

# Package ‘sweidnumbr’

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**Type** Package

**Title** Handling of Swedish Identity Numbers

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**Description** Structural handling of identity numbers used in the Swedish administration such as personal identity numbers ('personnummer') and organizational identity numbers ('organisationsnummer').

**VignetteBuilder** knitr

**URL** <https://github.com/MansMeg/sweidnumbr/>

**BugReports** <https://github.com/MansMeg/sweidnumbr/issues>

**License** BSD\_2\_clause + file LICENSE

**Imports** lubridate

**Suggests** testthat, knitr

**NeedsCompilation** no

**Repository** CRAN

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**R topics documented:**

as.pin . . . . .	2
is.ojn . . . . .	3
is.pin . . . . .	4
luhn_algo . . . . .	4
oin_ctrl . . . . .	5
oin_group . . . . .	6
oin_group_element . . . . .	6
pin_add_zero . . . . .	7
pin_age . . . . .	7
pin_birthplace . . . . .	8
pin_birthplace_internal . . . . .	9
pin_century . . . . .	9
pin_convert . . . . .	10
pin_coordn . . . . .	10
pin_coordn_correct . . . . .	11
pin_ctrl . . . . .	11
pin_sex . . . . .	12
pin_to_date . . . . .	13
sweidnumbr . . . . .	13

<b>Index</b>	<b>14</b>
--------------	-----------

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as.pin	<i>Parse personal identity numbers to ABS format</i>
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**Description**

Converts personal identity numbers of different formats to standard (ABS) pin format YYYYMMDDNNNC where YYYYMMDD is the date of birth, NNN is the birth number and C is the control number.

**Usage**

```
as.pin(pin)
```

**Arguments**

pin	Vector with swedish personal identity numbers in character or numeric format. See details.
-----	--

**Details**

The function converts different formats of swedish personal identity numbers to the standard ABS format. The formats that can be converted are:

- numeric: YYYYMMDDNNNC
- numeric: YYMMDDNNNC (assuming < 100 years of age)

- character: "YYYYMMDDNNNC"
- character: "YMMDD-NNNC"
- character: "YYYYMMDD-NNNC"
- character: "YMMDDNNNC" (assuming < 100 years of age)

### Value

Character vector with swedish personal identity numbers with standard ABS format "YYYYMMDDNNNC".

### References

[Population registration in Sweden SKV 704 SOU 2008:60 : Personnummer och samordningsnummer](#)

### Examples

```
# Examples taken from SKV 704 (see references)
ex_pin1 <- c("196408233234", "640823-3234", "19640823-3234")
as.pin(pin = ex_pin1)
ex_pin2 <- c("6408233234")
as.pin(ex_pin2)
ex_pin3 <- c(6408233234, 196408233234)
as.pin(ex_pin3)
ex_pin4 <- rep(c("20121209-0122", "201212090122", "121209-0122", "1212090122"), 250)
as.pin(ex_pin4)
ex_pin5 <- c("205012090122", "186512090122", "121209-0122", "121209-012A")
as.pin(pin = ex_pin5)
pin <- c("201212090122", "201212090122", "121209-0122", "1212090122")
```

---

is.oin

*Test if a character vector contains correct oin*

---

### Description

Test which elements in a text vector that contains organization identity number.

### Usage

```
is.oin(oin)
```

### Arguments

oin                      Character vector to be tested if it is an oin of the right format.

### Value

Logical vector indicating if the elements can be an organization identity number.

**Examples**

```
ex_oin <- c("556000-4615", "232100-0156", "802002-4280", "8020024280", "AA2002-4280")
is.oin(ex_oin)
```

---

is.pin	<i>Test if a vector is of class pin</i>
--------	---

---

**Description**

Test if a vector is of class pin

**Usage**

```
is.pin(pin)
```

**Arguments**

pin                    A character vector to test if it is in pin format. See [as.pin](#).

**Value**

Logical vector indicating if the elements can are of format personal identity number.

**Examples**

```
ex_pin <- c("196408233234", "AA6408323234")
is.pin(ex_pin)
```

---

luhn_algo	<i>luhn_algo</i>
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---

**Description**

Calculates the control number.

**Usage**

```
luhn_algo(id, multiplier = c(0, 0, 2, 1, 2, 1, 2, 1, 2, 1, 2, 0))
```

**Arguments**

id                    Element with swedish personal identity number.  
multiplier            What should each element in id be multiplied with

**Value**

Logical element indicating if a pin is correct (TRUE) or not (FALSE)

**References**

<https://www.skatteverket.se/download/18.8dcbbe4142d38302d74be9/1387372677724/717B06.pdf> <https://www.skatteverket.se>

---

oin_ctrl	<i>Check the control numbers for oin</i>
----------	--

---

**Description**

Calculates the control number using the Luhn algorithm and compare it with the control number in the organization identity number (oin).

