

Package ‘decoder’

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Type Package

Title Decode Coded Variables to Plain Text and the Other Way Around

Version 1.1.13

Description Main function `decode` is used to decode coded key values to plain text. Function `code` can be used to code plain text to code if there is a 1:1 relation between the two. The concept relies on 'keyvalue' objects used for translation. There are several 'keyvalue' objects included in the areas of geographical regional codes, administrative health care unit codes, diagnosis codes and more. It is also easy to extend the use by arbitrary code sets.

License GPL-2

Depends R (>= 2.10)

Imports backports

Suggests dplyr, DT, testthat, knitr, rmarkdown, tidy, webshot

VignetteBuilder knitr

Encoding UTF-8

URL <https://www.bitbucket.com/cancercentrum/decoder>

BugReports <https://www.bitbucket.com/cancercentrum/decoder/issues>

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NeedsCompilation no

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as.key

Coerce to key or value in objects in a key-value pair

Description

Functions to check if an object is a valid key or value in a keyvalue pair, or coerce it if possible.

Usage

as.key(x)

is.key(x)

as.value(x)

is.value(x)

Arguments

x a vector

Value

as.value returns a value-object (currently the vector itself but with class "value"). as.key returns a key-object (building on value but with unique entries and as character).

as.keyvalue.list *Coerce a list to keyvalue object*

Description

x should be a list with properties described in section "Details".

Usage

```
## S3 method for class 'list'  
as.keyvalue(x, ...)
```

Arguments

x a list with properties described in the details section.
... further arguments passed to [as.keyvalue](#).

Details

- All names of the list elements should be unique.
- All elements of the list should be named.
- All keys should be unique (a key should only be mapped to one value).
- All elements of the list should be atomic vectors.

Value

The function returns an object of class keyvalue (and list).

See Also[as.keyvalue](#)**Examples**

```
ex <- list(
  fruit = c("banana", "orange", "kiwi"),
  car   = c("SAAB", "Volvo", "taxi", "truck"),
  animal = c("elefant")
)
as.keyvalue(ex)
is.keyvalue(ex)

# An invalid list (non unique names; not because of silly classification)
ex2 <- list(
  fruit = c("banana", "orange", "kiwi"),
  car   = c("SAAB", "Volvo", "taxi", "truck"),
  animal = c("elefant"),
  fruit = c("President_Obama")
)
as.keyvalue(ex2)

# An invalid list (non unique keys; kiwi appear twice)
ex3 <- list(
  fruit = c("banana", "orange", "kiwi"),
  car   = c("SAAB", "Volvo", "taxi", "truck"),
  animal = c("elefant", "kiwi")
)
as.keyvalue(ex3)
```

`code`*Decode codes to plain text (and vice versa)*

Description

Translate coded values into meaningful plain text (or reversed).

Usage

```
code(y, keyvalue, verbose = TRUE)

decode(x, ...)

## S3 method for class 'data.frame'
decode(x, ...)
```

```
## Default S3 method:
decode(x, keyvalue, extra_functions = NULL,
       exact = FALSE, ...)
```

Arguments

<code>y</code>	value to be coded (to be matched against the value element) in a keyvalue object.
<code>keyvalue</code>	either a name (as character string) of a package internal keyvalue object, or a user defined keyvalue object (see as.keyvalue).
<code>verbose</code>	(only for code) can be set to FALSE to avoid a printed message to the console if an error occur (TRUE as default).
<code>x</code>	object to decode. Either a key vector to be matched against the key column in <code>keyvalue</code> , or a <code>data.frame</code> (see section <code>decode.data.frame</code>). object.
<code>...</code>	ignored
<code>extra_functions</code>	is a list of functions (or names of functions as character vector) to be applied to the decoded data after decoding (see section "extra_functions" below).
<code>exact</code>	Should <code>x</code> have an exact match from the key? Default is FALSE. When FALSE, <code>x</code> might be transformed to fit the key (punctuation might be removed, upper case changed to lower case or vice versa and strings that are too long might be substringed). (code only accept exact matches.)

Value

- For default S3 method: A vector of the same length as `x` but with all cells decoded (or coded) to plain text (or code) as character.
- For S3 method for class 'data.frame': `Data.frame x` is returned, possibly with some extra columns (names ending in '_Beskrivning'), decoded from columns with names corresponding to attribute `standard_var_names` for keyvalue objects listed by `list_keyvalues()`.

