COSC 91/191, Spring 2019 Lecture 11 April 17, 2019 Scribe: Michael C. Millian

1 Usage

Today's lecture continues Tom's advice on usage. The topics of this lecture cover eight categories: frequently misused words, time, plural words, indefinite articles, acronyms, pronouns, numbers, and lists.

1.1 Frequently Misused Words

This section covers a collection of frequently misused words. Some items in this collection are pairs of words that are frequently used in the wrong context. All misused words are accompanied by examples showing correct usage.

1.1.1 Only

The word only modifies only the word following it.

Only we concentrate on finding the running time

means that no one else concentrates on finding running time.

We only concentrate on finding the running time

means that we do nothing except concentrate on finding the running time. We do not eat or sleep; we just concentrate.

We concentrate only on finding the running time

means that when we concentrate, our sole objective is on finding the running time. We do not concentrate on anything else, but we can perform other actions besides concentrating such as eating or sleeping.

We concentrate on finding only the running time

means that we can concentrate on different tasks, but if we concentrate on finding, then our focus is on the running time and nothing else.

1.1.2 Proved and Proven

The word proved is a verb, and the word proven is an adjective.

The theorem was proved using the proven technique of substitution.

1.1.3 Continual and Continuous

There is a difference between the meaning of the words *continual* and *continuous*. Something is *continual* if it occurs with repetition. Something is *continuous* if it occurs without interruption.

The computer draws power continuously

is correct because if the power is interrupted, then the computer will turn off.

The computer continually checks to see whether a mouse event has occurred

is correct because the computer performs the check repeatedly, but may do other tasks between checks.

1.1.4 Words Modified by Non

The word *non* is used to negate another word. Do not put a hyphen between *non* and the word it negates. For example, *non-negative* is incorrect and *nonnegative* is correct.

There are two exceptions to this rule. First, you should add a hyphen if the word being modified is hyphenated already. For example, *dynamic-programming algorithm* becomes *non-dynamic-programming algorithm*. Second, you should add a hyphen if the word being modified starts with a capital letter. For example, *Windows system* becomes *non-Windows system*.

1.1.5 OK

There are several ways to spell *OK* or *okay*. Another spelling, *ok*, is sometimes seen, but is not advised for technical writing. Whichever spelling you choose, use it consistently.

1.2 Time

What is the correct way to write a time? As an example, let's consider the time two and one-half hours after noon. You might use the 24-hour format: 14:30. If you use the 12-hour format, then decide whether you will capitalize the abbreviations for ante meridiem and post meridiem. Write either 2:30 pm or 2:30 PM. Tom prefers the former case. Using lowercase letters creates some ambiguity since *am* is a word itself, but context will eliminate confusion.

1.3 Plurals

This section covers edge case rules for creating plural words correctly.

The word vertex becomes vertices; vertexes is not correct.

The word *index* becomes either *indices* or *indexes* depending on usage. If you are referring to a pointer into a list, then use *indices*. Use *indexes* if you are referring to the index at end of a book.

Don't add an apostrophe when pluralizing words. The correct plural form of *CPU* is *CPUs*, not *CPU's*. Write *0s and 1s* not *0's and 1's*.

There is no need to add an s to the abbreviation for units of memory; 16 MB is fine. Don't write 16 MBs.

1.4 Indefinite Articles

There are two indefinite articles in English: *a* and *an*. The choice of which indefinite article to use depends on the pronunciation of the word following it. Use *a* when the next word begins with a consonant sound and *an* when the word begins with a vowel sound. The following example is correct.

For a large matrix, we can send data over a LAN when computing an LUP decomposition.

This example is correct because LAN is typically pronounced as a single word — so that the pronunciation starts with a consonant sound — but LUP is pronounced by saying each individual letter — so that the pronunciation starts with a vowel sound. Some words have divergent pronunciations. An example of such a word is SQL, which is sometimes pronounced by saying each of the three letters and sometimes pronounced like the word *sequel*. You can use either *a* or *an* with SQL, depending on how you pronounce it, but be consistent in your choice of indefinite article.