**Usage**

```
oin_ctrl(oin)
```

**Arguments**

oin	Vector with swedish organization identity numbers (oin) in NNNNNN-NNNN format.
-----	--

**Value**

Logical vector indicating if a oin is correct (TRUE) or not (FALSE)

**References**

**SKV 709**

**Examples**

```
ex_oin <- c("556000-4615", "232100-0156", "802002-4280", "232100-0157", "802002-4281")
oin_ctrl(ex_oin)
```

---

oin_group	<i>Calculate organization group from oin</i>
-----------	--

---

**Description**

Calculates the organization group from the organization number.

**Usage**

```
oin_group(oin)
```

**Arguments**

oin	Vector with swedish organization identity numbers (oin) in NNNNNN-NNNN format.
-----	--

**Value**

Factor with organization categories.

**References**

[SKV 709](#)

**Examples**

```
ex_oin <- c("556000-4615", "232100-0156", "802002-4280")
oin_group(ex_oin)
```

---

oin_group_element	<i>oin_group</i>
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---

**Description**

Calculates the organization group from the organization number for one oin.

**Usage**

```
oin_group_element(one_oin)
```

**Arguments**

one_oin	Character element with oin.
---------	-----------------------------

**Value**

Character category of organisational group.

## References

<http://www.skatteverket.se/download/18.70ac421612e2a997f85800040284/1302507382017/70909.pdf>

---

pin_add_zero	<i>pin_add_zero</i>
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---

## Description

Adds zeroes in front of pin that are converted from numeric

## Usage

```
pin_add_zero(pin)
```

## Arguments

pin	Personal identity number
-----	--------------------------

## Value

Corrected pin

---

pin_age	<i>Calculate age of pin for a given date</i>
---------	--

---

## Description

Calculate the age in full years for a given date.

## Usage

```
pin_age(pin, date = Sys.Date(), timespan = "years")
```

## Arguments

date	Date at which age is calculated.
timespan	Timespan to use to calculate age. The actual timespans are: <ul style="list-style-type: none"><li>• years (Default)</li><li>• months</li><li>• weeks</li><li>• days</li></ul>
pin	A vector of class pin. See <a href="#">as.pin</a> .

**Value**

Age as an integer vector.

**References**

[SKV 704](#)

**Examples**

```
# Example with someone born today
today_pin <-
  paste(paste(unlist(strsplit(as.character(Sys.Date()), split = "-")), collapse = ""),
        "0000", sep="")
pin_age(today_pin)

# Examples taken from SKV 704 (see references)
ex_pin <- c("196408233234", "186408833224")
pin_age(ex_pin, date = "2012-01-01")
```

---

pin\_birthplace

*Calculate the birthplace of pin*

---

**Description**

Calculate the birthplace for a given personal identity number born before 1990. See details.

**Usage**

```
pin_birthplace(pin)
```

**Arguments**

pin                    A vector of class pin. See [as.pin](#).

**Details**

It is possible to calculate where people were born (and/or if a person has immigrated) through their personal identity number. This is possible for people that was born before 1990 and after 1945.

For people born before 1946 the birthplace identifier contains information on where one where registered the 1st of november 1946.

Personal identity numbers for people born after 1989 do not contain any information on birthplace.

During the period 1946 - 1989 the pin also contains information on whether one has immigrated to Sweden during the period.

**Value**

Birthplace as factor.



**References**

[SOU 2008:60 : Personnummer och samordningsnummer](#)

**Examples**

```
# Example with someone born today and from SKV 704 (see references)
today_pin <-
  paste(paste(unlist(strsplit(as.character(Sys.Date()),split = "-")), collapse = ""),
        "0000",sep="")
ex_pin <- c("196408233234", today_pin)
pin_birthplace(ex_pin)
```

---

```
pin_birthplace_internal
      pin_birthplace_internal
```

---

**Description**

Internal computation of birthplace (one for each pin)

**Usage**

```
pin_birthplace_internal(pin, birth_vector)
```

**Arguments**

`pin` Character element with pin at standard format 'YYYYMMDDNNNC'. See [as.pin](#).  
`birth_vector` Vector mapping birth number to birthplace. See [pin\\_birthplace](#).