Vignette

See the vignette for a longer introduction to the package: `vignette("decoder")`

`decode.data.frame`

If `x` is a `data.frame`, all column names of `x` are matched to attribute `standard_var_names` for all keyvalue objects in the package (see `list_keyvalues()`). If the column name is a standard name used for a coding, the corresponding keyvalue object is used to decode the column and to add an extra column to `x` with its original name with suffix `_Beskrivning`. This is done for all identified columns.

`extra_functions`

The relationship between the key and the value in a keyvalue object is either 1:1 or m:1. The mapping is straight forward for 1:1 but with m:1, different applications might require slightly different

groupings of the keys. One solution is to have several versions of the [keyvalue](#) object. Another (which we prefer) is to use the same [keyvalue](#) object (if possible) but to call one or several extra function(s) to further process the result. These functions are either built in package functions that should be called by quoted names or user defined functions that can be called by either quoted or unquoted names (if available in the current environment). Note that the order of the functions could matter since they are called in turn (the output from the first function is passed as input to the second function etc).

Standard functions and how to use them:

To use with [sjukvardsomrade](#):

`kungalv2Fyrbodal` The default classification used in [sjukvardsomrade](#) is to make Kungalv a region of its own. Use this function if Kungalv should be included in Fyrbodal. See example section below.

`kungalv2Storgoteborg` As `kungalv2Fyrbodal` but classifies Kungalv as a part of Storgoteborg.

`real_names` Give the area names with correct Swedish spelling (including spaces). This is not as default due to compatibility reasons and because names with spaces must be back-ticked when referred to.

To use with [region](#)

`short_region_names` Exclude the prefix 'Region' from the region names, hence 'Syd' instead of 'Region Syd' etcetera.

Author(s)

Erik Bulow

See Also

[keyvalue](#), [extra_functions](#)

Examples

```
KON_VALUE <- sample(1:2, 20, replace = TRUE)
(kon <- decode(KON_VALUE, "kon"))
code(kon, "kon")

# Get a sample of Snomed-codes (in the real world we obviously avoid this step) ...
snomed2 <- sample(decoder:::snomed$key, 30, replace = TRUE)
# ... then decode them:
(snomed3 <- decode(snomed2, "snomed"))

# Health care regions can be defined in more than one way
# By default Kungalv define a region of its own:
set.seed(123456789)
healthcare_areas_west <- sample(unlist(decoder:::sjukvardsomrade), 100, replace = TRUE)
(areas <- decode(healthcare_areas_west, "sjukvardsomrade"))
table(areas)
```

```

# But if we want Kungälv to be a part of Storgöteborg
# (which is common practice for example with lung cancer data):
(areas2 <- decode(healthcare_areas_west, "sjukvardsomrade", "kungälv2Storgöteborg"))
table(areas2)

# We can also combine several extra_functions if we for example
# also want the area names with correct Swedish spelling.
(areas3 <- decode(healthcare_areas_west, "sjukvardsomrade", c("kungälv2Storgöteborg", "real_names")))

# The region names can be both with and without prefix:
regs <- sample(6, 10, replace = TRUE)
decode(regs, "region") # With prefix
decode(regs, "region", "short_region_names") # without prefix

# Note that only the first four digits of the LKF-code were used above?
# What if we use the full LKF-code?
lkfs <- sample(decoder::forsamling$key, 100, replace = TRUE)
decode(lkfs, "sjukvardsomrade")
# That work's just as fine when argument exact = FALSE (which it is by default).

# decode can also be used for data.frames with recognised column names
d <- data.frame(
  kon = sample(1:2, 10, replace = TRUE),
  sex = sample(1:2, 10, replace = TRUE),
  lkf = sample(decoder::hemort$key, 10, replace = TRUE)
)
decode(d)

### --- code --- ###
# Sometimes we have keyvalue objects with some key-value pairs without a 1:1 relation.
# This is true for snomed
# Show all non 1:1 pairs:
summary(decoder::snomed)$nonunique
# Save them for later:
non_unique_snomeds <- summary(decoder::snomed)$nonunique$key

# Use these snomed codes for decoding and coding
# Decoding works fine (all keys are unique) ...
(a <- decode(non_unique_snomeds, "snomed"))
# ... but coding these values back to their key does not
## Not run:
code(a, "snomed")

## End(Not run)

```

Description

Key-value codes for the Swedish districts (introduced 2016-01-01).

