

# Package ‘english’

March 16, 2017

**Type** Package

**Title** Translate Integers into English

**Version** 1.1-2

**Date** 2017-03-16

**Author** John Fox, Bill Venables and Anthony Damico

**Maintainer** Bill Venables <Bill.Venables@gmail.com>

**Description** Allow numbers to be presented in an English language version, one, two, three, ...

**Suggests** utils

**License** GPL-2

**LazyLoad** yes

**NeedsCompilation** no

**Repository** CRAN

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english-package      *English*

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## Description

A simple facility to provide an english language representation of integer vectors.

## Details

Package:    english  
Type:        Package  
Version:    1.1-2  
Date:        2017-03-16  
License:    GPL-2  
LazyLoad:   yes

In answer to a question on R-help John Fox provided an elegant R function to translate integers into English numbers. The present package extends this code to an S3 class, with constructor functions and methods to make this original idea more conveniently available.

The function `as.english` is intended to provide a parallel facility to the function `as.roman` in the `utils` package.

The main purpose of the package is to present an interesting programming example rather than to solve a likely real problem, though there could well be some applications in unusual contexts.

## Author(s)

John Fox and Bill Venables with additional ideas and code from Anthony Damico.

Maintainer: Bill Venables, <Bill.Venables@gmail.com>

## References

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

## See Also

[as.roman](#).

## Examples

```
english(1:10)^2 + 1:10
(x <- english(sample(1:100, 10)))
sort(x)
toupper(english(1:10))
## For mothers of small children:
cat(paste("This is the", ordinal(1:5), "time I've told you!"), sep = "\n")
```

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as.character.english *Integers into English*

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## Description

Translates integer vectors into character strings representing their expression in the English language.

## Usage

```
## S3 method for class 'english'  
as.character(x, ...)
```

## Arguments

x	A numeric vector of class english.
...	Currently unused.

## Details

Uses a recursive algorithm to translate numbers into their expression in English.

## Value

A character string vector

## Author(s)

John Fox, with minor extensions by Bill Venables.

## References

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

## See Also

[english](#), [as.english](#), [print.english](#).

## Examples

```
one0one <- english(101, UK = FALSE)  
as.character(one0one)  
as.character(as.english(one0one, UK = TRUE))  
as.character(one0one + 1:10)
```

as.english

*Generic functions and methods for S3 class english***Description**

The functions `as.english` and `english` are fully equivalent generic constructor functions for the S3 class `english`, which allows numeric objects to be represented in the form of their customary English expression.

**Usage**

```
as.english(x, ...)
english(x, ...)
## Default S3 method:
english(x, ...)
## S3 method for class 'numeric'
english(x, UK, ...)
## S3 method for class 'english'
english(x, UK, ...)
## S3 method for class 'english'
x[i]
## S3 method for class 'english'
rep(x, ...)
## S3 method for class 'english'
format(x, ...)
```

**Arguments**

<code>x</code>	Any numeric object. If the components are not integers, they are rounded. In the case of <code>english.default</code> this may be an object of any class, but will always result in an error.
<code>UK</code>	A logical flag, should English-style numbers be given (TRUE) or American style (FALSE)? If missing, a default value is chosen as TRUE unless the locale in use is guessed to be an English locale of the USA.
<code>...</code>	For <code>rep</code> , and <code>format</code> arguments passed on to other methods. Ignored in all other cases.
<code>i</code>	Any allowable form of index vector.

**Details**

The function `english` is a generic constructor function for objects of class `english`. The methods either mark the object as having the appropriate class, or, in the case of `english.default`, result in an error message. The function `as.english` is provided as a corresponding function to `as.roman` in the `utils` package. The method `english.english` simply allows the constructor function to act as a coercion and to have no effect on objects already of the class.

**Value**

An object of class english, if possible, or an error message if not.

**Author(s)**

John Fox and Bill Venables

**References**

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

**See Also**

[as.character.english](#), [print.english](#).

**Examples**

```
english(1010, UK = FALSE)
english(1010, UK = TRUE)
## The default UK setting will depend on the locale:
cat("\n", ifelse(grepl("^(en_us|english_united)",
  tolower(Sys.getlocale("LC_CTYPE"))), "USA", "UK"),
  "English is your default\n")
english(101)      ## UK not given: deduced from locale
as.english(10001001) + (-5):5
```

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as.numeric.english	<i>Convert an english object back to class numeric</i>
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**Description**

This a convenience function that simply removes the S3 class attribute from and object of class english.

