Today we first finish up style, and then present how to write concisely.

1 Style

The last two or three words in a sentence are particularly important. You can test whether the last few words really are important by tapping your finger on the table as you say them.

*Bad:* The classes P and NP differ, most theoreticians believe.

*OK:* Most theoreticians believe that the classes P and NP differ.

*Good:* Most theoreticians believe that $P \neq NP$.

If you have words at the end of the sentence that do not give any useful information, then either omit them or shift them to the left. You may end up shrinking the size of the sentence:

*Bad:* The program’s memory footprint is small, so that it takes little space.

*Good:* The program’s memory footprint is small.

*Bad:* Assigning one object to another is actually assigning references rather than copying objects, you should bear in mind.

*Good:* You should bear in mind that assigning one object to another is actually assigning references rather than copying objects.

You can also shift the important material to the right. Another option, not as good, is to add material to the beginning of the sentence.

*Good:* Several design patterns recur in object-oriented programming.

*Better?*: There are several design patterns that recur in object-oriented programming.

You can use a passive verb to flip the subject and object. You can also make the sentence more objective by using we.

*Bad:* Using a cache can decrease effective memory-access times.

*OK:* Effective memory-access times can be decreased by using a cache.

*Good:* We can decrease effective memory-access times by using a cache.
In the following example, we shift error-correcting codes to the right to emphasize it. However, the weak word is added, which is not good. It is better to start with a we to rephrase the sentence. The good part of the second sentence is that it stresses both solve the problem and error-correcting codes.

**OK:** Error-correcting codes would solve the problem.

**OK:** What would solve the problem is error-correcting codes.

“It shift”: Add it is or something similar to the beginning of the sentence.

**Bad:** That a multithreaded version would run faster was obvious.

**Good:** It was obvious that a multithreaded version would run faster.

We can use not only, but also to emphasize. This is called a negative followed by a positive. Williams suggests that unless you have the reason to emphasize the negative, end with the positive.

**Bad:** The changes make the device faster, not more expensive.

**Good:** The changes make the device not more expensive, but faster.

We can also use pronoun substitution to make the sentence shorter.

**Bad:** When a disk fails, we can hot-swap to replace the disk.

**Good:** When a disk fails, we can hot-swap to replace it.

### 2 Concise Writing

We should omit needless and meaningless words: (although sometimes we do need them).

**Bad:** kind of, particularly, actually, really, certain, various, virtually, individual, basically, generally, given, practically

You should also get rid of double words, such as the following: (By the way, don’t ever use firstly).

**Bad:** each and every, first and foremost, any and all, various and sundry, first of all

Remove redundant words:

**Bad:** past history, final outcome, unexpected surprise, basic fundamentals, each individual

Here are additional redundant words, requiring a preposition as well:

**Bad:** large in size, unusual in nature, of a strange type, at an early time

We can change an adjective to an adverb:

**Bad:** Write the method in a careful manner.

**Good:** Write the method carefully.

We can change an adjective to a noun:
**Bad:** With the computer’s skin off, we can see the electronic components.

**Good:** With the computer’s skin off, we can see the electronics.

We can also replace a phrase with an individual word:

**Bad:** the reason for, despite the fact that, in the event that, in the situation where, concerning the matter of, there is a need for, is/are in a position to, it is possible that, prior to, decrease/increase (when used as nominalization)

**Good:** why, although, if, when, about, we/you must, can, may/might, before, fewer/more

Change negative to positive:

**Bad:** not careful, not the same, not allow, not notice, not many, not often not stop, not include

**Good:** careless, different, prevent, overlook, few, rare, go, exclude/omit

Inherently negative words. If you connect these word with not, you will really confuse your readers.

**Bad:** preclude, prevent, lack, fail, doubt, reject, avoid, deny, refuse, exclude, contradict, preclude, without, against, against, lacking, except

You can delete useless adjectives and adverbs. Try to delete every adjective before a noun and restore only the ones that are necessary.

**Metadiscourse. Uncertainty:** it seems, undoubtedly. Order: first, second, to begin, however, therefore, hence, consequently. Reader’s attention: consider, observe.

**Bad:** In this section, we show that columnsort, as described in Section 2, sorts correctly in the absence of the divisibility restriction.

**Good:** Here we show that columnsort, as described in Section 2, sorts correctly when the divisibility restriction fails to hold.

Hedge: usually, often, sometimes, always, virtually, possibly, arguably, perhaps, certainly, in some ways, to some extend, most, many, some, certain number of, may, might, could, seem, appear. Too many hedges may cause redundancy.

**Bad:** I’ll start out by saying that in many cases, I’d say that, given the information you start with, your analyses are often solid.

**Good:** I’ll start out by saying that, given the information you start with, your analyses are often solid.

**Intensify:** rather, very, quite, obviously, undoubtedly certainly, of course, indeed, inevitably, always, key, essential, crucial, basic, fundamental, principal, essential, show, proof, establish, as everyone knows, it is obvious that. Pretty is also a hedge.

**Bad:** Theoreticians believe that $P \neq NP$.

**Good:** Many theoreticians believe it is likely that $P \neq NP$. 