Package ‘eoR’

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Type Package

Title Data Management Package (Exposure and Occurrence Data in R)

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Description This data management package provides some helper classes for publicly available data sources (HMD, DESTATIS) in Demography. Similar to ideas developed in the Bioconductor project <https://bioconductor.org> we strive to encapsulate data in easy to use S4 objects.
If original data is provided in a text file, the resulting S4 object contains all information from that text file. But the information is somehow structured (header, footer, etc).
Further the classes provide methods to make a subset for selected calendar years or selected regions. The resulting subset objects still contain the original header and footer information.

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URL https://github.molgen.mpg.de/walke/eoR

Encoding UTF-8

Depends R (>= 3.2.0)

Imports methods, data.table

LazyData no

RoxygenNote 6.1.1

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`EX1-class` *EX1 class for HMD eposure files 1x1*

Description

The class `EX1` stores HMD exposure information in a systematic way.

The `header`-method gets the raw header information of an EX1 object

The `ex1`-method gets the exposure information of an EX1 object

The `content`-method gets the exposure table information of an EX1 object

The `region`-method gets the regional information of an EX1 object

The `protocol`-method gets the protocol information of an EX1 object

The `Exposure1`-constructor creates an EX1 object

The `length`-method gets the number of rows int the EX1 ex1 data.table

The `selectYears`-method gets a subset of an EX1 object

The `readEX1x1`-method reads all information from the file 1x1 exposure table

Usage

```
## S4 method for signature 'EX1'
header(object)

## S4 method for signature 'EX1'
ex1(object)

## S4 method for signature 'EX1'
content(object)

## S4 method for signature 'EX1'
region(object)

## S4 method for signature 'EX1'
protocol(object)

Exposure1(header, ex1, content, region, protocol)
```

```
## S4 method for signature 'EX1'
length(x)

## S4 method for signature 'EX1'
show(object)

## S4 method for signature 'EX1'
selectYears(object, selectYears)

readEX1x1(infile)
```

Arguments

`object`	EX1-object
`header`	vector
`ex1`	data.table
`content`	character
`region`	character
`protocol`	character
`x`	EX1-object
`selectYears`	vector
`infile`	character file name

Details

This `EX1` class fits to Human Mortality Database (HMD) 1x1 period exposure tables. See https://www.mortality.org/ for data details. An EX1 instance stores the raw header, the content, the version protocol and regional information and the exposure table as a data.table object. The validation adds a pure numeric age AgeLow to the exposure table. Try demo(EX1) for a demonstration.

Value

The `header`-method returns the raw header information

The `ex1`-method returns the exposure table

The `content`-method returns the content information

The `region`-method returns the regional information

The `protocol`-method returns the protocol information

The `Exposure1`-constructor returns an EX1 object

The `length`-method returns the number of rows

The `selectYears`-method returns an EX1 object

The `readEX1x1`-method returns an EX1 object

Slots

`content`	describes the content
`region`	regional entity
`header`	includes the raw header information
`ex1`	stores the exposure table (data.table)
`protocol`	contains the protocol information

Examples

```
e1 <- readEX1x1(file.path(system.file(package="eoR"), "extdata", "DEUTNP.Exposures_1x1m.txt"))
header(e1)
ex1(e1)[, table(Year)]
```

`header` *AllGenerics*

Description

The `header`-method gets the header of an object

The `footer`-method gets the footer of an object

The `content`-method gets the content of an object

The `region`-method gets the region of an object

The `protocol`-method gets the protocol of an object

The `selectYears`-method gets a subset of an object

The `selectRegion`-method gets a subset of an object

The `lt1`-method gets the life table lt1 of an LT1 object

The `ex1`-method gets the exposure table ex1 of an EX1 object

The `rd1`-method gets the regional death count table rd1 of an RD1 object

The `rd1total`-method gets the total sum death count table rd1total of an RD1 object

The `re1`-method gets the regional exposure table re1 of an RE1 object

The `re1total`-method gets the regional total sum exposure table re1total of an RE1 object

Usage

```
header(object)

footer(object)

content(object)

region(object)
```

```
protocol(object)

selectYears(object, selectYears)

selectRegion(object, selectRegion)

lt1(object)

ex1(object)

rd1(object)

rd1total(object)

re1(object)

re1total(object)
```

Arguments

`object`	object
`selectYears`	vector of integer
`selectRegion`	vector of character

Value

The `header`-method returns the header of an object

The `footer`-method returns the footer of an object

The `content`-method returns the content of an object

The `region`-method returns the region of an object

The `protocol`-method returns the protocol of an object

The `selectYears`-method returns a subset of an object

The `selectRegion`-method returns a subset of an object

The `lt1`-method returns the life table lt1 of an LT1 object

The `ex1`-method returns the exposure table ex1 of an EX1 object

The `rd1`-method returns the regional death count table rd1 of an RD1 object

The `rd1`-method returns the total sum death count table rd1total of an RD1 object

The `er1`-method returns the regional exposure table re1 of an RE1 object

The `er1total`-method returns the regional total sum exposure table re1total of an RE1 object

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`LT1-class` *LT1 class for HMD life-tables 1x1*

Description

The class `LT1` stores HMD life table information in a systematic way.

