Package 'NHANES.RAW80Hz'

Title 2011-2014 NHANES and 2012 NNYFS 80 Hz Physical Activity Monitor
Data

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Description Download, extract, compress 2011-
2014 NHANES and 2012 NNYFS 80 Hz Physical Activity Monitor Data.

Imports stats, utils, foreign

License GPL-2

NeedsCompilation no

R topics documented:

NHANES.RAW80Hz-package

NCI 2011-2014 NHANES and 2012 NNYFS data

Description

Download, extract, compress the 2011-2014 NHANES and 2012 NNYFS raw 80 Hz physical activity monitor (accelerometer) data and other data files.

Details

This package is to be used with the 2011-2014 NHANES and 2012 NNYFS raw 80 Hz physical activity monitor data. This data is publicly available and can be accessed from the websites below.

NHANES 2011-2012
https://wwwn.cdc.gov/Nchs/Nhanes/Search/DataPage.aspx?Component=Examination&CycleBeginYear=2011

NHANES 2013-2014
https://wwwn.cdc.gov/Nchs/Nhanes/Search/DataPage.aspx?Component=Examination&CycleBeginYear=2013

NNYFS 2012
https://wwwn.cdc.gov/Nchs/Nhanes/Search/NnyfsData.aspx?Component=Examination&CycleBeginYear=2012

The raw accelerometer data can be downloaded using the downloadAcclRawData80Hz function. Other data files can be downloaded using the downloadFiles or downloadAndReadFile functions. Examples of using these functions are provided in the examples section of the documentation for each function.

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downloadAcclRawData80Hz

Raw Physical Activity Monitor (Accelerometer) Data

Description

Download and extract the 2011-2014 NHANES and 2012 NNYFS raw accelerometer data.

Usage

```
downloadAcclRawData80Hz(destDir, data="NNYFS", subject.seqn="72102", extract=TRUE,
                        compress=TRUE, zipcmd=NULL, checkForFiles=TRUE,
                        delete.bz2=TRUE, DEBUG=FALSE)
```

Arguments

destDir	Destination folder to download the data. Within destDir, a folder will be created with the name of the data, and a separate folder for each subject will be created within data.
data	Name of the data to download **(see details)**. It must be one of "2011-12", "2013-14", or "NNYFS". The default is "NNYFS".
subject.seqn	NULL or a vector of SEQN ids to download. SEQN ids for a particular data can be obtained by calling the function getSEQNids. This vector can be numeric or character. The default is subject "72102".
extract	TRUE or FALSE to extract the data after it is downloaded. The default is TRUE
compress	TRUE or FALSE to compress the data after it is extracted. The default is FALSE.

checkForFiles	TRUE or FALSE to check for the necessary files existing before downloading, extracting, or compressing. If TRUE, then the program will attempt to continue where it left off if a problem occurred from a previous call. If FALSE, then the program will start from the beginning. The default is TRUE.
delete.bz2	TRUE or FALSE to delete the downloaded .bz2 files when they are no longer needed. The default is TRUE.
zipcmd	The complete path or command to the 7-zip software. This must be specified for Windows. The 7-zip software is the free version of WinZip, and is used for extracting and compressing files on Windows. The default is NULL.
DEBUG	TRUE or FALSE. The default is FALSE.

Details

********** WARNING **********

The raw accelerometer data is **MASSIVE** in size, so care must be taken when downloading and extracting. The compressed sizes are:

Data	Size
2011-12	**1.04 TB**
2013-14	**1.17 TB**
NNYFS	**245 GB**

The uncompressed data will be about 12 times larger than the compressed data.

The default values of this function are set to prevent users from accidentally downloading a large amount of data.

The raw data is partitioned by subject (SEQN) and is stored in .tar.bz2 files. Each .tar.bz2 file contains several csv files, where each csv file is for a particular day.

This package has been tested on Unix and Windows operating systems.