**Value**

Character element containing birthplace

---

```
pin_century      pin_century
```

---

**Description**

Assuming that the person is less than 100 years old, calculate the century of birth.

**Usage**

```
pin_century(pin_short)
```

**Arguments**

pin\_short      Vector with swedish personal identity numbers on standard format.

**Value**

Century vector in numeric format

---

pin_convert	<i>pin_convert</i>
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---

**Description**

Converts one pin to standard format

**Usage**

```
pin_convert(pin, format)
```

**Arguments**

pin              A character element of length one.  
format            Which format should be converted. See [as.pin](#).

**Value**

Character element on standard format.

---

pin_coordn	<i>Check if pin is a coordination number</i>
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---

**Description**

Calculate if the personal identity number is a coordination number.

**Usage**

```
pin_coordn(pin)
```

**Arguments**

pin              A vector of class pin. See [as.pin](#).

**Value**

Logical vector indicating if the pin is a coordination number (TRUE) or pin (FALSE).

**References**

Population registration in Sweden SKV 704 SOU 2008:60 : Personnummer och samordningsnummer

**Examples**

```
# Examples taken from SKV 704 (see references)
ex_pin <- c("196408233234", "196408833224")
pin_coordn(ex_pin)
```

---

*pin\_coordn\_correct*      *pin\_coordn\_correct*

---

**Description**

Remove the change of day in coordination numbers (to enable age calculation).

**Usage**

```
pin_coordn_correct(pin)
```

**Arguments**

*pin*                      Vector of pins at format atandard fromat 'YYYYMMDDNNNC'. See [as.pin](#).

**Value**

Character vector with *pin*, corrected for coordination numbers.

---

*pin\_ctrl*                      *Check control number from pin*

---

**Description**

Calculates the control number using the Luhn algorithm and compare it with the control number in the personal identity number.

**Usage**

```
pin_ctrl(pin)
```

**Arguments**

*pin*                      A vector of class *pin*. See [as.pin](#).

**Value**

Logical vector indicating if a pin is correct (TRUE) or not (FALSE)

**References**

Population registration in Sweden SKV 704 SOU 2008:60 : Personnummer och samordningsnummer

**Examples**

```
# Examples taken from SKV 704 (see references)
ex_pin <- c("196408233234", "196408233235")
pin_ctrl(ex_pin)
```

---

pin\_sex

*Calculate sex from pin*

---

**Description**

Calculates the sex from the personal identification number.

**Usage**

```
pin_sex(pin)
```

**Arguments**

pin                    A vector of class pin. See [as.pin](#).

**Value**

Factor with label 'Male' and 'Female'.

**References**

Population registration in Sweden SKV 704 SOU 2008:60 : Personnummer och samordningsnummer

**Examples**

```
# Examples taken from SKV 704 (see references)
ex_pin <- c("196408233234", "186408233224")
pin_sex(ex_pin)
```

---

pin_to_date	<i>Calculate the date of birth from a pin</i>
-------------	---

---

**Description**

Calculates the date of birth in date format.

**Usage**

```
pin_to_date(pin)
```

**Arguments**

pin                   A vector of class pin. See [as.pin](#).

**Value**

Date of birth as a vector in date format.

**Examples**

```
# Examples taken from SKV 704 (see references)
ex_pin <- c("196408233234", "186408833224")
pin_to_date(ex_pin)
```

---

sweidnumbr	<i>sweidnumbr</i>
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**Description**

Handling of swedish identity numbers. For a quick tutorial see vignette("sweidnumbr"). For more information see <https://github.com/MansMeg/sweidnumbr>.

# Index

[as.pin](#), [2](#), [4](#), [7-13](#)

[is.oin](#), [3](#)

[is.pin](#), [4](#)

[luhn\\_algo](#), [4](#)

[oin\\_ctrl](#), [5](#)

[oin\\_group](#), [6](#)

[oin\\_group\\_element](#), [6](#)

[pin\\_add\\_zero](#), [7](#)

[pin\\_age](#), [7](#)

[pin\\_birthplace](#), [8](#), [9](#)

[pin\\_birthplace\\_internal](#), [9](#)

[pin\\_century](#), [9](#)

[pin\\_convert](#), [10](#)

[pin\\_coordn](#), [10](#)

[pin\\_coordn\\_correct](#), [11](#)

[pin\\_ctrl](#), [11](#)

[pin\\_sex](#), [12](#)

[pin\\_to\\_date](#), [13](#)

[sweidnumbr](#), [13](#)

[sweidnumbr-package \(sweidnumbr\)](#), [13](#)