Figure 19.0  Choosing an algorithm.

We now have two methods, based on different algorithms,
for the same purpose:

1. a "counting sort"
2. bubble sort, a kind of "exchange sort"

And we could add a couple more:

3. "insertion sort"—like putting books on a shelf
4. "merge sort"—combining two sorted lists into one

Which sorting algorithm is best?

Or, given just the two we know about, which of the two is better?

**What does "better" mean?**

$$\boxed{\text{better} = \text{faster}}$$

—at least for large problems, such as sorting,
where even a computer sometimes can't keep up

**Now what does "faster" mean?**

—we need a way to quantify the speed of an algorithm