Value

A list containing the SEQN ids for subjects without accelerometer data (missing.data) and the SEQN ids for subjects where an error occurred when downloading that subject's data (error.download).

See Also

getSEQNids, downloadFiles

Examples

```
destDir <- "/data/user/NHANES_data/"

## Not run:
  downloadAcclRawData80Hz(destDir)

## End(Not run)
```

downloadAndReadFile   *Download a file into a data frame*

Description

Download a single (non-raw) data file and return a data frame containing the data

Usage

```
downloadAndReadFile(data, file, delete=TRUE)
```

Arguments

data	One of "2011-12", "2013-14", or "NNYFS".
file	A single file to download and read. It must be a string from the `Name` or `File` column in the returned data frame from [getDataFileInfo](#).
delete	TRUE or FALSE to delete the downloaded file after it is read into a data frame. The default is TRUE.

Details

This function will not download the (large) raw accelerometer data. For that, the function [downloadAcclRawData80Hz](#) must be used. The file will be downloaded to the working directory ([getwd](#)).

Value

A data frame containing the data.

See Also

[getDataFileInfo](#), [downloadFiles](#)

Examples

```
## Not run:
  data1 <- downloadAndReadFile("2011-12", "Tuberculosis")
  data1[1:5, ]
  data2 <- downloadAndReadFile("2013-14", "DXXFRX_H")
  data2[1:5, ]

## End(Not run)
```

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downloadFiles   *Download files*

Description

Download (non-raw) data files and save them as a different file type.

Usage

```
downloadFiles(destDir, data, files=NULL, save.type="csv")
```

Arguments

destDir	Destination folder to download the files.
data	One of "2011-12", "2013-14", or "NNYFS".
files	Character vector of files to download. They must be strings from the Name or File columns in the returned data frame from getDataFileInfo. The default is NULL so that all files except the raw accelerometer data will be downloaded.
save.type	One of "xpt", "csv", or "rda", where "xpt" denotes a SAS transport file, "csv" denotes a comma separated file, and "rda" denotes an R object file that is saved using the save function and must be loaded using the load function. The default is "csv".

Details

The file names of the saved data will be prefixed with data and contain the value of the File column in the data frame from getDataFileInfo.

This function will not download the (large) raw accelerometer data. For that, the function downloadAcclRawData80Hz must be used.

Value

NULL

See Also

getDataFileInfo, downloadAcclRawData80Hz, downloadAndReadFile

Examples

```
data <- "NNYFS"

# Look up all possible files to download
x <- getDataFileInfo(data)
x[, 1:2]

# Download files "Cardiovascular Fitness", and "Plank" (rows 3 and 11 of above data frame)
files   <- c("Cardiovascular Fitness", "Y_PLX")
destDir <- "./"
## Not run:
  downloadFiles(destDir, data, files=files)
```

```
## End(Not run)
```

getDataFileInfo   *File Information*

Description

Get a data frame of information for available files to download

Usage

```
  getDataFileInfo(data, type=NULL)
```

Arguments

data	One of "2011-12", "2013-14", or "NNYFS".
type	NULL or a vector containing any of "Demographics", "Dietary", "Examination", "Laboratory", or "Questionnaire", where the strings are not case-sensitive and only the first two characters are matched. The default is NULL, so that information for all types will be returned.

Details

Information contained in the returned data frame can be used in the [downloadFiles](#) function.

Value

Data frame of information for the available files.

See Also

[downloadFiles](#), [downloadAndReadFile](#)

Examples

```
  x <- getDataFileInfo("2011-12")
  x[1:5, ]
```

getSEQNids *SEQN subject ids*

Description

Get the SEQN subject ids for subjects with accelerometer data.

Usage

```
getSEQNids(data)
```

Arguments

data   One of "2011-12", "2013-14", or "NNYFS".

Value

Vector containing the SEQN ids of the subjects.

See Also

[downloadAcclRawData80Hz](#)

Examples

```
ids <- getSEQNids("2011-12")
ids[1:10]
```

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