

COSC 91/191, Spring 2019

Lecture 10

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1 Announcements

1. Tom has updated the course schedule to account for the lower enrollment. X-hours allocated for talks have been removed.
2. Students giving talks early in the term do not benefit from examples to follow and will be graded more leniently. Similarly, students giving later talks are expected to learn from feedback given to those before them and will be graded more harshly.
3. There will be two talks scheduled per class period.
4. To allow for more time to prepare for the talks, we will now cover material on giving talks during Week 5. We shall instead critique student writing later in the term.
5. *Superman* is illogical.

2 Usage of Words and Phrases

In this lecture, we focus on commonly misused words and phrases in technical writing. Some examples are given below:

- Note that *farther* refers to distance and *further* to time and quantity.
✓ *As I went further into my education, I lived increasingly further from my parents*
- *Fix* has multiple meanings; be sure to use it correctly.
✓ *Once we fix a value for the radius, we can compute the area.*
- *Hopefully* means *with hope*; use it with that in mind. Do not use *hopefully* at the beginning of a sentence.
✗ *Hopefully, we'll determine whether $P = NP$.*
✓ *The computer science community hopes that someone will determine whether $P = NP$.*
- The worst place to use *however* at the beginning of a sentence. Use it at the middle or the end instead to give the sentence a nice flow.
✗ *I was late. However, I brought beer.*
✓ *I was late. I brought beer, however.*

- Note that *however* can mean *in whatever way* or *to whatever extent* depending on its usage.

✓ *However you write a program, it won't solve the halting problem.*

✓ *However many times you try, you won't succeed.*

- To suggest a meaning is to *imply*, to draw a conclusion is to *infer*.

✓ *Having $b = a \bmod n$ implies that $b < n$.*

✓ *Since $b = a \bmod n$, we may infer that $b < n$*

If Tom tells you that your work is excellent, he is implying that you will get an HP. You are inferring that you will get an HP.

- Use *inside* to express a spatial relation and *inside of* to express a relation that is not spatial.

✓ *Inside of an hour, the virus made its way inside thousands of computers.*

- Use *fewer* for items that are countable and *less* for items that are not.

✓ *My laptop has fewer gigabytes of RAM than the cluster, and therefore it has less memory.*

- Use *such* as when your example is a member of the set and *like* when your example is not but is similar.

✓ *I use object-oriented languages such as Java.*

✓ *There are no modern languages like COBOL.*

- Use *as* to compare verbs and *like* to compare nouns.

✗ *Your program runs like my program does.*

Does is a verb, so rewrite the sentence as

✓ *Your program runs as my program does.*

✓ *Your program runs like the wind.*

- Use *nor* as you would use *or*, but only with *neither*.

✗ *The set of integers does not contain the rationals nor the reals.*

✓ *The set of integers contains neither the rationals nor the reals.*

- Use *will* to imply intention and for second or third person, and particularly when you are writing a proposal. Use *shall* to imply a lack of choice or agency and for first person.

✓ *A swimmer in distress: I shall drown; no one will save me!*

✓ *A suicidal swimmer: I will drown; no one shall save me!*

- Use *that* with a comma to restrict the meaning of the word that immediately precedes it. Use *which* without a comma to describe without restriction.

✓ *The program, which computes pi to a trillion places, ran for five days.*

Only one program is under discussion, and it happens to compute pi to a trillion places. It ran for five days.

✓ *The program that computes pi to a trillion places ran for five days.*

Of all the programs under discussion, the specific program that computes pi to a trillion places ran for five days.

- You are allowed to break up a long series of *that* with a *which*.
 - ✓ *We found that the sorting algorithm which is oblivious ran faster than expected.*
- *Which* only applies to the word that immediately precedes it.
 - ✗ *I dropped my laptop, which move was clumsy.*
 - ✗ *I dropped my laptop; doing so was clumsy of me.*
 - ✗ *I clumsily dropped my laptop.*
 - ✓ *I dropped my laptop, which was clumsy.*
- Use *while* to refer to time or duration and *whereas* to draw a distinction.
 - ✗ *Loops execute multiple iterations, while selection statements execute once.*
 - ✓ *Loops execute multiple iterations, whereas selection statements execute once.*

3 Usage of Quotation Marks

When using quotation marks, make careful note of the following rules:

- Do not use single quotation marks around words and sentences. Only use them when you place quotations around something already within double quotes. For example,
 - ✓ *Priya corrected me when she said, “ ‘Columnsort’ does not begin with ‘k.’ ”*
- Use quotation marks to show irony. Avoid unnecessary air quotes.
 - ✗ *The “fast” program takes almost no time at all.*
 - ✓ *The “fast” program turns out slower than the “slow” program.*
- Place the comma and period inside quotation marks and semicolons and colons outside. Note that in Britain and recent British colonies, however, the comma and period are placed outside quotation marks.
 - ✗ *The error messages were “null pointer exception”, “array index error”, and “stack overflow”. (The British way.)*
 - ✓ *The error messages were “null pointer exception,” array index error, and stack overflow. (The U.S. way.)*
 - ✓ *The error message was “null pointer exception”; this message was more helpful than “segmentation fault.”*
 - ✓ *Windows offers the following “advantages”: difficulty of use, bugginess, and security holes.*
- Place exclamation and question marks depending on logical context. Consider the following examples:

- The first section is titled “Why Study Out-of-Core Sorting?”

In this case, the question mark is a part of the section title, and so it appears within quotation marks.

- Why did you call the second section “Out-of-Core Sorting for Dummies”?

In this case, the question mark is a part of the surrounding question and appears outside quotation marks.

4 Avoiding Wimpy Writing

Replace generic or odd-sounding words to write strong sentences. For instance:

- Address the reader specifically.
 - ✗ *One must take care not to divide by zero.*
 - ✓ *Do not divide by zero.*
- ✗ *firstly, lastly*
 - ✓ *first, last*
- ✗ *try and prove*
 - ✓ *try to prove*
- ✗ *this means that*
 - ✓ *thus, therefore, hence, and so*
- There are no degrees of *unique*.
 - ✗ *the most unique*
 - ✓ *unique*

Discard weak and meaningless words or phrases such as these:

- *one of the most*
- *literally*, unless you mean *in the exact manner*
- *nice*
- *the foreseeable future*
- *this* — specifically as a noun phrase. Ask “this what?” Take that answer and place it afterward.
- *that* — ditto
- *some*
- *very* — there is always a better adverb or adjective that you can use instead of applying *very*.

- *so* — particularly when placed after a comma. Replace with *and so*.
 - ✗ *No single data structure works well for all purposes, so it is important to know the strengths and limitations of several of them.*
 - ✓ *No single data structure works well for all purposes, and so it is important to know the strengths and limitations of several of them.*
- Dupré says that *so* means *therefore*; *so that* means *in order that/to*; and *such that* means *in such a way that*.
 - ✗ *There was a solar storm, so communication lines failed.*
 - ✓ *There was a solar storm; therefore, communication lines failed.*
 - ✗ *We use multiple disks so that we can increase bandwidth.*
 - ✓ *We use multiple disks in order to increase bandwidth.*
 - ✗ *Priya's calls to MPI were such that she used only synchronous routines.*
 - ✓ *Priya's calls to MPI were in such a way that she used only synchronous routines.*
 - ✓ *Let us consider the first vertex y along path p such that $y \in V - S$.*

5 Miscellanea

- You can use split infinitives, which is the placement of a word between *to* and its infinitive. For example, you can write both *to correctly use L^AT_EX* and *to use L^AT_EX correctly*.