See Also

<https://www.scb.se/hitta-statistik/regional-statistik-och-kartor/regionala-indelningar/distrikt/>

Other key_value_data: [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tmgrund](#)

extra_functions

Extra functions to apply to decoded variables using decode

Description

See section "extra_functions" at the [decode](#) help page!

Usage

kungalv2Storgoteborg(x)

kungalv2Fyrbodal(x)

real_names(x)

short_region_names(x)

sjukhus_rc_namn(x)

forvaltning_rc_namn(x)

Arguments

x The decoded variable to be further processed. This argument should not be set by the user. It is used only internally by the function from which it is called.

figo	<i>FIGO-stadium</i>
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Description

Key-value codes for FIGO-stadium (Tumorutbredning enl FIGO, sep 2003). Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

forsamling	<i>Forsamling (parish code)</i>
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Description

Key-value codes for the Swedish parishes (forsamlingar). All six digits in the LKF code.

forsamling

Data from SCB 2014-08-12 according to reference. Be aware of the spelling ("forsamling"). Contains 1377 key-value pairs.

References

<https://www.scb.se/hitta-statistik/regional-statistik-och-kartor/regionala-indelningar/lan-och-kommuner/>

See Also

Other key_value_data: [distrikt](#), [figo](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

hemort	<i>hemort and hemort2 codes (geographical codes)</i>
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Description

Both hemort and hemort2 combines regional codes for lan, kommun and församling. hemort is the official (but rather old) code used within RCC. hemort2 is an updated version combining [lan](#), [kommun](#) and [församling](#)

See Also

Other key_value_data: [distrikt](#), [figo](#), [församling](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

hsn	<i>HSN code (Hälsa- och sjukvårdsnämnd)</i>
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Description

Key-value codes for the HSN:s in VGR valid from 2015. Based on municipality codes ([kommun](#)). Data from 2014-12-17.

Details

Categorization:

Norra Lysekil, Munkedal, Orust, Sotenäs, Strömstad, Tanum, Bengtsfors, Dals-Ed, Färgelanda, Mellerud, Åmål, Trollhättan, Uddevalla och Vänersborg

Västra Lilla Edet, Ale, Kungälv, Stenungsund, Tjörn, Öckerö, Härryda, Mölndal, Partille, Lerum och Alingsås

Södra Herrljunga, Vårgårda, Bollebygd, Borås, Mark, Svenljunga, Tranemo och Ulricehamn

Göteborg Göteborg

Östra Essunga, Falköping, Grästorp, Götene, Lidköping, Skara, Vara, Gullspång, Hjo, Karlsborg, Mariestad, Skövde, Tibro, Tidaholm och Töreboda

See Also

Other key_value_data: [distrikt](#), [figo](#), [församling](#), [hemort](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

icd10	<i>ICD-10 code</i>
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Description

Key-value codes for ICD-10-SE 2016 (Swedish version). Includes all ICD-10-codes (not only the C- and D-codes). Data from Socialstyrelsen. Note that key codes are given without dots, i e C569, not C56.9.

References

<http://www.socialstyrelsen.se/klassificeringochkoder/laddaner/kodtextfiler#1>

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

icd7	<i>ICD-7</i>
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Description

Key-value codes for ICD-7. Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

icd7_grov	<i>ICD-7 Grov</i>
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Description

Key-value codes for just the first three digits of the ICDO-7 code. This gives broader grouping. Based on the grouping used by: <http://www.socialstyrelsen.se/statistik/statistikdatabas/cancer>

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

 icd9

ICD-9

Description

Key-value codes for ICD-9. Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

 icdo

ICD-O

Description

Key-value codes for ICD-O. Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

 icdo3

ICD-O3

Description

Key-value codes for ICD-O3. Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

icdo3_grov	<i>ICD-O3 Grov</i>
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Description

Key-value codes for just the first two digits of the ICDO-3 code. This gives broader grouping. Based on the table of contents from: <http://www.socialstyrelsen.se/Lists/Artikelkatalog/Attachments/19446/2014-5-12.pdf>

See Also

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

keyvalue	<i>Coerce to a keyvalue object</i>
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Description

Functions to check if an object is a keyvalue object, or coerce it if possible.

