohorts

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Description An R package that creates new cohort(s) from previously instantiated cohorts.

Depends DatabaseConnector (>= 5.0.0),
R (>= 4.1.0)

Imports checkmate,
dplyr,
ParallelLogger,
rlang

Suggests remotes,
rmarkdown,
knitr,
testthat,
withr

Remotes ohdsi/ParallelLogger

License Apache License

RoxygenNote 7.2.0

VignetteBuilder knitr

Roxygen list(markdown = TRUE)

Encoding UTF-8

Language en-US

URL https://ohdsi.github.io/CohortAlgebra/, https://github.com/OHDSI/CohortAlgebra

BugReports https://github.com/OHDSI/CohortAlgebra/issues

R topics documented:

`copyCohortsToTempTable` *Get cohort ids in table*

Description

Get cohort ids in table. This function is not exported.

Usage

```
copyCohortsToTempTable(
  connection = NULL,
  oldToNewCohortId,
  sourceCohortDatabaseSchema = NULL,
  sourceCohortTable,
  targetCohortTable = "#cohort_rows",
  tempEmulationSchema = getOption("sqlRenderTempEmulationSchema")
)
```

Arguments

`connection`	An object of type `connection` as created using the `connect` function in the DatabaseConnector package. Can be left NULL if `connectionDetails` is provided, in which case a new connection will be opened at the start of the function, and closed when the function finishes.
`oldToNewCohortId`	A data.frame object with two columns. oldCohortId and newCohortId. Both should be integers. The oldCohortId are the cohorts that are the input cohorts that need to be transformed. The newCohortId are the cohortIds of the corresponding output after transformation. If the oldCohortId = newCohortId then the data corresponding to oldCohortId will be replaced by the data from the newCohortId.
`sourceCohortDatabaseSchema`	The database schema of the source cohort table.
`sourceCohortTable`	The name of the source cohort table.
`targetCohortTable`	A temp table to copy the cohorts from the source table.
`tempEmulationSchema`	Some database platforms like Oracle and Impala do not truly support temp tables. To emulate temp tables, provide a schema with write privileges where temp tables can be created.

deleteCohortRecords *Delete cohort records.*

Description

Delete all records from cohort table with the given cohort id. Edit privileges to the cohort table is required.

Usage

```
deleteCohortRecords(
  connectionDetails = NULL,
  connection = NULL,
  cohortDatabaseSchema,
  cohortTable = "cohort",
  tempEmulationSchema = getOption("sqlRenderTempEmulationSchema"),
  cohortIds
)
```

Arguments

connectionDetails	An object of type connectionDetails as created using the createConnectionDetails function in the DatabaseConnector package. Can be left NULL if connection is provided.
connection	An object of type connection as created using the connect function in the DatabaseConnector package. Can be left NULL if connectionDetails is provided, in which case a new connection will be opened at the start of the function, and closed when the function finishes.
cohortDatabaseSchema	Schema name where your cohort tables reside. Note that for SQL Server, this should include both the database and schema name, for example 'scratch.dbo'.
cohortTable	The name of the cohort table.
tempEmulationSchema	Some database platforms like Oracle and Impala do not truly support temp tables. To emulate temp tables, provide a schema with write privileges where temp tables can be created.
cohortIds	A vector of one or more Cohort Ids.

eraFyCohorts *Era-fy cohort(s)*

Description

Given a table with cohort_definition_id, subject_id, cohort_start_date, cohort_end_date execute era logic. This will delete and replace the original rows with the cohort_definition_id(s). edit privileges to the cohort table is required.

Usage

```
eraFyCohorts(
  connectionDetails = NULL,
  connection = NULL,
  cohortDatabaseSchema = NULL,
  cohortTable = "cohort",
  oldToNewCohortId,
  eraconstructorpad = 0,
  cdmDatabaseSchema = NULL,
  tempEmulationSchema = getOption("sqlRenderTempEmulationSchema"),
  purgeConflicts = FALSE
)
```

Arguments

`connectionDetails`
: An object of type `connectionDetails` as created using the `createConnectionDetails` function in the DatabaseConnector package. Can be left NULL if `connection` is provided.

`connection`
: An object of type `connection` as created using the `connect` function in the DatabaseConnector package. Can be left NULL if `connectionDetails` is provided, in which case a new connection will be opened at the start of the function, and closed when the function finishes.

`cohortDatabaseSchema`
: Schema name where your cohort tables reside. Note that for SQL Server, this should include both the database and schema name, for example 'scratch.dbo'.

`cohortTable`
: The name of the cohort table.

`oldToNewCohortId`
: A data.frame object with two columns. oldCohortId and newCohortId. Both should be integers. The oldCohortId are the cohorts that are the input cohorts that need to be transformed. The newCohortId are the cohortIds of the corresponding output after transformation. If the oldCohortId = newCohortId then the data corresponding to oldCohortId will be replaced by the data from the newCohortId.

