Package ‘hetu’

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R topics documented:

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Description
A function that checks whether a bid (Finnish Business ID) is valid. Returns TRUE or FALSE.

Usage
bid_ctrl(bid)

Arguments
bid a vector of 1 or more business identity numbers

Examples
bid_ctrl(c("0737546-2", "1572860-0")) # TRUE TRUE
bid_ctrl("0737546-1") # FALSE

Description
Extract information from Finnish personal identification numbers (hetu).

Usage
hetu(pin, extract = NULL, allow.temp = FALSE, diagnostic = FALSE)
hetu

Arguments

pin   Finnish personal identification number as a character vector, or vector of identification numbers as a character vectors
extract   Extract only selected part of the information. Valid values are "hetu", "sex", "p.num", "checksum", "date", "day", "month", "year", "century", "is.temp". If NULL (default), returns all information.
allow.temp   Allow artificial or temporary PINs (personal numbers 900-999). If FALSE (default), only PINs intended for official use (personal numbers 002-899) are allowed.
diagnostic   Print additional information about possible problems in PINs. The checks are "invalid.p.num", "invalid.checksum", "incorrect.checksum" "invalid.date", "invalid.day", "invalid.month", "invalid.length", "invalid.century". Default is FALSE which returns no diagnostic information.

Value

Finnish personal identification number data.frame, or if extract parameter is set, the requested part of the information as a vector. Returns an error or NA if the given character vector is not a valid Finnish personal identification number.

hetu   Finnish personal identification number as a character vector. A correct pin should be in the form DDMMYYCZZZQ, where DDMMYY stands for date, C for century sign, ZZZ for personal number and Q for checksum character.
sex   sex of the person as a character vector ("Male" or "Female").
p.num   Personal number part of the identification number.
checksum   Checksum for the personal identification number.
date   Birthdate.
day   Day of the birthdate.
month   Month of the birthdate.
year   Year of the birthdate.
century   Century character of the birthdate: + (1800), - (1900) or A (2000).
is.temp   Is the personal identification number an artificial number intended for temporary use: (TRUE or FALSE)

Author(s)

Pyry Kantanen, Jussi Paananen

See Also

pin_ctrl For validating Finnish personal identification numbers.
Examples

hetu("111111-111C")
hetu("111111-111C")$date
hetu("111111-111C")$sex
# Same as previous, but using extract argument
hetu("111111-111C", extract="sex")

# Process a vector of hetu's
hetu(c("010101-0101", "111111-111C"))

# Process a vector of hetu's and extract sex information from each
hetu(c("010101-0101", "111111-111C"), extract="sex")

diagnosis_example <- c("010101-0102", "111111-111Q",
"010101B0101", "320101-0101", "011301-0101",
"010101-01010", "010101-0011")
## Print all diagnoses
hetu_diagnostic(diagnosis_example)
# Extract century-related checks
pin_age

hetu_diagnostic(diagnosis_example, extract = "valid.century")
# Extract only rows where invalid.checksum = TRUE
hetu_diagnostic(diagnosis_example, subsetting = TRUE, extract = "valid.checksum")

diagnosis_example <- c("010101-0102", "111111-111Q", "010101B0101", "320101-0101", "011301-0101", "010101-01010", "010101-0011")
## Print all diagnoses
pin_diagnostic(diagnosis_example)

<table>
<thead>
<tr>
<th>pin_age</th>
<th>Age from ID</th>
</tr>
</thead>
</table>

Description

Calculate the age in full years for a given date.

Usage

pin_age(pin, date = Sys.Date(), timespan = "years", allow.temp = FALSE)
hetu_age(pin, date = Sys.Date(), timespan = "years", allow.temp = FALSE)

Arguments

- **pin**  
  Finnish personal identification number as a character vector, or vector of identification numbers as a character vectors
- **date**  
  Date at which age is calculated. If a vector is provided it must be of the same length as the pin argument.
- **timespan**  
  Timespan to use to calculate age. The actual timespans are:
  - years (Default)
  - months
  - weeks
  - days
- **allow.temp**  
  Allow artificial or temporary PINs (personal numbers 900-999). If FALSE (default), only PINs intended for official use (personal numbers 002-899) are allowed.

