Package 'rscimark'

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Title SciMark 2.0 Benchmark for Scientific and Numerical Computing

Description The SciMark 2.0 benchmark was originally developed in Java as a benchmark for numerical and scientific computational performance. It measures the performance of several computational kernels which are frequently occurring in scientific applications. This package is a simple wrapper around the ANSI C implementation of the benchmark.

Maintainer Jakob Bossek <j.bossek@gmail.com>

URL https://github.com/berndbischl/rscimark

BugReports https://github.com/berndbischl/rscimark/issues

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Encoding UTF-8

Imports checkmate

Suggests testthat

LazyData yes

ByteCompile yes

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Author Bernd Bischl [aut],
Jakob Bossek [aut, cre]

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R topics documented:

`rscimark` *Wrapper for the SciMark 2.0 benchmark.*

Description

This function is a simple wrapper around the ANSI C version of the SciMark 2.0 benchmark which is a benchmark for numerical and scientific computing. Concicely performance measurements for the computational kernels *Fast Fourier Transformation* (FFT), *Gauss-Seidel relaxation*, *Sparse matrix-multiply*, *Monte Carlo integration* and *dense LU factorization* are computed.

In order to isolate effects of memory hierarchy the problem sizes, e.g., the size of the matrix fpr the dense LU matrix factorization, are pretty small. However, addressing the performance of the memory subsystem is possible by setting the `large` argument to `TRUE`.

Usage

```
rscimark(large = FALSE, minimum.time = 2)
```

Arguments

`large`	`[logical(1)]` Run large version of benchmark? Default is `FALSE`.
`minimum.time`	`[numeric(1)]` Minimum time to run each of the benchmarks, in seconds. Default is 2.

Value

`numeric` Named vector of time measurements with the following components:

Composite Mean value of the remaining components.

FFT Performance of the Fast Fourier Transformation (FFT).

SOR Performance of the Jacobi Successive Over-relaxation (SOR).

MC Performance of a Monte Carlo integration.

SMM Performance of a spare matrix multiplication.

LU Performance of a dense LU matrix factorization.

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