`eraconstructorpad`
: Optional value to pad cohort era construction logic. Default = 0. i.e. no padding.

`cdmDatabaseSchema`
: Schema name where your patient-level data in OMOP CDM format resides. Note that for SQL Server, this should include both the database and schema name, for example 'cdm_data.dbo'. cdmDataschema is required when eraConstructorPad is > 0. eraConstructorPad is optional.

`tempEmulationSchema`
: Some database platforms like Oracle and Impala do not truly support temp tables. To emulate temp tables, provide a schema with write privileges where temp tables can be created.

`purgeConflicts`
: If there are conflicts in the target cohort table i.e. the target cohort table already has records with newCohortId, do you want to purge and replace them with transformed. By default - it will not be replaced, and an error message is thrown.

getCohortIdsInCohortTable *Get cohort ids in table*

Description

Get cohort ids in table

Usage

```
getCohortIdsInCohortTable(
  connection = NULL,
  cohortDatabaseSchema = NULL,
  cohortTable,
  tempEmulationSchema = getOption("sqlRenderTempEmulationSchema")
)
```

Arguments

connection	An object of type connection as created using the connect function in the DatabaseConnector package. Can be left NULL if connectionDetails is provided, in which case a new connection will be opened at the start of the function, and closed when the function finishes.
cohortDatabaseSchema	Schema name where your cohort tables reside. Note that for SQL Server, this should include both the database and schema name, for example 'scratch.dbo'.
cohortTable	The name of the cohort table.
tempEmulationSchema	Some database platforms like Oracle and Impala do not truly support temp tables. To emulate temp tables, provide a schema with write privileges where temp tables can be created.

intersectCohorts *Intersect cohort(s)*

Description

Find the common cohort period for persons present in all the cohorts. Note: if subject is not found in any of the cohorts, then they will not be in the final cohort.

Usage

```
intersectCohorts(
  connectionDetails = NULL,
  connection = NULL,
  cohortDatabaseSchema = NULL,
  cohortTable = "cohort",
  cohortIds,
  newCohortId,
  purgeConflicts = FALSE,
  tempEmulationSchema = getOption("sqlRenderTempEmulationSchema")
)
```

Arguments

connectionDetails	An object of type connectionDetails as created using the createConnectionDetails function in the DatabaseConnector package. Can be left NULL if connection is provided.
connection	An object of type connection as created using the connect function in the DatabaseConnector package. Can be left NULL if connectionDetails is provided, in which case a new connection will be opened at the start of the function, and closed when the function finishes.
cohortDatabaseSchema	Schema name where your cohort tables reside. Note that for SQL Server, this should include both the database and schema name, for example 'scratch.dbo'.
cohortTable	The name of the cohort table.
cohortIds	A vector of one or more Cohort Ids.
newCohortId	The cohort id of the result cohort.
purgeConflicts	If there are conflicts in the target cohort table i.e. the target cohort table already has records with newCohortId, do you want to purge and replace them with transformed. By default - it will not be replaced, and an error message is thrown.
tempEmulationSchema	Some database platforms like Oracle and Impala do not truly support temp tables. To emulate temp tables, provide a schema with write privileges where temp tables can be created.

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minusCohorts *Minus cohort(s)*

Description

Given two cohorts, substract (minus) the dates from the first cohort, the dates the subject also had on the second cohort.

Usage

```
minusCohorts(
  connectionDetails = NULL,
  connection = NULL,
  cohortDatabaseSchema = NULL,
  cohortTable = "cohort",
  firstCohortId,
  secondCohortId,
  newCohortId,
  purgeConflicts = FALSE,
  tempEmulationSchema = getOption("sqlRenderTempEmulationSchema")
)
```

Arguments

connectionDetails	An object of type connectionDetails as created using the createConnectionDetails function in the DatabaseConnector package. Can be left NULL if connection is provided.
connection	An object of type connection as created using the connect function in the DatabaseConnector package. Can be left NULL if connectionDetails is provided, in which case a new connection will be opened at the start of the function, and closed when the function finishes.
cohortDatabaseSchema	Schema name where your cohort tables reside. Note that for SQL Server, this should include both the database and schema name, for example 'scratch.dbo'.
cohortTable	The name of the cohort table.
firstCohortId	The cohort id of the cohort from which to substract.
secondCohortId	The cohort id of the cohort that is used to substract.
newCohortId	The cohort id of the result cohort.
purgeConflicts	If there are conflicts in the target cohort table i.e. the target cohort table already has records with newCohortId, do you want to purge and replace them with transformed. By default - it will not be replaced, and an error message is thrown.
tempEmulationSchema	Some database platforms like Oracle and Impala do not truly support temp tables. To emulate temp tables, provide a schema with write privileges where temp tables can be created.

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