COSC 91/191, Spring 2019 Lecture 6 April 5, 2019 Scribes: Abigail Bartolome and Prantar Ghosh

1 Announcements

- 1. The schedule was made with 20 students in mind. Since there are only 15 students in the class, the schedule is fluid. Tom will likely remove some of the X-hours on the schedule.
- 2. Per the schedule, we shall critique students' writings in Week 5. So, students should submit a sample of their own technical writing for the class to critique. There is no page limit, and a sample can be just a section of a work.

2 Omit Needless Words

In this lecture, we focus on the style of technical writing. For brevity, you should remove needless words, such as *really*, *kind of*, *actually*, *particular*, *certain*, *various*, *virtually*, *basically*, *generally*, *given*, unless there's a Darned Good Reason to use them. For instance,

★ Performance actually depends on certain factors that basically involve choosing the right algorithms more than any particular hardware.

✓ Performance depends on choosing the right algorithms more than on hardware.

You should also avoid redundant sayings or "doubled words." Some common usages of such expressions are given below:

- each and every same meaning; just use one of them.
- various and sundry same meaning; use one.
- first and foremost use one.
- predict the future just say predict.
- past history past.
- final outcome outcome.
- basic fundamentals fundamentals.
- each individual each.
- large in size large.
- unusual in nature unusual.
- unexpected surprise redundant by definition; just say surprise.

Remove unnecessary adjectives and adverbs. Delete them first and restore only the ones that are necessary. For example,

★ We also provide careful explanations of the mathematics needed to understand the analysis of the algorithms. If you already have some familiarity with a topic, you will find the chapters organized so that you can skim introductory sections and proceed quickly to the more advanced material.

✓ We also provide explanations of the mathematics needed to understand the analysis of the algorithms. If you already have some familiarity with a topic, you will find the chapters organized so that you can skim introductory sections and proceed to the advanced material.

We can actually make this example even more compact. We can say We also explain the mathematics needed to analyze the algorithms. We have organized the chapters so that if you have seen a topic before, you can skim introductory sections and proceed to the advanced material.

You can often change an adjective into an adverb to make the sentence shorter. For example,

- **X** Write the method in a careful manner.
- ✓ Write the method carefully.

Replace an adjective by a noun if it results in a compact sentence.

- X With the computers skin off, we can see the electronic components.
- ✓ With the computers skin off, we can see the electronics.

Contract phrases into single words whenever possible. For instance,

- the reason for why
- despite the fact that although
- *in the event that if*
- in the situation where when
- *it is possible that maybe*
- prior to before

Avoid using negatives.

- not careful careless
- not allow prevent
- not notice miss/overlook
- not many few
- not stop continue

We see some more examples of how we can make sentences shorter and nicer:

- X Consider a system that tries to learn to distinguish between images of the games of soccer and rugby.
 - ✓ Consider a system that learns to distinguish between images of soccer and rugby.

- X Except when the system fails to check logins without proper authentication, access will not be denied.
 - \checkmark The system allows access only when it checks logins with proper authentication.
- X In this section, we show that columnsort, as described in Section 2, sorts correctly in the absence of the divisibility restriction.

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

- X 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.
 - ✓ I'll start out by saying that, given the information you start with, your analyses are often solid.

3 Improving Style of "Stupid Columnsort Tricks"

We see some instances where we might improve the style of writing in the "Stupid Columnsort Tricks" paper. We start from the subsection "Proof of Correctness" in page 2.

• The sorting method used in the odd-numbered steps might not be oblivious, however.

Note that the word *however* was used at the end of the sentence. For such small contradictory statements, do not use *however* at the beginning because it disrupts the flow. Sometimes, it can be used in the middle of the sentence too, but it doesn't seem appropriate for this specific one. We could, however, start with a *But* and remove the *however*.

• Thus, we can imagine that an oblivious sorting method was used for the odd-numbered steps, knowing that we can substitute any sorting method of our choosing.

Note the use of passive voice and nominalization that we learned to avoid. We can rewrite this sentence as *Thus, we can imagine that columnsort uses an oblivious sorting method for the odd-numbered steps, knowing that we can substitute any sorting method.*

• We shall show that steps 1–4 reduce the size of the dirty area to at most half a column and that steps 5–8 complete the sorting, assuming that the dirty area is at most half a column in size.

Simply remove the part assuming that the dirty area is at most half a column in size. Moreover, it is not the part that we want to emphasize, and hence should not be at the end of the sentence.

• Step 2 turns each column into exactly r/s rows, shown in Figure 2(b).

Refer to a figure in the beginning of the paragraph. It is even better if you refer to it in the beginning of the sentence. Rewrite this sentence as As Figure 2(b) shows, Step 2 turns each column into exactly r/s rows.

• In Section 3, Because s might not be a divisor of r, however, we shall account for $1 \rightarrow 0$ transitions.

Note how it doesn't start with *s* might not be.... Do not begin a sentence with mathematics (e.g., formulas, numbers). If you are about to do so, write the type of the math symbol before it, e.g., The number of columns *s*, The number 1, Vertex v, etc.

4 Miscellenea

- There are five types of dashes (Practically four, because no one actually uses the last type).
 - 1. Hyphen: Used for hyphenated words e.g., *odd-numbered*, *commander-in-chief*. Enter it as a single dash in LATEX (without math mode).
 - 2. En-dash: Mainly used for ranges, e.g., *Steps* 1–4. Put it between two numbers without any space in between. Type it with two dashes in LATEX.
 - 3. Em-dash: Separates words in a sentence. *The Chicago Manual of Style* allows a space after an em-dash, but Tom does not prefer it. Type it with three dashes in LATEX.
 - 4. Minus sign: Enter it as a single dash in math mode in LATEX.
 - 5. 2-em-dash: No one really uses it. It can be used like a bigger em-dash before a sentence that already contains an em-dash. It is doubtful whether LATEX supports it.
- Use *fewer* for countable objects, and *less* otherwise. For example, we say *fewer dollars*, but *less money*.
- In Monday's lecture, we shall see how to draw figures.