

Package ‘primes’

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Type Package

Title Generate and Test for Prime Numbers

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Description Functions to test whether a number is prime and generate the prime numbers within a specified range. Based around an implementation of Wilson's theorem for testing for an integer's primality.

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Suggests testthat

LinkingTo Rcpp

Imports Rcpp

NeedsCompilation yes

Repository CRAN

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R topics documented:

prime	2
primes	2

Index	3
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prime

Generate and Test for Prime Numbers

Description

generate prime numbers or test whether a sequence of numbers you have are prime or not.

Usage

```
is_prime(x)
```

```
generate_primes(min = 0, max)
```

Arguments

`x` an integer vector containing elements you want to determine the primality of.
`min` the value to generate primes from.
`max` the maximum value to generate prime numbers up to.

Details

`is_prime` and `generate_primes` rely on Wilson's theorem to test for a number's primality; as primality algorithms go, this is actually a very *slow* approach - in theory. In practice, because of the limits R institutes around integer sizes, it's fast enough for our needs. For example, 10m numbers, all 2³⁰-sized, can be tested for primality using this package in 100ms.

Examples

```
#Test for primality
is_prime(1299827)
# [1] TRUE

generate_primes(max =12)
# [1] 2 3 5 7 11
```

primes*Functions for Identifying and Generating Prime Numbers*

Description

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Index

`generate_primes (prime)`, [2](#)

`is_prime (prime)`, [2](#)

`prime`, [2](#)

`primes`, [2](#)

`primes-package (primes)`, [2](#)