Usage

```
as.keyvalue(x, ...)
```

```
## S3 method for class 'data.frame'
as.keyvalue(x, standard_var_names = NULL, ...)
```

```
## Default S3 method:
as.keyvalue(x, y, ...)
```

```
is.keyvalue(x)
```

Arguments

<code>x</code>	object to test for, or coerce to, keyvalue (see the details).
<code>...</code>	arguments passed between methods
<code>standard_var_names</code>	a character vector with standard names for variables decoded with this key-values.
<code>y</code>	a value vector if <code>x</code> is an unnamed vector (argument must be named <code>'y = .'</code>)

Details

x can be of:

- a name of a package internal (or external) keyvalue object (character of length one)
- a `data.frame` with two columns "key" (with unique cells) and "value".
- a list as described in [as.keyvalue.list](#)
- a named vector with all names unique
- an unnamed vector with unique cells if supplemented by additional vector (y)

Value

`as.keyvalue` returns a `data.frame` with additional class `keyvalue` that fulfills the requirements for a keyvalue object and with the key column as character. It also has two extra attributes `standard_var_names` as described above and `keyvalue11` which is `TRUE` for keyvalue objects with a 1:1 relation between its keys and values (otherwise `FALSE`).

See Also

[as.keyvalue.list](#), [decode](#), [summary.keyvalue](#), [key_and_value](#)

Examples

```
snomed <- decoder:::snomed
snomed2 <- as.keyvalue(snomed)
is.keyvalue(snomed2)
summary(snomed2)
```

klinik

Clinic codes

Description

Key-value codes for the Swedish clinic types. Data mainly from url below (taken from the PDF). Some extra codes are added from Rockan (290, 291, 292, 446, 921 and 999 for unknown).

References

<http://www.socialstyrelsen.se/klassificeringochkoder/andrakodverk/sjukhuskoder>

See Also

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

kommun	<i>Kommun code (municipality code)</i>
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Description

Key-value codes for the Swedish municipalities (kommuner). First four digits in the LKF code. Data from 2014-08-12.

References

<https://www.scb.se/hitta-statistik/regional-statistik-och-kartor/regionala-indelningar/lan-och-kommuner/>

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

kon	<i>Gender code (kon)</i>
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Description

Key-value codes for gender (1 = man (Male) and 2 = Kvinna (female)). Be aware of the spelling ("kon")!

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

lan	<i>Lan code (county code)</i>
-----	-------------------------------

Description

Key-value codes for the Swedish counties (lan). Two first digits in the LKF code. Be aware of the spelling ("lan")!

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

m_rtr	<i>M-stadium</i>
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Description

Key-value codes for M-stadium (sep-03). Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

n_rtr	<i>N-stadium</i>
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Description

Key-value codes for N-stadium (sep-03). Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

pad	<i>PAD (C24) code</i>
-----	-----------------------

Description

Key-value codes for PAD (C24) Data from Rockan 2012-09-18.

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

pad0	<i>Pad leading zeros to character</i>
------	---------------------------------------

Description

Pad leading zeros to character

Usage

```
pad0(x, n)
```

Arguments

x	character or object that can be coerced to such
n	desired length of outcome vector

Value

Character vector of length n

patologiavdelning *Pathology department codes*

Description

Key-value codes for the Swedish "laboratories". Data is combined from two sources.

1. The official list from SOFS 2006:15 (see url below). This is the primary source for codes appearing in both sources.
2. Extra codes are also added from the old Rockan registry for historical reasons.

References

<http://www.socialstyrelsen.se/SiteCollectionDocuments/sosfs-2006-15-bilaga-5.pdf>

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

rc *Codes used by RC's kvartalen*

Description

Key-value codes for VGR hospitals and organizational units according to RC.

Function `sjukhus_rc_namn` and `forvaltning_rc_namn` (see [extra_functions](#)) can be used to translate codes into text, see examples below.

See Also

See the vignette `vignette("RC_units", "decoder")` for more details and examples (Swedish).