There is one exception to the pronunciation rule; we write *an historic* even though *historic* starts with a consonant sound. This exception doesn't carry over to other forms of the word *historic*; we still write *a history*.

1.5 Acronyms

Define acronyms on first use.

We use the Parallel Disk Model (PDM) proposed by Vitter and Shriver.

You may skip the definition and just use the acronym if you are sure that the acronym is common knowledge for all your readers, which obviously depends on your audience. For example, if you are writing for a technical journal, then it is safe to assume that the reader knows that *MHz* means megahertz. If you are writing for a popular magazine, then you should probably define *MHz*.

Be careful about the difference between bits and bytes. There is a factor of 8 difference between *MB* and *Mb*. The former is megabytes, and the latter is megabits.

Don't use periods in acronyms; IEEE looks better than I.E.E.E. to most people.

1.6 Pronouns

You will often need to use pronouns when you write. The universally accepted pronouns to refer to people are *he* and *she*. You will often use a pronoun to refer to a generic singular human subject. On the one hand, it is unacceptable to a great many reasonable readers to use the generic masculine pronoun *he* in reference to no one in particular because it appears sexist. On the other hand, there is not yet a consensus on what to do instead.

Some writers advise switching between masculine and feminine pronouns. For example, you could alternate; make your first character female, your second character male, and so on. Others advise using the unexpected gender; for example, doctors are women and nurses are men.

The most common alternative is to use *they* as a gender-neutral, third-person, singular pronoun. This use has precedence; Shakespeare used the singular *they*. Consider the sentence

A thief robs a store. He wants to take the most valuable items that fit in his knapsack.

Using the singular they, the sentence becomes

A thief robs a store. They want to take the most valuable items that fit in their knapsack.

Using they in this way is common in day-to-day speech, but not yet fully accepted in formal writing. It is simpler than *he or she*, which in turn is preferable to *he/she*, *s/he*, *(s)he*, and the like.

There are other ways to avoid using a pronoun altogether, but it takes thought and often some hard work. One option is to make the subject plural so that the use of *they* becomes unequivocally correct.

A team of thieves rob a store. They want to take the most valuable items that fit in their knapsack.

Another option is to refer to just refer to the subject again rather than use a pronoun.

If the user types cd ~; rm -rf *, that user will lose all files.

An article may sometimes be substituted for a pronoun. For example, the sentence

A patient who develops the described rash on her hands should inform her doctor.

could become

A patient who develops the described rash on the hands should inform a doctor.

Avoid using the word one to solve this problem. Do not write

One who develops the described rash on one's hands should inform one's doctor.

There is also some push to add new, gender-neutral pronouns to the language. The most popular word proposed to fill this role is *ze*, with the possessive form either *zir* or *hir*.

A thief robs a store. Ze wants to take the most valuable items that fit in zir knapsack.

A thief robs a store. Ze wants to take the most valuable items that fit in hir knapsack.

1.7 Numbers

When writing, sometimes you should spell out a number and sometimes you should use digits to represent the number. In this section, we discuss the rules concerning when each case is appropriate. There is sometimes flexibility about which version is appropriate.

Do not start a sentence with a digit.

32 nodes constitute the cluster.

is incorrect. Rewrite the sentence to avoid starting with a digit.

The cluster contains 32 nodes.

If the nodes must be the subject of the sentence, then prefer spelling the number to starting the sentence with digits.

Thirty-two nodes constitute the cluster.

Do not spell out the number if it is awkward to do so, for example if the number is a year.

2001 is the year everything started.

is better than

Two thousand one is the year everything started

but not as good as rewriting the sentence to avoid starting with the number altogether.

Everything started in 2001.

In general, if the number is between 0 and 9, then spell it out.

We ran the program on four nodes.