**Usage**

```
## S3 method for class 'english'
as.numeric(x, ...)
```

**Arguments**

x	An object of class english.
...	Currently unused.

**Value**

An object of class numeric.

**Author(s)**

John Fox and Bill Venables.

**References**

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

**See Also**

[english](#), [as.english](#).

**Examples**

```
(x <- english(1:10))
as.numeric(x)
```

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Ops.english

*Arithmetic operations with objects of class english*

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**Description**

Allows arithmetic with objects of class english.

**Usage**

```
## S3 method for class 'english'
Ops(e1, e2)
```

**Arguments**

e1, e2            Numeric vectors, of which at least one must be of class english.

**Details**

A standard group generic function that strips off the english class from its arguments, invokes the next arithmetic operation method and reinstates the class english on the result.

**Value**

A numeric vector of class english.

**Author(s)**

John Fox and Bill Venables

## References

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

## See Also

[english](#), [as.english](#).

## Examples

```
english(1:10)^2 + 1
```

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ordinal	<i>Generic functions and methods generating english versions of ordinal whole numbers as character strings</i>
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## Description

The function `ordinal` is generic and works in much the same way as the function `as.character.english` but produces an ordinal, rather than a cardinal number version

## Usage

```
ordinal(x, ...)  
## S3 method for class 'numeric'  
ordinal(x, ...)  
## S3 method for class 'english'  
ordinal(x, ...)  
## S3 method for class 'character'  
ordinal(x, ...)
```

## Arguments

<code>x</code>	An object to produce english ordinal output.
<code>...</code>	Additional arguments passed on to <code>english</code> for the initial conversion.

## Details

The object is first converted to a character string an english object, if necessary, then to character and finally adjusted so that it provides the ordinal version of the english representation.

## Value

A character string vector of ordinal numbers in English.

## Author(s)

Anthony Damico

## References

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

## See Also

[as.character.english](#)

## Examples

```
## for UK style English:
ordinal(c(1, 9, 10, 11, 12, 19, 20, 21, 99, 100, 101, 109, 111,
         119, 1000, 1100, 1199, 9999, 10000, 10001), UK = TRUE)
## for USA style English:
ordinal(c(1, 9, 10, 11, 12, 19, 20, 21, 99, 100, 101, 109, 111,
         119, 1000, 1100, 1199, 9999, 10000, 10001), UK = FALSE)
## For mothers of small children:
cat(paste("This is the", ordinal(1:5), "time I've told you!"), sep = "\n")
```

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print.english

*A print method for objects of class english*

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## Description

Provides a print method for objects of class english.

## Usage

```
## S3 method for class 'english'
print(x, ...)
```

## Arguments

x                    An object of class english  
...                   Additional arguments to be passed to the print generic function.

## Details

Coerces the object to character and prints it.

## Value

The original object, invisibly.

## Author(s)

John Fox and Bill Venables



## References

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

## See Also

[as.character.english](#).

## Examples

```
print(english(1:10))
```

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sort.english	<i>A sorting method for objects of class english</i>
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## Description

A method for the generic function `sort` which allows numeric objects of class `english` to be sorted.

## Usage

```
## S3 method for class 'english'  
sort(x, decreasing = FALSE, ...)
```

## Arguments

<code>x</code>	An object of class <code>english</code> .
<code>decreasing</code>	logical: should the object be sorted in decreasing order?
<code>...</code>	Not currently used.

## Details

The method temporarily removes the `english` class, sorts the object components and reinstates the `english` class to the result.

## Value

An object of class `english` with its components in numerically sorted order.

## Author(s)

John Fox and Bill Venables

## References

See original note by John Fox in the Programmers Niche section of [https://cran.r-project.org/doc/Rnews/Rnews\\_2005-1.pdf](https://cran.r-project.org/doc/Rnews/Rnews_2005-1.pdf).

**See Also**

[english.](#)

**Examples**

```
set.seed(1010)
x <- english(sample(1:100, 5))
noquote(matrix(as.character(x)))
noquote(matrix(as.character(sort(x))))
```

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