Package ‘rcpptimer’

March 20, 2024

Type Package

Title 'Rcpp' Tic-Toc Timer with 'OpenMP' Support

Version 1.1.0

Date 2024-03-20

Description Provides 'Rcpp' bindings for 'cpptimer', a simple tic-toc timer class for benchmarking 'C++' code <https://github.com/BerriJ/cpptimer>. It's not just simple, it's blazing fast! This sleek tic-toc timer class supports overlapping timers as well as 'OpenMP' parallelism <https://www.openmp.org/>. It boasts a microsecond-level time resolution. We did not find any overhead of the timer itself at this resolution. Results (with summary statistics) are automatically passed back to 'R' as a data frame.

URL https://rcpptimer.berrisch.biz

License GPL (>= 3)

Encoding UTF-8

Imports Rcpp

LinkingTo Rcpp

RoxygenNote 7.3.1

Suggests testthat (>= 3.0.0), knitr, rmarkdown

Config/testthat/edition 3

VignetteBuilder knitr

Language en-US

NeedsCompilation yes

Author Jonathan Berrisch [aut, cre] (<https://orcid.org/0000-0002-4944-9074>)

Maintainer Jonathan Berrisch <Jonathan@Berrisch.biz>

Repository CRAN

Date/Publication 2024-03-20 09:20:03 UTC

R topics documented:

`fibonacci` *Simple rcpptimer example*

Description

Time the computation of Fibonacci numbers

Usage

```
fibonacci(n)
```

Arguments

`n`	vector giving integers for which to compute the Fibonacci sum

Details

The function being timed is the following:

`int fib(int n) { return ((n <= 1) ? n : fib(n - 1) + fib(n - 2)); }`

Runtime for computations less than `n = 15` is nearly unmeasurable.

Value

vector of integers giving the Fibonacci sum for each element in `n`

Examples

```
fibonacci(n = rep(10*(1:4), 10))
# this function creates a global environment variable "times"
times
```

`fibonacci_omp` *Simple rcpptimer example using OpenMP*

Description

Time the multithreaded computation of Fibonacci numbers

Usage

```
fibonacci_omp(n)
```

Arguments

`n`	vector giving integers for which to compute the Fibonacci sum

Details

The function being timed is the following:

`int fib(int n) { return ((n <= 1) ? n : fib(n - 1) + fib(n - 2)); }`

Runtime for computations less than `n = 15` is nearly unmeasurable.

Value

vector of integers giving the Fibonacci sum for each element in `n`

Examples

```
fibonacci_omp(n = rep(10*(1:4), 10))
# this function creates a global environment variable "times"
times
```

Index