The `header`-method gets the raw header information of an LT1 object

The `lt1`-method gets the life table information of an LT1 object

The `content`-method gets the life table information of an LT1 object

The `region`-method gets the regional information of an LT1 object

The `protocol`-method gets the protocol information of an LT1 object

The `LTable1`-constructor creates an LT1 object

The `length`-method gets the number of rows int the LT1 lt1 data.table

The `selectYears`-method gets a subset of an LT1 object

The `readLT1x1`-method reads all information from the file 1x1 period life table

Usage

```
## S4 method for signature 'LT1'
header(object)

## S4 method for signature 'LT1'
lt1(object)

## S4 method for signature 'LT1'
content(object)

## S4 method for signature 'LT1'
region(object)

## S4 method for signature 'LT1'
protocol(object)

LTable1(header, lt1, content, region, protocol)

## S4 method for signature 'LT1'
length(x)

## S4 method for signature 'LT1'
show(object)

## S4 method for signature 'LT1'
selectYears(object, selectYears)

readLT1x1(infile)
```

Arguments

`object`	LT1-object
`header`	vector
`lt1`	data.table
`content`	character
`region`	character
`protocol`	character
`x`	LT1-object
`selectYears`	vector
`infile`	character file name

Details

This `LT1` class fits to Human Mortality Database (HMD) 1x1 period life tables. See https://www.mortality.org/ for data details. An LT1 instance stores the raw header, the content, the version protocol and regional information and the life table as a data.table object. The validation adds a pure numeric age AgeLow to the life table. Try demo(LT1) for a demonstration.

Value

The `header`-method returns the raw header information

The `lt1`-method returns the life-table

The `content`-method returns the content information

The `region`-method returns the regional information

The `protocol`-method returns the protocol information

The `LTable1`-constructor returns an LT1 object

The `length`-method returns the number of rows

The `selectYears`-method returns an LT1 object

The `readLT1x1`-method returns an LT1 object

Slots

`content` describes the content

`region` regional entity

`header` includes the raw header information

`lt1` stores the life table (data.table)

`protocol` contains the protocol information

Examples

```
o1 <- readLT1x1(file.path(system.file(package="eoR"), "extdata", "DEUTNP.fltper_1x1m.txt"))
header(o1)
lt1(o1)[, table(Year)]
```

`RD1-class` *RD1 class for 'GENESIS-Tabelle: 12613-02-02-4'*

Description

The class `RD1` stores GENESIS table information in a systematic way.

The `header`-method gets the raw header information of an RD1 object

The `footer`-method gets the raw footer information of an RD1 object

The `rd1`-method gets the death count table information of an RD1 object

The `rd1total`-method gets the death count total sums table information of an RD1 object

The `content`-method gets the death count table information of an RD1 object

The `region`-method gets the regional information of an RD1 object

The `protocol`-method gets the protocol information of an RD1 object

The `RegDeath1`-constructor creates an RD1 object

The `length`-method gets the number of rows int the RD1 rd1 data.table

The `selectYears`-method gets a subset of an RD1 object

The `selectRegion`-method gets a subset of an RD1 object

The `readRegDeath`-method reads all information from 'GENESIS-Tabelle: 12613-02-02-4'

Usage

```
## S4 method for signature 'RD1'
header(object)

## S4 method for signature 'RD1'
footer(object)

## S4 method for signature 'RD1'
rd1(object)

## S4 method for signature 'RD1'
rd1total(object)

## S4 method for signature 'RD1'
content(object)

## S4 method for signature 'RD1'
region(object)

## S4 method for signature 'RD1'
protocol(object)

RegDeath1(header, footer, rd1, rd1total, content, region, protocol)
```

```
## S4 method for signature 'RD1'
length(x)

## S4 method for signature 'RD1'
show(object)

## S4 method for signature 'RD1'
selectYears(object, selectYears)

## S4 method for signature 'RD1'
selectRegion(object, selectRegion)

readRegDeath(infile)
```

Arguments

`object`	RD1-object
`header`	vector
`footer`	vector
`rd1`	data.table
`rd1total`	data.table
`content`	character
`region`	character
`protocol`	character
`x`	RD1-object
`selectYears`	vector
`selectRegion`	vector
`infile`	character file name

Details

This `RD1` class fits to the GENESIS table 12613-02-02-4. See https://www.regionalstatistik.de/genesis/online for data details. An RD1 instance stores the raw header, the raw footer, the content, the version protocol and regional information and the death count information as a data.table object. Further it stores a second data.table with the total sums information. Try demo(RD1) for a demonstration.

