The l3benchmark package
Experimental benchmarking

The \LaTeX{} Project\textsuperscript{*}

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1 Benchmark

\immediate\write18{\g_benchmark\benchmark_duration_target_fp}

This variable (default value: 1) controls roughly for how long \benchmark:n will repeat code to more accurately benchmark it. The actual duration of one call to \benchmark:n typically lasts between half and twice \g_benchmark_duration_target_fp seconds, unless of course running the code only once already lasts longer than this.

\immediate\write18{\g_benchmark_time_fp \g_benchmark_ops_fp}

These variables store the results of the most recently run benchmark. \g_benchmark_time_fp stores the time \TeX{} took in seconds, and \g_benchmark_ops_fp stores the estimated number of elementary operations. The latter is not set by \benchmark_tic:/\benchmark_toc:.

\immediate\write18{\benchmark_once:n \benchmark_once:silent:n \benchmark_once:silent:n}{\langle code\rangle}
\immediate\write18{\benchmark_once:n \benchmark_once:silent:n}{\langle code\rangle}

Determines the time \g_benchmark_time_fp (in seconds) taken by \TeX{} to run the \langle code\rangle, and an estimated number \g_benchmark_ops_fp of elementary operations. In addition, \benchmark_once:n prints these values to the terminal. The \langle code\rangle is run only once so the time may be quite inaccurate for fast code.

\immediate\write18{\benchmark:n \benchmark:silent:n \benchmark:n}{\langle code\rangle}
\immediate\write18{\benchmark:n \benchmark:silent:n \benchmark:n}{\langle code\rangle}

Determines the time \g_benchmark_time_fp (in seconds) taken by \TeX{} to run the \langle code\rangle, and an estimated number \g_benchmark_ops_fp of elementary operations. In addition, \benchmark:n prints these values to the terminal. The \langle code\rangle may be run many times and not within a group, thus code with side-effects may cause problems.

\immediate\write18{\benchmark_tic: \benchmark_toc: \benchmark_tic: \benchmark_toc: \benchmark_tic: \benchmark_toc: \benchmark_tic: \benchmark_toc:}

When it is not possible to run \benchmark:n (e.g., the code is part of the execution of a package which cannot be looped) the tic/toc commands can be used instead to time between two points in the code. When executed, \benchmark_tic: will print a line to the terminal, and \benchmark_toc: will print a matching line with a time to indicate the duration between them in seconds. These commands can be nested.

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The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

Benchmark commands:

\benchmark:n ................................ /  \benchmark:silent:n .................... /  
\g_benchmark_duration_target_fp .......... /  \benchmark:tic: ................................ /  
\benchmark:once:n .......................... /  \g_benchmark_time_fp ........................ /  
\benchmark:once_silent:n ................... /  \benchmark:toc: ................................ /