Package 'omock'

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Type Package

Title Creation of Mock Observational Medical Outcomes Partnership Common Data Model

Version 0.2.0

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Description Creates mock data for testing and package development for the Observational Medical Outcomes Partnership common data model. The package offers functions crafted with pipeline-friendly implementation, enabling users to effortlessly include only the necessary tables for their testing needs.

License Apache License (>= 2)

URL https://oxford-pharmacoepi.github.io/omock/, https://github.com/oxford-pharmacoepi/omock

Depends R (>= 2.10)

Imports cli, dplyr, lubridate, methods, omopgenerics (>= 0.0.3), purrr, rlang, snakecase, stats

Suggests ggplot2, knitr, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

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BugReports https://github.com/oxford-pharmacoepi/omock/issues

NeedsCompilation no

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R topics documented:

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mockCdmFromTables   *Creates a mock cdm_reference from a preexisting cdm_reference object (it can be empty) and a list of tables. It makes sure that all the observations are within observation and all individuals are present in person table.*

Description

Creates a mock cdm_reference from a preexisting cdm_reference object (it can be empty) and a list of tables. It makes sure that all the observations are within observation and all individuals are present in person table.

Usage

```
mockCdmFromTables(cdm = mockCdmReference(), tables = list(), seed = NULL)
```

Arguments

cdm	A cdm_reference object
tables	List of named tables. They can be either omop standard tables or cohort tables.
seed	An integer to fix the seed of random numbers. If NULL seed is not set.

Value

a cdm object

Examples

```
library(omock)
library(dplyr)

cohort <- tibble(
  cohort_definition_id = c(1, 1, 2, 2, 1, 3, 3, 3, 1, 3),
  subject_id = c(1, 4, 2, 3, 5, 5, 4, 3, 3, 1),
  cohort_start_date = as.Date(c(
    "2020-04-01", "2021-06-01", "2022-05-22", "2010-01-01", "2019-08-01",
    "2019-04-07", "2021-01-01", "2008-02-02", "2009-09-09", "2021-01-01"
  )),
  cohort_end_date = cohort_start_date
)

cdm <- mockCdmFromTables(tables = list(cohort = cohort))

cdm
cdm$cohort
cdm$person
```

---

mockCdmReference	*Function to create empty cdm reference for mock database*

Description

Function to create empty cdm reference for mock database

Usage

```
mockCdmReference(cdmName = "mock database", vocabularySet = "mock")
```

Arguments

cdmName   name of the mock cdm object

vocabularySet   name of the vocabulary set

Value

an empty cdm object

Examples

```
library(omock)

cdm <- mockCdmReference()

cdm
```

---

mockCohort   *Function to generate synthetic Cohort*

Description

Function to generate synthetic Cohort

Usage

```
mockCohort(
  cdm,
  name = "cohort",
  numberCohorts = 1,
  cohortName = paste0("cohort_", seq_len(numberCohorts)),
  recordPerson = 1,
  seed = 1
)
```

Arguments

cdm	the CDM reference into which the synthetic cohort will be added
name	The name of the table within the CDM where the cohort data will be stored. Defaults to "cohort".
numberCohorts	The number of different cohorts to create within the table. Defaults to 1.
cohortName	The name(s) of the cohorts to be created. This can be a single name or a vector of names if multiple cohorts are being created. Defaults to generating names based on a sequence.
recordPerson	The expected number of records per person within each cohort. This can help simulate the frequency of observations for individuals in the cohort.
seed	A random seed to ensure reproducibility of the generated data.

Value

A cdm reference with the mock tables

Examples

```
library(omock)
cdm <- mockCdmReference() |>
  mockPerson(nPerson = 100) |>
  mockObservationPeriod() |>
  mockCohort(
    name = "omock_example",
    numberCohorts = 2,
    cohortName = c("omock_cohort_1", "omock_cohort_2")
  )

  cdm
```

---

mockConcepts *function to add mockconcept et to concept table*

Description

function to add mockconcept et to concept table

Usage

```
mockConcepts(cdm, conceptSet, domain = "Condition", seed = 1)
```

Arguments

cdm	Name of the cdm object
conceptSet	conceptset as a vector
domain	the domain of the conceptSet
seed	random seed

Value

A cdm reference with the updated concept table

Examples

```
library(omock)
library(dplyr)

cdm <- mockCdmReference() |> mockConcepts(conceptSet = c(100,200), domain = "Condition")

cdm$concept |> filter(domain_id == "Condition")
```

`mockConditionOccurrence`
                                Function to generate condition occurrence table

---

Description

Function to generate condition occurrence table

Usage

```
mockConditionOccurrence(cdm, recordPerson = 1, seed = 1)
```

Arguments

cdm	the CDM reference into which the synthetic cohort will be added
recordPerson	The expected number of records per person within each cohort. This can help simulate the frequency of observations for individuals in the cohort.
seed	A random seed to ensure reproducibility of the generated data.

