# Performance

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- Ask more questions

- Ask questions of more data

- Provide answers faster

- Fewer 'interruptions': the difference bewtween a runtime of one second and one minute is *much* more than 59 seconds.

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**1. Measure**

**2. Don't waste timing saving time**

**3. Don't be wrong**

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1. **Measure**

2. **Don't waste timing saving time**

3. **Don't be wrong**

1. how long it currently takes
2. how long it should take
3. how long your improvement takes

```
x ← rnorm(1e8)
bench::system_time(mean(x))
bench::mark(mean(x), sum(x) / length(x))
library(microbenchmark)
microbenchmark(mean(x), sum(x) / length(x))
```