Introduction

For each section, you should try to get through all of the exercises that are not marked with stars. Exercises that are marked with stars (⋆) are harder and are not necessary for keeping up in the workshop.

If you want to refer back to the slides, you can find them at `https://tinyurl.com/glsalatexslides`.

An electronic version of *this* document is available at `https://github.com/mkranzlein/glsa_latex`

1   Basics

1. Go to `https://www.overleaf.com` and create an account.

2. Download the `.zip` file containing the exercise templates from `lgessler.com/latex-ws.zip`.

3. Log into Overleaf, click **New Project**, and select **Upload Project**. Upload the `.zip` file that you just downloaded.

4. In the file panel on the left of your screen, select the file named `01_basics.tex`.

5. You will see the `.tex` source code on the left and the `.pdf` output on the right. Click the **Recompile** button on the top left of the preview panel to tell Overleaf to recompile your document. (Hint: you can use CTRL+enter (PC) or CMD+enter (Mac) to same effect.)

6. In the *Background* section, the name "Physical Review Letters" should be italicized. Replace it with

   `\textit{Physical Review Letters}`

   so it will be rendered in italics.

7. [⋆] Delete `\section{F. D. C. Willard}` and refresh the preview. Notice that LATEX has now indented the first paragraph.

   To remove the indentation, insert the command `\noindent` at the very beginning of the first paragraph.

8. [⋆⋆] Under the "Publications" section in the sentence that ends with "... abbreviated them accordingly as F. D. C.", "F. D. C" is spread out across two lines. We can avoid this by using the non-breaking space character, ˜, to rewrite the name as `F.˜D.˜C.`. Refresh the page. Does the name still get broken?

9. [⋆⋆] You can use the `\footnote{...}` command to create a footnote. Add a footnote after the name "La Recherche" to explain that it literally means 'research'.

2 Text

10. Open the file named `02_text.tex`.

11. The margins on this document are a little big. Put the command **\usepackage**[margin=1in]{geometry} at the beginning of the document. (The item in square brackets is called an *option*.) Try also setting it to `1cm` or `0.5in`.

12. The second and last paragraphs of the section titled "Insight into potential of computing devices" should be rendered as block quotes, not paragraphs. There is an environment for this called `quote`. Enclose these paragraphs with **\begin**{quote} and **\end**{quote}.

13. The paragraphs under "Bicentennary", save for the first and last, should actually be items in a bulleted list. Use the `enumerate` environment along with the \item command to turn it into a bulleted list.

14. Try out some of the fonts listed at `https://www.overleaf.com/learn/latex/Font_typefaces`.

15. [⋆] Let's get fancy! Import and activate the `fancyhdr` (fancy header) package at the beginning of your document:

    ```
    \usepackage{fancyhdr}
    \pagestyle{fancy}
    ```

    (**Note:** make sure you put these lines **after** the line where you import the `geometry` package.)

    Recompile your document. What changed? Now, set the left and right headers:

    ```
    \lhead{GLSA Workshop\\November 9, 2019}
    \rhead{Ada Lovelace\\From Wikipedia}
    ```

16. [⋆⋆] Put the lines you introduced in exercise 15 *before* the line where you import the `geometry` package. What goes wrong? What do you think happened?

3   Commands and Bibliographies

17. Open up `03_commands_bib.tex`.

18. Implement the **\dateRange** command from earlier, which accepts two arguments (years) and produces something like (1992 – 1994).

19. Try defining a command called **\dictentry** that styles its arguments as if it were an entry in a dictionary:

    ```
    \dictentry{asparagus}{n.}{a plant cultivated for its edible shoots}
    % renders into:
    ```
    asparagus (*n.*) – a plant cultivated for its edible shoots

    Hint: begin by writing:

    ```
    \newcommand\dictentry[3]{
      #1 #2 #3
    }
    ```

20. Try using your command several times, with at least one of the words having a very long definition. What do you think about the space between the items? Modify your command definition with **\vspace** if you're not satisfied.

21. Refer to the file `pubs.bib` to see a list of publications you can cite. Use **\citep** and **\citet** to insert some references into the text.

22. Try supplying multiple items to the citation commands by delimiting them with a comma:
    \citep`{key1,key2,...}`. What happens?

23. [⋆] Try commenting out the line **\setcitestyle**`{authoryear,round}` and uncommenting the other line to see what numeric styling looks like.

4   Make your CV!

24. Open the file 04_cv.tex and familiarize yourself with the commands used to make it.

25. Update the title with your own information.

26. Update the education section with your own information, being careful to use only the **\resumeEdu** command. (It's OK to modify it—this is yours!)