Value

Age as an integer vector.

Examples

```r
ex_pin <- c("010101-0101", "111111-111C")
pin_age(ex_pin, date = "2012-01-01")
hetu_age(ex_pin, date = "2012-01-01")
```
pin_ctrl

Finnish Personal Identification Number Validator

Description

Validate Finnish personal identification numbers (hetu).

Usage

```r
pin_ctrl(pin, allow.temp = FALSE)
hetu_ctrl(pin, allow.temp = FALSE)
```

Arguments

- `pin`  
  Finnish personal identification number as a character vector, or vector of identification numbers as a character vectors.
- `allow.temp`  
  If TRUE, temporary PINs (personal numbers 900-999) are handled similarly to regular PINs (personal numbers 002-899), meaning that otherwise valid temporary PIN will return a TRUE. Default is FALSE.

Value

Logical indicating whether the input string is a valid Finnish personal identification number.

Author(s)

Pyry Kantanen

See Also

- `hetu` For extracting information from Finnish personal identification numbers.

Examples

```r
pin_ctrl("010101-0101") # TRUE
pin_ctrl("010101-010A") # FALSE
hetu_ctrl("010101-0101") # TRUE
hetu_ctrl("010101-010A") # FALSE
```
**pin_date**  

*Get Birth date from PIN*

**Description**

Calculates the date of birth in date format.

**Usage**

```r
pin_date(pin, allow.temp = FALSE)
hetu_date(pin, allow.temp = FALSE)
```

**Arguments**

- `pin`: Finnish personal identification number as a character vector, or vector of identification numbers as a character vectors
- `allow.temp`: Allow artificial or temporary PINs (personal numbers 900-999). If FALSE (default), only PINs intended for official use (personal numbers 002-899) are allowed.

**Value**

Date of birth as a vector in date format.

**Examples**

```r
pin_date(c("010101-0101", "111111-111C"))
hetu_date(c("010101-0101", "111111-111C"))
```

**pin_sex**  

*Sex From ID*

**Description**

Extract sex from Finnish personal identification number.

**Usage**

```r
pin_sex(pin, allow.temp = TRUE)
hetu_sex(pin, allow.temp = TRUE)
```
Arguments

**pin**  
Finnish personal identification number as a character vector, or vector of identification numbers as a character vectors

**allow.temp**  
Allow artificial or temporary PINs (personal numbers 900-999). If FALSE (default), only PINs intended for official use (personal numbers 002-899) are allowed.

Value

Factor with label 'Male' and 'Female'.

Author(s)

Pyry Kantanen, Leo Lahti

See Also

hetu For general information extraction

Examples

```r
pin_sex("010101-010A")
hetu_sex("010101-010A")
```

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**rbid**  
Generate a vector of random Finnish Business ID’s (y-tunnus)

Description

A function that generates random Finnish Business ID’s, bid-numbers (Y-tunnus).

Usage

```r
rbid(n)
```

Arguments

**n**  
number of generated BID

Value

a vector of generated BID-numbers.

Examples

```r
x <- rbid(3)
bid_ctrl(x)
```
rpin

Generate a vector of random hetu

Description
A function that generates random hetu-pins.

Usage
rpin(
  n,
  start_date = as.Date("1895-01-01"),
  end_date = as.Date(Sys.Date()),
  p.male = 0.4,
  p.temp = 0
)

rhetu(
  n,
  start_date = as.Date("1895-01-01"),
  end_date = as.Date(Sys.Date()),
  p.male = 0.4,
  p.temp = 0
)

Arguments
n number of generated hetu-pins
start_date Lower limit of generated hetu dates. Default is 1895-01-01.
end_date Upper limit of generated hetu. Default is the current date.
p.male Proportion of males. Default is 0.4.
p.temp Proportion of temporary identification numbers. Default is 0.0.

Value
a vector of generated hetu-pins.

Author(s)
Pyry Kantanen, Jussi Paananen

Examples
x <- rpin(3)
hetu(x)
hetu(x, extract = "sex")
hetu(x, extract = "checksum")
x <- rhetu(3)
x
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