Package 'sqrtn'

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Type Package

Title Calculate sqrt(n) with very high precision

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Description Calculate sqrt(n) with very high precision, for example 10,000 or bigger.

License GPL (>= 2)

Depends R (>= 3.2.0)

Repository GitHub

NeedsCompilation yes

Encoding UTF-8

R topics documented:

`sqrtn-package` *Calculate sqrt(n) with very high precision*

Description

Calculate sqrt(n) with very high precision, for example 10,000 or bigger.

Details

Package:	sqrtn
Type:	Package
Version:	1.0.1
Date:	2019-03-28
License:	GPL (>= 2)

sqrtn *An R pacakge to calculate $\sqrt{n}$ with very high precision.*

Description

Calculate $\sqrt{n}$ with very high precision. Currenly, we approximate $\sqrt{n}$ with $n < 10$, that is, $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, , $\sqrt{6}$, , $\sqrt{7}$ and $\sqrt{8}$ only. "sqrtn"" implements dramatically fast. It takes only `29` seconds to approximate $\sqrt{2}$ with `100,000` digits.

Usage

```
sqrtn(prec,n=2)
```

Arguments

`prec`	A non negative integer, which is the precision you want.
`n`	A non negative integer, the default is 2. Currently, we can only approximate $\sqrt{2}$.

Value

`sqrtn`	The digits of the square root of n, which is a string.
`prec`	The input precision.

Author(s)

Xu Liu

Examples

```
#Example 1
fit <- sqrtn(100)
print(fit$sqrt2,quote=FALSE)

#Example 2
fit <- sqrtn(100,3)
print(fit$sqrt2,quote=FALSE)

#Example 3
fit <- sqrtn(100,5)
print(fit$sqrt2,quote=FALSE)

#Example 4
fit <- sqrtn(100,7)
print(fit$sqrt2,quote=FALSE)
```

sqrtn2 *An R pacakge to calculate $\sqrt{n}$ with very high precision.*

Description

Calculate $\sqrt{n}$ with very high precision.

Usage

```
sqrtn2(prec,n=2)
```

Arguments

prec	A non negative integer, which is the precision you want.
n	A non negative integer, the default is 2.

Value

sqrt	The digits of the square root of n, which is a string.
prec	The input precision.

Author(s)

Xiao Zhang and Xu Liu.

Examples

```
#Example 1
fit <- sqrtn2(100)
print(fit$sqrt,quote=FALSE)

#Example 2
fit <- sqrtn2(100,3)
print(fit$sqrt,quote=FALSE)

#Example 3
fit <- sqrtn2(100,15)
print(fit$sqrt,quote=FALSE)

#Example 4
fit <- sqrtn2(100,17)
print(fit$sqrt,quote=FALSE)
```

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