27. Update the awards and honors section with your own information.

28. Update the pubs.bib file with your own publications, then update the publications section with your own work.

29. [⋆] Make a new professional experience section, either basing it entirely off of the Education section or writing your own command for it.

30. [⋆] Write commands for other sections you want to include, e.g. service, languages, teaching...

5 Tables and more

5.1 Tables

31. Open `05_tables.tex`. First, notice that the second copy is numbered **Table 2**, even though the code for the table is exactly the same as **Table 1**.

32. In **Table 2**, change the line

    ```
    \begin{tabular} { |c|c|c| }
    ```

    to

    ```
    \begin{tabular} { |l|l|l| }
    ```

    What changed?

33. Experiment with removing some of the `\hline` commands from **Table 2** to see where each horizontal line is being drawn.

34. Add another row with three elements to **Table 2**.

35. Above `\begin{table}` for **Table 2**, put `\setcounter{table}{4}`. This manually overrides the counter to a value of 4, so the next table that is drawn will be number 5.

36. Copy the code for what is now **Table 5** and paste it below. You should now have 3 tables that look very similar: the reference, **Table 5**, and a clone of **Table 5**. In this version of the table, change

    ```
    \caption{This is a table}
    ```

    to

    ```
    \caption*{This is a table}
    ```

    You should see that the automatic numbering goes away.

37. [⋆] Create a new table with 2 rows and 4 columns. Fill the table with data and add a caption.

38. [⋆] Use `\setcounter{table}` or `\caption*` to ensure that your table caption starts with **Table 42:** instead of **Table 6:**.

5.2   Images

39. Open `06_images.tex`.

40. Download an image of your choice from the internet and save it somewhere you can find it. Now upload the image to Overleaf using the *upload* button in the top left, just below the menu button.

41. Fix the error in `06_images.tex` by replacing "filename" with the name of the image you uploaded.

42. Use both the width and height options to resize your image. Try a variety of combinations. These options look like **\includegraphics**[width=2cm, height=2cm]{filename}

43. Remove either the `width` or the `height` option and replace it with `keepaspectratio`. Note how the image shape changes.

5.3   Figures and Cross-Referencing

44. Open `07_figs_labels.tex`.

45. Copy your image from `06_images.tex` to `07_figs_labels.tex` where you see the line `% Image goes HERE!`

46. Give the new figure a label that starts with "fig:". Add a couple of sentences below your figure, and in one of those sentences, use the **\ref**{fig:name} command where "name" is whatever you named your figure. This should give you the figure number automatically. You'll have to manually type "Figure" before it.

47. Now add an automatic reference to the page number where the figure appears. Do this with **\pageref**{fig:name}.

48. [⋆] Add filler words to your sentence until "Figure" is the last word on the line and the number "42" appears on the next line. This will inevitably happen in the natural course of writing a paper, but splitting the figure number from the word "Figure" doesn't look great. To fix this, replace the space between "Figure" and **\ref**{} with a tilde (∼). In LATEX, the tilde is a non-breaking space, which means LATEXwon't let two words separated by one be on two different lines.

6 Linguistics Content

6.1 IPA

49. Open `08_glosses_and_ipa.tex`.

50. With the TIPA chart open, practice transcribing some words from a language you know with TIPA.

6.2 Glosses

51. Produce an interlinear glossed example in a language you know.

52. Add a **\label**{...} right after the **\ex** and refer to it somewhere in the body of the text with a **\ref**{...}.

53. Add another example before the one you just labeled. What happens to the ref?

6.3 Trees

54. Open the file named `09_trees.tex`.

55. Copy the original tree and paste it so you have a new version to modify. In this copy of the tree, expand the AdvP **furiously**, which is currently below a triangle, to **AdvP - Adv' - Adv - furiously**.

56. Copy the original tree and paste it so you have a new version to modify. In this copy of the tree, Use the **\qroof** command to put **sleep furiously** directly under VP below a triangle.

57. In the tree from the previous question, replace the empty set symbol (∅) under **C** with **[-Q]**. Remember that in order to display square brackets in the actual tree, you need to put them inside of curly braces.
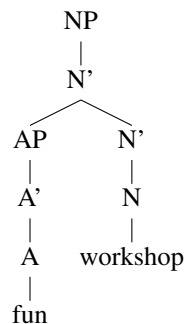
58. Try creating the tree for "fun workshop" shown above. **\Tree**`[.NP [.N'` should get you started. Remember to put a space before closing brackets, so `[.A fun ]`, not `[.A fun]`.

