Package ‘ISO11784Tools’

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Title ISO11784 PIT Tag ID Format Converters

Version 1.2.0

Description Some tools to assist with converting International Organization for Standardization (ISO) standard 11784 (ISO11784) animal ID codes between 4 recognised formats commonly displayed on Passive Integrated Transponder (PIT) tag readers.
The most common formats are 15 digit decimal, e.g., 999123456789012, and 13 character hexadecimal 'dot' format, e.g., 3E7.1CBE991A14. These are referred
to in this package as isodecimal and isodothex. The other two formats are the raw hexadecimal representation of the ISO11784 binary
structure (see <https://en.wikipedia.org/wiki/ISO_11784_and_ISO_11785>). There are two 'flavours' of this format, a left and a right variation. Which flavour
a reader happens to output depends on if the developers decided to reverse the binary number or not before converting to hexadecimal, a decision based on
the fact that the PIT tags will transmit their binary code Least Significant Bit (LSB) first, or backwards basically.

License GPL-3

Encoding UTF-8

Language en-GB

RoxygenNote 7.2.3

Imports stringr, stringi, dplyr, tibble

Suggests knitr, rmarkdown, testthat

VignetteBuilder knitr

NeedsCompilation no

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Contents

binary_to_decimal 2
binary_to_hexadecimal 3
convert_to_all 3
convert_to_iso64bitl 4
convert_to_iso64bitr 4
convert_to_isodecimal 5
convert_to_isodothex 5
decimal_to_binary 6
decimal_to_hexadecimal 6
get_iso11784_format 7
hexadecimal_to_binary 7
hexadecimal_to_decimal 8
iso64bitleft_to_isodecimal 8
iso64bitright_to_isodecimal 9
isodecimal_to_iso64bitleft 9
isodecimal_to_iso64bitright 10
isodecimal_to_isodothex 10
isodothex_to_isodecimal 11

Index **12**

`binary_to_decimal` *Binary to Decimal converter*

Description

Binary to Decimal converter

Usage

```
binary_to_decimal(bin)
```

Arguments

`bin`	A single binary number as a string - nchar(bin) <= 54

Value

A single decimal number as a string

Examples

```
binary_to_decimal('1001100')
```

binary_to_hexadecimal *Binary to Hexadecimal converter*

Description

Binary to Hexadecimal converter

Usage

```
binary_to_hexadecimal(bin)
```

Arguments

bin	A single binary number as a string

Value

A single hexadecimal number as a string

Examples

```
binary_to_hexadecimal('1001101')
```

convert_to_all *Convert a list of codes to all other formats*

Description

Convert a list of codes to all other formats

Usage

```
convert_to_all(.data)
```

Arguments

.data	A vector of character strings

Value

A tibble containing the original codes with a detected format column plus a column for each known format

Examples

```
convert_to_all(c('3DD.ABC4567890'))
```

convert_to_iso64bitl — *Convert any recognised ISO11784/5 format to Raw Hexadecimal format, animal tag bit on the Left*

Description

Convert any recognised ISO11784/5 format to Raw Hexadecimal format, animal tag bit on the Left

Usage

```
convert_to_iso64bitl(.data)
```

Arguments

`.data`	A vector of character strings

Value

A converted vector of character strings

Examples

```
convert_to_iso64bitl(c('999012345678901','3E7.02DFDC1C36','EC383BFB439F0001'))
```

convert_to_iso64bitr — *Convert any recognised ISO11784/5 format to Raw Hexadecimal format, animal tag bit on the Right*

Description

Convert any recognised ISO11784/5 format to Raw Hexadecimal format, animal tag bit on the Right

Usage

```
convert_to_iso64bitr(.data)
```

Arguments

`.data`	A vector of character strings

Value

A converted vector of character strings

Examples

```
convert_to_iso64bitr(c('999012345678901','8000F9C2DFDC1C36','3E7.02DFDC1C37'))
```

convert_to_isodecimal *Convert any recognised ISO11784/5 format to Decimal format*

Description

Convert any recognised ISO11784/5 format to Decimal format

Usage

```
convert_to_isodecimal(.data)
```

Arguments

`.data`	A vector of character strings

Value

A converted vector of character strings

Examples

```
convert_to_isodecimal(c('3E7.02DFDC1C35','8000F9C2DFDC1C36','EC383BFB439F0001'))
```

convert_to_isodothex *Convert any recognised ISO11784/5 format to Dot Hexadecimal format*

Description

Convert any recognised ISO11784/5 format to Dot Hexadecimal format

Usage

```
convert_to_isodothex(.data)
```

Arguments

`.data`	A vector of character strings

Value

A converted vector of character strings

Examples

```
convert_to_isodothex(c('999012345678901','8000F9C2DFDC1C36','EC383BFB439F0001'))
```

decimal_to_binary *Decimal to Binary converter*

Description

Decimal to Binary converter

Usage

```
decimal_to_binary(dec)
```

Arguments

dec	A single decimal number as a string

Value

A single binary number as a string

Examples

```
decimal_to_binary('1234')
```

decimal_to_hexadecimal *Decimal to Hexadecimal converter*

Description

Decimal to Hexadecimal converter

Usage

```
decimal_to_hexadecimal(dec)
```

Arguments

dec	A single decimal number as a string

Value

A single hexadecimal number as a string

Examples

```
decimal_to_hexadecimal('1234')
```

get_iso11784_format — *ISO11784 Pattern detection routine to identify (as far as possible) the input format*