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

Examples

```
# From RCC hospital code to RC hospital code
decode(51012, "sjukhus_rc")

# From RCC code to RC name
decode(51012, "sjukhus_rc", "sjukhus_rc_namn")

# From RCC hospital code to RC organizational unit code
decode(51012, "forvaltning_rc")

# From RCC code to RC name
decode(51012, "forvaltning_rc", "forvaltning_rc_namn")
```

region	<i>Regional code</i>
--------	----------------------

Description

Key-value codes for the Swedish healthcare regions (1-6).

See Also

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

sida	<i>Sida</i>
------	-------------

Description

Key-value codes for sida (Sida, 1 = Hoger, 2 = Vanster, 9 = Okant). Data from Rockan (Rocen).

See Also

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

sjukhus

Hospital codes

Description

Key-value codes for Swedish hospitals and some primary health care units.

Details

Data from Rockan. Note that this is an old version of the classification! See the reference link below for the new version. The old version should be used of historical reasons. One difference is for example that the Sahlgrenska university hospital is one hospital in the new version of the classification but the Swedish regional cancer centers still classify it as three different hospitals. Note also that primary health care units did receive their own codes until 1992 (?) but not later!

References

<http://www.socialstyrelsen.se/klassificeringochkoder/andrakodverk/sjukhuskoder>

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

sjukhus_inca

Hospital codes used by INCA

Description

Codes taken from INCA's organizational register 2017-02-03.

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

sjukhus_par	<i>Hospital codes used by Socialstyrelsen and the National Patient Register</i>
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Description

Codes taken from Excel sheets 2014 from link below.

References

<http://www.socialstyrelsen.se/klassificeringochkoder/andrakodverk/sjukhuskoder>

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

sjukvardsomrade	<i>Geographical healthcare areas</i>
-----------------	--------------------------------------

Description

Key-value codes for health care areas.

Details

- Key: the first four digits from the LKF-code
- Value: A geographical area (sub area of county/lan) with special interest

The object currently only applies to the Western healthcare region

- Storgoteborg
- Fyrbodal
- Sodra_Alvsborg
- Skaraborg
- Norra_Halland

Updates for other regions needs to be requested (please do!).

Kungälv

Kungälv is an independent area by default. There are situations when Kungälv should be dealt with as an independent healthcare region or as a part of Storgoteborg. See section "extra_functions" in [decode](#) to handle this.

See Also

[extra_functions](#)

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [snomed3](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

snomed

Snomed code

Description

Key-value codes for Snomed. Data from Rockan 2012-10-05. Note tht this variable is the same as `snomed` from Rockan. It should not be confused with the later version `snomed3`!

See Also

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [t_rtr](#), [tnmgrund](#)

snomed3

Snomed 3

Description

Key-value codes for Snomed3 (fr 2005). Data from Rockan (Rocen).

See Also

Other `key_value_data`: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed](#), [t_rtr](#), [tnmgrund](#)

summary.keyvalue	<i>Object summary for keyvalue objects</i>
------------------	--

Description

Objects of type keyvalue11 are summarized as data.frames with an additional display of possible standard_var_names. Objects of type keyvalue also gives a list of non 1:1 key-value pairs.

Usage

```
## S3 method for class 'keyvalue'
summary(object, ...)
```

Arguments

object	a keyvalue object
...	ignored

Value

A list with three elements: a summary of the underlying data.frame, the standard_var_names and possibly a data.frame with all non 1:1 relations.

See Also

[keyvalue](#)

tnmgrund	<i>Grund till TNM (patologisk/klinisk)</i>
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Description

Key-value codes for TNM-grund (Grund till TNM, 1=patologisk, 2=klinisk). Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [t_rtr](#)

t_rtr	<i>T-stadium</i>
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Description

Key-value codes for T-stadium (sep 2003). Data from Rockan (Rocen).

See Also

Other key_value_data: [distrikt](#), [figo](#), [forsamling](#), [hemort](#), [hsn](#), [icd10](#), [icd7_grov](#), [icd7](#), [icd9](#), [icdo3_grov](#), [icdo3](#), [icdo](#), [klinik](#), [kommun](#), [kon](#), [lan](#), [m_rtr](#), [n_rtr](#), [pad](#), [patologiavdelning](#), [rc](#), [region](#), [sida](#), [sjukhus_inca](#), [sjukhus_par](#), [sjukhus](#), [sjukvardsomrade](#), [snomed3](#), [snomed](#), [tnmgrund](#)

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