Use this tree as a reference for the remaining questions in this section. **These questions are aimed specifically at those interested in drawing trees with LaTeX. If that's not you, you probably shouldn't worry about them.**

```
                                    CP
                                    |
                                    C'
                         _____|_____
                        C                       TP
                        |             _____|_____
                      [-Q]           DP                   T'
                                     |              _____|_____
                                     D'            T             VP
                                ____|____       [PRES]           |
                               D        NP                       V'
                               |         |                _____|_____
                             The        N'              V             PP
                                   _____|_____         jumps          |
                                  AP         N'                       P'
                                  |      ____|____              _____|_____
                                  A'    AP       N'            P             DP
                                  |     |        |            over           |
                                  A     A'       N                           D'
                                  |     |        |                      _____|_____
                                quick   A       fox                    D          NP
                                        |                              |           |
                                      brown                           the         N'
                                                                            _____|_____
                                                                           AP           N'
                                                                           |            |
                                                                           A'           N
                                                                           |            |
                                                                           A           dog
                                                                           |
                                                                          lazy
```
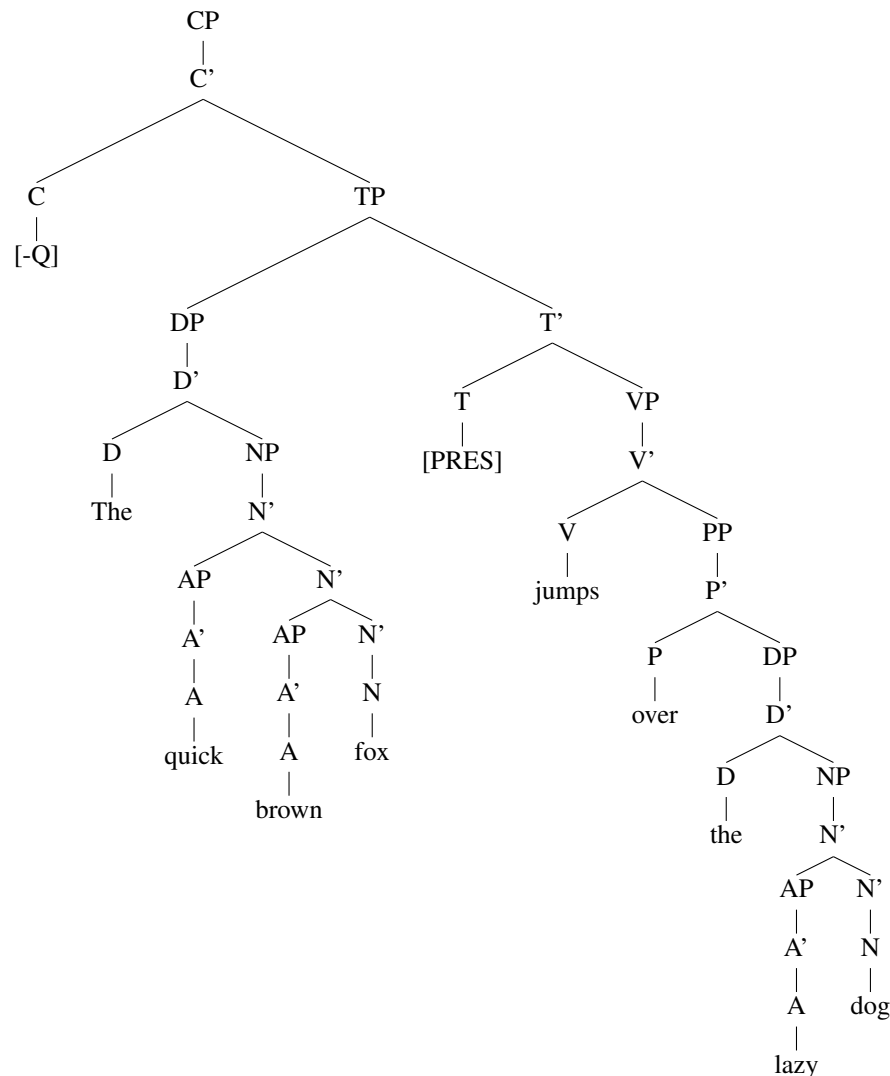
59. [⋆] Recreate the top three levels of the tree. Your tree should only have 4 items: **CP**, **C'**, **C**, and **TP**. Don't worry about including **[-Q]** or anything below **TP**.

60. [⋆⋆] Create the subtree for the NP "quick brown fox." **NP** will be the root node and your tree should include all of its descendants).

61. [⋆ ⋆ ⋆] Create the subtree for **T'** and all of its descendants.

62. [⋆ ⋆ ⋆] Use the components you have already created to finish recreating the entire tree.