If the number is greater than 9, then use digits.

We ran the program on 16 nodes.

If the number is coupled with a unit of measure, then use digits.

The cable is 3 meters long.

Using threads makes columnsort run 2 times faster.

Each node has 4 GB of RAM.

Use digits when referring to the digit itself.

In a_{12} , the 1 gives the row number and the 2 gives the column number.

In a list of numbers, if any are digits, then all should be.

We ran the program on 4, 8, and 16 nodes.

Spell out first, second, third, etc. Do not write 1st, 2nd, 3rd, etc. There is an exception to this rule: ordinals with variables. The item at position n in a list is the nth item. The items at positions (x + 1), (x + 2), (x + 3), and (x + 4) are the (x + 1)st, (x + 2)nd, (x + 3)rd, and (x + 4)th items, respectively. As shown in the previous sentence, if you refer to the item at position x + y, then add parenthesis to maintain clarity. Say the (x + y)th item, not the x + yth item. The latter, incorrect case could be mistaken for the value x plus the yth item.

Use digits when writing about money or a number of thousands, millions, etc.

We paid \$4 million.

Writing fractions is more subjective than integers. You can spell the word if the denominator is less than nine and use digits if the denominator is greater than nine. Tom spells out *one-half* and *one-third* and uses digits from 1/4 onward. The word *half* is unique because it doesn't require a number.

I used only one-half of the cluster

and

I used only half of the cluster

are both correct.

I used only one-third of the cluster

is correct, but

I used only third of the cluster

is not correct.

I used only one-quarter of the cluster

and

I used only one-fourth of the cluster

are both fine, but Tom prefers

I used only 1/4 of the cluster.

Avoid writing a sentence with a digit next to a digit. For example, consider

We use four 16 GB nodes.

Even if there are more than nine nodes and you would ordinarily use digits, spell out the number to avoid writing digits next to digits.

We use thirty-two 16 GB nodes.

Another option is to rewrite the sentence to avoid the problem.

We use 32 nodes, each with 16 GB.

1.8 Lists

There are two types of lists: in-text lists and displayed lists. An in-text list appears as part of a sentence. A displayed list is a bulleted or numbered list with each item on a new line. Displayed lists are created with the itemize and enumerate environments in LAT_EX.

An in-text list is shown in the following example.

The memory system contains (1) registers, (2) caches, (3) RAM, and (4) disks.

This list can be rewritten as a displayed list.

The memory system contains

- 1. registers,
- 2. caches,
- 3. RAM, and
- 4. disks.

Tom advises using full parentheses for in-text lists instead of the half parentheses shown in the following example.

The memory system contains 1) registers, 2) caches, 3) RAM, and 4) disks.

Using full parenthesis for in-text lists may create confusion. One way to read the example

The memory system contains (1) registers, (2) caches, (3) RAM, and (4) disks.

is that the memory system contains 10 components, where there is a single register, two separate caches, three pieces of RAM, and four separate disks.

Tom's opinion on punctuating a displayed list differs from Dupré's. Dupré suggests capitalizing the first letter of each line and not using punctuation.

The memory system contains

- 1. Registers
- 2. Caches
- 3. RAM
- 4. Disks

Tom suggests treating the displayed list as part of the sentence; don't capitalize the first letter of each line and punctuate as if the list were part of a simple in-line list.

The memory system contains

- 1. registers,
- 2. caches,
- 3. RAM, and
- 4. disks.

Tom does capitalize the first letter of each item if each item is a complete sentence. Tom and Dupré agree that if any item is a complete sentence, then all items should be complete sentences.

If order is not important to a displayed list, then consider using bullets instead of a numbered list, as numbers imply order. Tom's examples from class do not follow this advice.

The memory system contains

- registers,
- caches,
- RAM, and
- disks.

Likewise, if order is not important to an in-line list, consider using a simple list.

The memory system contains registers, caches, RAM, and disks.