The \texttt{l3benchmark} package
Experimental benchmarking

The \LaTeX{} Project\textsuperscript{*}
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\section{Benchmark}

\texttt{\g_benchmark_duration_target_fp}

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

\texttt{\g_benchmark_time_fp \g_benchmark_ops_fp}

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

\texttt{\benchmark_once:n \benchmark_once_silent:n \benchmark:n \benchmark_silent:n \benchmark_tic: \benchmark_toc:}

\texttt{\benchmark_once:n \benchmark_once_silent:n \{\langle code \rangle\}}
\texttt{\benchmark_once:n \{\langle code \rangle\}}

Determines the time \texttt{\g_benchmark_time_fp} (in seconds) taken by \LaTeX{} to run the \langle code \rangle, and an estimated number \texttt{\g_benchmark_ops_fp} of elementary operations. In addition, \texttt{\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.

\texttt{\benchmark:n \benchmark_silent:n \benchmark_tic: \benchmark_toc:}

\texttt{\benchmark:n \{\langle code \rangle\}}

Determines the time \texttt{\g_benchmark_time_fp} (in seconds) taken by \LaTeX{} to run the \langle code \rangle, and an estimated number \texttt{\g_benchmark_ops_fp} of elementary operations. In addition, \texttt{\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.

\texttt{\benchmark_tic: \benchmark_toc:}

\texttt{\benchmark_tic: \{slow code\} \benchmark_toc:}

When it is not possible to run \texttt{\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, \texttt{\benchmark_tic:} will print a line to the terminal, and \texttt{\benchmark_toc:} will print a matching line with a time to indicate the duration between them in seconds. These commands can be nested.

\textsuperscript{*}E-mail: latex-team@latex-project.org
Index

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.

<table>
<thead>
<tr>
<th>Benchmark commands:</th>
<th>\g_benchmark_ops_fp</th>
<th>\benchmark_tic:</th>
<th>\g_benchmark_time_fp</th>
<th>\benchmark_toc:</th>
</tr>
</thead>
<tbody>
<tr>
<td>\benchmark:n</td>
<td>\benchmark_once:n</td>
<td>\g_benchmark_duration_target_fp</td>
<td>\benchmark_once_silent:n</td>
<td></td>
</tr>
</tbody>
</table>