Value

A cdm reference with the mock tables

Examples

```
library(omock)

cdm <- mockCdmReference() |> mockPerson() |> mockObservationPeriod() |>
mockConditionOccurrence()

cdm$condition_occurrence
```

`mockDeath`   *Function to creat mock death table*

Description

Function to creat mock death table

Usage

```
mockDeath(cdm, recordPerson = 1, seed = 1)
```

Arguments

cdm	the CDM reference into which the synthetic cohort will be added
recordPerson	The expected number of records per person within each cohort. This can help simulate the frequency of observations for individuals in the cohort.
seed	A random seed to ensure reproducibility of the generated data.

Value

A cdm reference with the mock tables

Examples

```
library(omock)

cdm <- mockCdmReference() |> mockPerson() |> mockObservationPeriod() |>
mockDeath()

cdm$death
```

---

mockDrugExposure   *Function to generate drug exposure table*

Description

Function to generate drug exposure table

Usage

```
mockDrugExposure(cdm, recordPerson = 1, seed = 1)
```

Arguments

cdm	the CDM reference into which the synthetic cohort will be added
recordPerson	The expected number of records per person within each cohort. This can help simulate the frequency of observations for individuals in the cohort.
seed	A random seed to ensure reproducibility of the generated data.

Value

A cdm reference with the mock tables

Examples

```
library(omock)

cdm <- mockCdmReference() |> mockPerson() |> mockObservationPeriod() |>
mockDrugExposure()

cdm$drug_exposure
```

---

mockMeasurement   *Function to generate measurement table*

Description

Function to generate measurement table

Usage

```
mockMeasurement(cdm, recordPerson = 1, seed = 1)
```

Arguments

cdm	the CDM reference into which the mock measurement occurrence table will be added
recordPerson	The expected number of records per person within each cohort. This can help simulate the frequency of observations for individuals in the cohort.
seed	A random seed to ensure reproducibility of the generated data.

Value

A cdm reference with the mock tables

Examples

```
library(omock)

cdm <- mockCdmReference() |> mockPerson() |> mockObservationPeriod() |>

mockMeasurement()

cdm$measurement
```

---

mockObservation *Function to generate observation table*

Description

Function to generate observation table

Usage

```
mockObservation(cdm, recordPerson = 1, seed = 1)
```

Arguments

cdm	the CDM reference into which the mock observation table will be added
recordPerson	The expected number of records per person within each cohort. This can help simulate the frequency of observations for individuals in the cohort.
seed	A random seed to ensure reproducibility of the generated data.

Value

A cdm reference with the mock tables

Examples

```
library(omock)

cdm <- mockCdmReference() |> mockPerson() |> mockObservationPeriod() |>

mockObservation()

cdm$observation
```

---

mockObservationPeriod *mockObservationPeriod*

Description

mockObservationPeriod

Usage

```
mockObservationPeriod(cdm, seed = 1)
```

Arguments

cdm	Name of the cdm object
seed	random seed

Value

a cdm object with mock observation table

Examples

```
library(omock)
cdm <- mockCdmReference() |>
  mockPerson(nPerson = 100) |>
  mockObservationPeriod()
```

---

mockPerson   *mockPerson*

Description

mockPerson

Usage

```
mockPerson(
  cdm = mockCdmReference(),
  nPerson = 10,
  birthRange = as.Date(c("1950-01-01", "2000-12-31")),
  proportionFemale = 0.5,
  seed = 1
)
```

Arguments

cdm	Name of the cdm object
nPerson	number of mock person to create in person table
birthRange	birthday range of the person in person table
proportionFemale	
	proportion of person in the person table are female
seed	random seed

Value

A cdm reference with the mock person table

Examples

```
library(omock)
cdm <- mockPerson(cdm = mockCdmReference(),nPerson = 10)

cdm$person
```

---

mockVocabularyTables   *It creates a mock database with the vocabulary.*

Description

It creates a mock database with the vocabulary.

Usage

```
mockVocabularyTables(
  cdm = mockCdmReference(),
  vocabularySet = "mock",
  cdmSource = NULL,
  concept = NULL,
  vocabulary = NULL,
  conceptRelationship = NULL,
  conceptSynonym = NULL,
  conceptAncestor = NULL,
  drugStrength = NULL
)
```

Arguments

cdm	name of the cdm object
vocabularySet	name of the vocabulary set
cdmSource	cdm source table.
concept	Concept table.
vocabulary	Vocabulary table
conceptRelationship	
	Concept_relationship table.
conceptSynonym	Concept_synonym table.
conceptAncestor	
	Concept_ancestor table.
drugStrength	Drug_strength table.

Value

A cdm reference with the vocabulary mock tables

Examples

```
library(omock)

cdm <- mockCdmReference() |> mockVocabularyTables(vocabularySet = "mock")

names(cdm)
```

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