

The `l3benchmark` package

Experimental benchmarking

The L^AT_EX Project*

Released 2021-05-27

1 Benchmark

`\g_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.

`\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 T_EX 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:`.

`\benchmark_once:n`
`\benchmark_once_silent:n`

`\benchmark_once_silent:n` $\{\langle code \rangle\}$
`\benchmark_once:n` $\{\langle code \rangle\}$

Determines the time `\g_benchmark_time_fp` (in seconds) taken by T_EX 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.

`\benchmark:n`
`\benchmark_silent:n`

`\benchmark:n` $\{\langle code \rangle\}$

Determines the time `\g_benchmark_time_fp` (in seconds) taken by T_EX 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.

`\benchmark_tic:`
`\benchmark_toc:`

`\benchmark_tic:` $\langle slow code \rangle$ `\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.

*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.

| B | |
|-------------------------------------|----------|
| benchmark commands: | |
| \benchmark:n | <i>1</i> |
| \g_benchmark_duration_target_fp . . | <i>1</i> |
| \benchmark_once:n | <i>1</i> |
| \benchmark_once_silent:n | <i>1</i> |
| \g_benchmark_ops_fp | <i>1</i> |
| \benchmark_silent:n | <i>1</i> |
| \benchmark_tic: | <i>1</i> |
| \g_benchmark_time_fp | <i>1</i> |
| \benchmark_toc: | <i>1</i> |