Description

ISO11784 Pattern detection routine to identify (as far as possible) the input format

Usage

```
get_iso11784_format(.data)
```

Arguments

`.data`	A vector of character strings

Value

A vector of character strings, each item being one of 5 formats: c('unknown', 'isodecimal', 'isodothex','iso64bitl', 'iso64bitr')

Examples

```
get_iso11784_format(c('3DD.ABC4567890'))
```

hexadecimal_to_binary — *Hexadecimal to Binary converter This is simply a wrapper for decimal_to_binary and hexadecimal_to_decimal*

Description

Hexadecimal to Binary converter This is simply a wrapper for decimal_to_binary and hexadecimal_to_decimal

Usage

```
hexadecimal_to_binary(hex)
```

Arguments

`hex`	A single hexadecimal number as a string

Value

A single binary number as a string

Examples

```
hexadecimal_to_binary('ABC123')
```

---

hexadecimal_to_decimal

Hexadecimal to Decimal converter

Description

Hexadecimal to Decimal converter

Usage

```
hexadecimal_to_decimal(hex)
```

Arguments

hex	A single hexadecimal number as a string. Max '40000000000000'

Value

A single decimal number as a string

Examples

```
hexadecimal_to_decimal('ABC123')
```

---

iso64bitleft_to_isodecimal

ISO 11784 Raw Hexadecimal format, animal ID on the LEFT, To ISO11784 15 Digit Decimal

---

Description

ISO 11784 Raw Hexadecimal format, animal ID on the LEFT, To ISO11784 15 Digit Decimal

Usage

```
iso64bitleft_to_isodecimal(.data)
```

Arguments

.data	A vector of Raw Hexadecimal format strings.

Value

A vector of ISO11784 15 Digit Decimal format strings.

Examples

```
iso64bitleft_to_isodecimal(c('8000ABCDEF123456'))
```

---

iso64bitright_to_isodecimal

ISO 11784 Raw Hexadecimal format, animal ID on the RIGHT, To ISO11784 15 Digit Decimal

---

Description

ISO 11784 Raw Hexadecimal format, animal ID on the RIGHT, To ISO11784 15 Digit Decimal

Usage

```
iso64bitright_to_isodecimal(.data)
```

Arguments

`.data`	A vector of Raw Hexadecimal format strings.

Value

A vector of ISO11784 15 Digit Decimal format strings.

Examples

```
iso64bitright_to_isodecimal(c('ABCDEF1234560001'))
```

---

isodecimal_to_iso64bitleft

ISO11784 15 Digit Decimal format To ISO11784 Raw Hexadecimal format, animal ID on the LEFT

Description

ISO11784 15 Digit Decimal format To ISO11784 Raw Hexadecimal format, animal ID on the LEFT

Usage

```
isodecimal_to_iso64bitleft(.data)
```

Arguments

`.data`	A vector of ISO11784 15 Digit Decimal format strings.

Value

A vector of Raw Hexadecimal format strings.

Examples

```
isodecimal_to_iso64bitleft(c('989737733408912'))
```

---

isodecimal_to_iso64bitright

ISO11784 15 Digit Decimal format To ISO11784 Raw Hexadecimal format, animal ID on the RIGHT

Description

ISO11784 15 Digit Decimal format To ISO11784 Raw Hexadecimal format, animal ID on the RIGHT

Usage

```
isodecimal_to_iso64bitright(.data)
```

Arguments

`.data`	A vector of ISO11784 15 Digit Decimal format strings.

Value

A vector of Raw Hexadecimal format strings.

Examples

```
isodecimal_to_iso64bitright(c('989737733408912'))
```

---

isodecimal_to_isodothex

ISO11784 15 Digit Decimal format To ISO11784 Dot Hexadecimal

Description

ISO11784 15 Digit Decimal format To ISO11784 Dot Hexadecimal

Usage

```
isodecimal_to_isodothex(.data)
```

Arguments

`.data`	A vector of ISO11784 15 Digit Decimal format strings.

Value

A vector of Dot Hexadecimal format strings.

Examples

```
isodecimal_to_isodothex(c('989737733408912'))
```

`isodothex_to_isodecimal` *ISO 11784 Dot Hexadecimal format To ISO11784 15 Digit Decimal*

Description

ISO 11784 Dot Hexadecimal format To ISO11784 15 Digit Decimal

Usage

```
isodothex_to_isodecimal(.data)
```

Arguments

`.data`	A vector of Dot Hexadecimal format strings.

Value

A vector of ISO11784 15 Digit Decimal format strings.

Examples

```
isodothex_to_isodecimal(c('3DD.3BC4567890'))
```

Index

binary_to_decimal, 2
binary_to_hexadecimal, 3

convert_to_all, 3
convert_to_iso64bitl, 4
convert_to_iso64bitr, 4
convert_to_isodecimal, 5
convert_to_isodothex, 5

decimal_to_binary, 6
decimal_to_hexadecimal, 6

get_iso11784_format, 7

hexadecimal_to_binary, 7
hexadecimal_to_decimal, 8

iso64bitleft_to_isodecimal, 8
iso64bitright_to_isodecimal, 9
isodecimal_to_iso64bitleft, 9
isodecimal_to_iso64bitright, 10
isodecimal_to_isodothex, 10
isodothex_to_isodecimal, 11