Common errors/typos

Explanation in **your own words**

Suppose you are studying for an exam with a friend. You are prepared. Your friend isn't; they didn't read the book, the notes, or come to class much.

- Goal: help friend prepare for the exam

- How??
    - Do you read <u>entire sections</u> of the book to them?
    - Show pictures?
    - Use examples?
    - Summarize the main points?

Your I.S. won't contain full sections from other sources, either

- It is **your** words, **your** explanation, **your** understanding.

- You learned from other sources (which are cited), but the descriptions and content are **your own.**

Citations: when & when not to use them

Use them any time you are referring to **original** work done by others. This includes

- Definitions/terminology, results, facts, methodology

- Direct quotes

- Tables, figures, insights

- Conjectures, proofs, theorems

- Other obtained information

If you obtained information from a second-hand source (e.g., a paper which uses a definition originally defined elsewhere, an article which quotes another paper), then cite the **primary** source.

Do not use them if the paper was not necessary to obtain the information.

Citations: where to use them

Immediately after the text which uses information obtained from the source. This depends on the context, but common locations include:

- At the end of the sentence: "All of this text is related to a given source [1]."

- In the middle of a sentence: "Here is text related to a source [1], which is followed by other text not needed to be cited."

- Multiple times in a sentence (only if multiple sources): "This text relates to a source [1], which is notably different from another source [2], as well as many other sources containing the other information which is all related [3-7, 12, 20].

Note: LaTeX will automatically handle grouping citations for you. Use one \cite command with keys separated by comas.

LaTeX:
```
Recall that the \emph{injective hull} of $G$, denoted by $\mathcalH(G)$, is a minimal Helly graph which contains $G$ as an isometric subgraph~\cite{Isbell1964/65,DRESS1984321}.
```

pdf: Recall that the *injective hull* of G, denoted by $\mathcal{H}(G)$, is a minimal Helly graph which contains G as an isometric subgraph [27, 36]. It turns out that $\mathcal{H}(G)$ is unique for every G [36]. When G is known

Citations: syntax

LaTeX: cite using a tilde (~), without spaces, after the specific line of text which *warrants* the citation, and before any punctuation (commas, periods, etc.)

- The tilde adds a space but prevents the citation from occurring on the next line by itself, forcing it to occur immediately after the previous text

LaTeX:
```
For chordal graphs~\cite{DBLP:journals/dm/DraganB96} and for
distance-hereditary graphs~\cite{10.1007/3-540-58218-5_34} (as well as
for a more general class of graphs~\cite{DBLP:journals/dm/Chepoi98}) the
following similar result is known.
```

pdf: For chordal graphs [20] and for distance-hereditary graphs [18] (as well as for a more general class of graphs [10]) the following similar result is known: if for a set $M \subseteq V(G)$ and radius function

LaTeX:
```
A graph is \emph{bridged}~\cite{FARBER1987249} if it contains no isometric cycles of
length greater than 3.
```

pdf: A graph is *bridged* [32] if it contains no isometric cycles of length greater than 3.

Citations: et al.

"Guarnera **et al.** showed that…"

- "Et al." is used when you want to name the authors, but there are too many to list (usually 3 or more).

- The last name of the first author occurs first

- No period after et

- Period after al

- No capitalization after the period

Grammar: i.e. and e.g.

- i.e.
  - abbreviation for "id est"
  - Latin for "that is"
  - Usage: "If your home has hard water (i.e., a high mineral content), then your sinks, showers, and tubs no doubt have white or yellow buildup as a result"

- e.g.
  - abbreviation for "exempli gratia"
  - Latin for "for example"
  - Usage: "Try looking for used cars at franchise dealerships (e.g., a Honda, Subaru, or Ford dealership) and independent dealerships (like used car lots)."

Grammar: the Oxford comma

- The Oxford comma is a particular usage of a comma which occurs when listing more than two items/phrases which are combined with a single "and" before the penultimate and last item/phrase.

- *Technically*, it is optional as a sentence is grammatically correct without it. However, it can ONLY bring clarity. So, **you are expected to use the Oxford comma**.

