

CAPHYON ⚡ LIGHTNING TALKS

Quick Bench

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What is Quick-Bench ?



Frederic Tingaud

Quick-bench is a micro benchmarking tool intended to quickly and simply *compare* the performances of two or more code snippets.

<https://github.com/FredTingaud/quick-bench-front-end>

<https://github.com/FredTingaud/quick-bench-back-end>

What is Quick-Bench ?

Quick C++ Benchmark Support Quick Bench ▾ More ▾

```
1 static void StringCreation(benchmark::State& state)
2 {
3     // Code inside this loop is measured repeatedly
4     for (auto _ : state)
5     {
6         std::string created_string("hello");
7         // Make sure the variable is not optimized away by compiler
8         benchmark::DoNotOptimize(created_string);
9     }
10 }
11 // Register the function as a benchmark
12 BENCHMARK(StringCreation);
13
14 static void StringCopy(benchmark::State& state)
15 {
16     // Code before the loop is not measured
17     std::string x = "hello";
18     for (auto _ : state)
19     {
20         std::string copy(x);
21     }
22 }
23 BENCHMARK(StringCopy);
24
```

compiler = clang-6.0 ▾ std = c++17 ▾ optim = O3 ▾ STL = libstdc++(GNU) ▾

Run Benchmark Record disassembly

Benchmark	Ratio (CPU time / Noop time)
StringCreation	~5
StringCopy	~17

Show Noop bar

StringCreation StringCopy

```
404760 push %rbp
404761 push %r15
404763 push %r14
404765 push %rbx
404766 sub $0x28,%rsp
```

<http://quick-bench.com>

CPU Time / Noop Time

Why display a **ratio** of (CPU time / Noop time)
instead of actual time (**ms**) ?

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AWS

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AWS

The benchmark runs on a pool of AWS machines whose **load** is unknown, potentially next to multiple other benchmarks.

Any duration it could output would be meaningless.

<http://quick-bench.com>

CPU Time / Noop Time

Why display a **ratio** of (CPU time / Noop time) instead of actual time (**ms**) ?

It can however give a reasonably good **comparison** between two snippets of code run in the *same conditions*.

<http://quick-bench.com>

CPU Time / Noop Time

Why display a **ratio** of (CPU time / Noop time) instead of actual time (**ms**) ?

Using a ratio over an *empty function* (Noop) also has another advantage:

If one of your benchmarks runs as fast as Noop, the optimizer probably optimized your code away ⚡

<http://quick-bench.com>

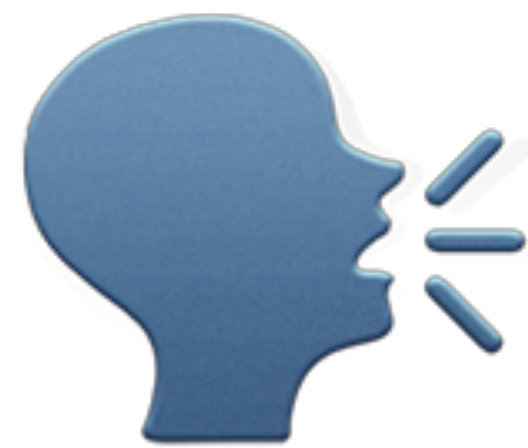
Demo Time



Demo Highlights

- Overview of UI
- Examples:
 - http://quick-bench.com/y9Kk6PD_HCZinL0wAvJ2MXnH5q8
 - <http://quick-bench.com/H31pGfwdQuJmyGdopFri6rZMmrQ>
 - <http://quick-bench.com/1znr74hCCqwyggqBs0obdBI4b924>
 - http://quick-bench.com/7ZPj38EHdRzg_LHP9H_C12omGY
 - <http://quick-bench.com/BaET5XvNLJGJkR0FHENSF05sYwc>

Questions



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