Package 'CheckDigit'

October 12, 2022

Title Calculate and Verify Check Digits

Version 1.0.0

Description Check digits are used like file hashes to verify that a
number has been transcribed accurately. The functions provided by this
package help to calculate and verify check digits according to various
algorithms.

License GPL (>= 3)

URL <https://fascinatingfingers.gitlab.io/checkdigit>,

<https://gitlab.com/fascinatingfingers/checkdigit>

BugReports <https://gitlab.com/fascinatingfingers/checkdigit/-/issues>

Suggests spelling, testthat

Encoding UTF-8

Language en-US

RoxygenNote 7.1.2

NeedsCompilation no

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Repository CRAN

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R topics documented:

AppendCheckDigit   *Append a check digit to a value*

Description

Append a check digit to a value

Usage

```
AppendCheckDigit(x, method)
```

Arguments

x	character vector of values requiring a check digit
method	a character value naming the check digit algorithm to use

Value

character vector similar to x but with a check digit appended to each value

Examples

```
AppendCheckDigit("1234", "Verhoeff") # 12340
```

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verhoeff   *Verhoeff algorithm implementation*

Description

The Verhoeff algorithm is appropriate for numerical data and detects all single-digit substitutions (x to y) and adjacent digit transpositions (xy to yx). In addition, the Verhoeff check digit can detect most twin errors (xx to yy), jump twin errors (xyx to zyz), jump transpositions (xyz to zyx), and phonetic errors ("sixty" to "sixteen").

Usage

```
AppendCheckDigit.Verhoeff(x)

VerifyCheckDigit.Verhoeff(x)
```

Arguments

x	character vector of values

References

Verhoeff, J. "Error Detecting Decimal Codes", Mathematical Centre Tract 29, The Mathematical Centre, Amsterdam, 1969.

VerifyCheckDigit	*Verify whether a value ends with a valid check digit*

Description

Verify whether a value ends with a valid check digit

Usage

```
VerifyCheckDigit(x, method)
```

Arguments

x   character vector of values to verify

method   a character value naming the check digit algorithm to use

Value

logical vector the same length as x

Examples

```
VerifyCheckDigit("12340", "Verhoeff")  # TRUE
VerifyCheckDigit("21340", "Verhoeff")  # FALSE
VerifyCheckDigit("13240", "Verhoeff")  # FALSE
VerifyCheckDigit("12430", "Verhoeff")  # FALSE
VerifyCheckDigit("12304", "Verhoeff")  # FALSE
```

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