With the Oxford Comma:
We invited the rhinoceri, Washington, and Lincoln.
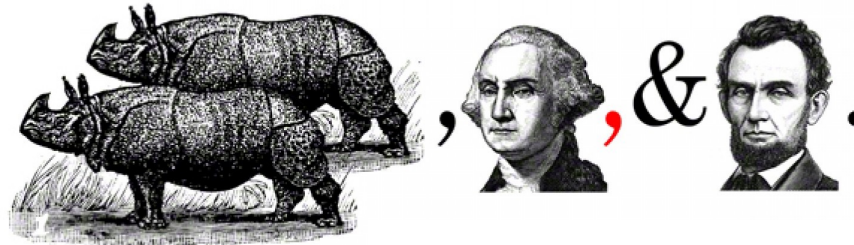
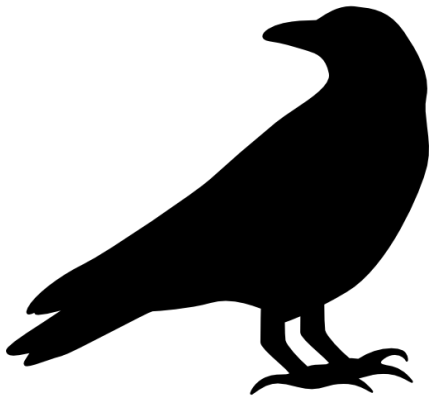Without the Oxford Comma:
We invited the rhinoceri, Washington and Lincoln.

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Grammar: affect vs. effect (RAVEN)

R: Remember
A: Affect (is a)
V: Verb
E: Effect (is a)
N: Noun

AFFECT
/əˈfɛkt/ (verb)

to influence; to produce a change in someone or something

Pollution negatively **affects** the environment.

EFFECT
/ɪˈfɛkt/ (noun)

an impact, change, or result

Exercise and healthy eating have positive **effects**.

Figures/tables/equations

- Captions are complete sentences
- Figure must be referred to within the text
  - Note: LaTeX will automatically use the correct figure number if you use the \label and \ref commands properly.

```
By the triangle inequality. $d_G(x,y)=d_H(x,y)\le diam_H(C^{\ell}_H(M)) + 2\whp$. A small graph
depicted on Figure~\ref{fig:example_sharpness} demonstrates that this inequality is tight.

\begin{center}
\includegraphics[scale=1]{example_sharpness}
\captionof{figure}{A graph $G$ (left) and its injective hull $H$ (right) which show that
inequalities in Proposition~\ref{prop:radiusInH} and Theorem~\ref{thm:diameterOfCenters} are tight:
$\whp(G)=1$, $rad(G)=2$, $rad(H)=1$, $diam(C(H))=0$, $diam(C(G))=2$.}\label{fig:example_sharpness}
\end{center}
```


$diam_H(\breve{C}^\ell_H(M)) + 2\alpha$. A small graph depicted on Figure $\boxed{1}$ demonstrates that this inequality is tight.
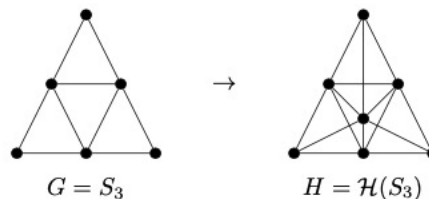
$G = S_3$ $H = \mathcal{H}(S_3)$

Figure 1: A graph G (left) and its injective hull H (right) which show that inequalities in Proposition $\boxed{5}$ and Theorem $\boxed{2}$ are tight: $\alpha(G) = 1$, $rad(G) = 2$, $rad(H) = 1$, $diam(C(H)) = 0$, $diam(C(G)) = 2$.

Chapter and section organization

- Do not immediately begin a chapter with a section.

- There must be a transitionary piece of text before every section and subsection.

- It can vary in length, but at a minimum it must summarize the purpose of the chapter.

Chapter 2: Computer Vision

2.1 Shot Detection

Shot detection involves identifying when a shot (point) has occurred during the video of a sports game. It is accomplished via …

Chapter 2: Computer Vision

Computer vision is a subfield of AI which trains computers to interpret and perceive meaningful information from the visual world. This chapter discusses the applications of computer vision in shot detection and player detection, as well as the YOLO and Tracknet library implementations.

2.1 Shot Detection

Shot detection involves identifying when a shot (point) has occurred during the video of a sports game. It is accomplished via …

Math variable names

- **Use the math environment, which begins and ends with a dollar sign.**
- LaTeX will automatically use the appropriate font/italicization to reflect

🚫 LaTeX:
```
The variables x and y refer to the
coordinates of the pixel in the image.
```

pdf: The variables x and y refer to the coordinates of the pixel in the image.

✅ LaTeX:
```
The variables $x$ and $y$ refer to the
coordinates of the pixel in the image.
```

pdf: The variables x and y refer to the coordinates of the pixel in the image.