Value

The `header`-method returns the raw header information

The `footer`-method returns the raw footer information

The `rd1`-method returns the death count table

The `rd1total`-method returns the death count total sums table

The `content`-method returns the content information

The `region`-method returns the regional information

The `protocol`-method returns the protocol information

The `RegDeath1`-constructor returns an RD1 object

The `length`-method returns the number of rows

The `selectYears`-method returns an RD1 object

The `selectRegion`-method returns an RD1 object

The `readRegDeath`-method returns an RD1 object

Slots

`content`	describes the content
`region`	regional entity
`header`	includes the raw header information
`footer`	includes the raw footer information
`rd1`	stores the death count table (data.table)
`rd1total`	stores the death count total sums table (data.table)
`protocol`	contains the protocol information

Examples

```
d1 <- readRegDeath(file.path(system.file(package="eoR"), "extdata", "12613-02-02-4m.csv"))
header(d1)
footer(d1)
rd1(d1)[, table(Year)]
```

`RE1-class` *RE1 class for 'GENESIS-Tabelle: 12411-03-03-4'*

Description

The class `RE1` stores GENESIS table information in a systematic way.

The `header`-method gets the raw header information of an RE1 object

The `footer`-method gets the raw footer information of an RE1 object

The `re1`-method gets the exposure table information of an RE1 object

The `re1total`-method gets the exposure total sums table information of an RE1 object

The `content`-method gets the exposure table information of an RE1 object

The `region`-method gets the regional information of an RE1 object

The `protocol`-method gets the protocol information of an RE1 object

The `RegExp1`-constructor creates an RE1 object

The `length`-method gets the number of rows int the RE1 re1 data.table

The `selectYears`-method gets a subset of an RE1 object

The `selectRegion`-method gets a subset of an RE1 object

The `readRegExp`-method reads all information from 'GENESIS-Tabelle: 12411-03-03-4'

Usage

```
## S4 method for signature 'RE1'
header(object)

## S4 method for signature 'RE1'
footer(object)

## S4 method for signature 'RE1'
re1(object)

## S4 method for signature 'RE1'
re1total(object)

## S4 method for signature 'RE1'
content(object)

## S4 method for signature 'RE1'
region(object)

## S4 method for signature 'RE1'
protocol(object)

RegExp1(header, footer, re1, re1total, content, region, protocol)

## S4 method for signature 'RE1'
length(x)

## S4 method for signature 'RE1'
show(object)

## S4 method for signature 'RE1'
selectYears(object, selectYears)

## S4 method for signature 'RE1'
selectRegion(object, selectRegion)

readRegExp(infile)
```

Arguments

`object`	RE1-object
`header`	vector
`footer`	vector
`re1`	data.table
`re1total`	data.table
`content`	character
`region`	character

`protocol`	character
`x`	RE1-object
`selectYears`	vector
`selectRegion`	vector
`infile`	character file name

Details

This `RE1` class fits to the GENESIS table 12411-03-03-4. See https://www.regionalstatistik.de/genesis/online for data details. An RE1 instance stores the raw header, the raw footer, the content, the version protocol and regional information and the exposure information as a data.table object. Further it stores a second data.table with the total sums information. Try demo(RE1) for a demonstration.

Value

The `header`-method returns the raw header information

The `footer`-method returns the raw footer information

The `re1`-method returns the exposure table

The `re1total`-method returns the exposure total sums table

The `content`-method returns the content information

The `region`-method returns the regional information

The `protocol`-method returns the protocol information

The `RegExp1`-constructor returns an RE1 object

The `length`-method returns the number of rows

The `selectYears`-method returns an RE1 object

The `selectRegion`-method returns an RE1 object

The `readRegExp`-method returns an RE1 object

Slots

`content`	describes the content
`region`	regional entity
`header`	includes the raw header information
`footer`	includes the raw footer information
`re1`	stores the exposure table (data.table)
`re1total`	stores the exposure total sums table (data.table)
`protocol`	contains the protocol information

Examples

```
r1 <- readRegExp(file.path(system.file(package="eoR"), "extdata", "12411-03-03-4m.csv"))
header(r1)
footer(r1)
re1(r1)[, table(Year)]
```

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