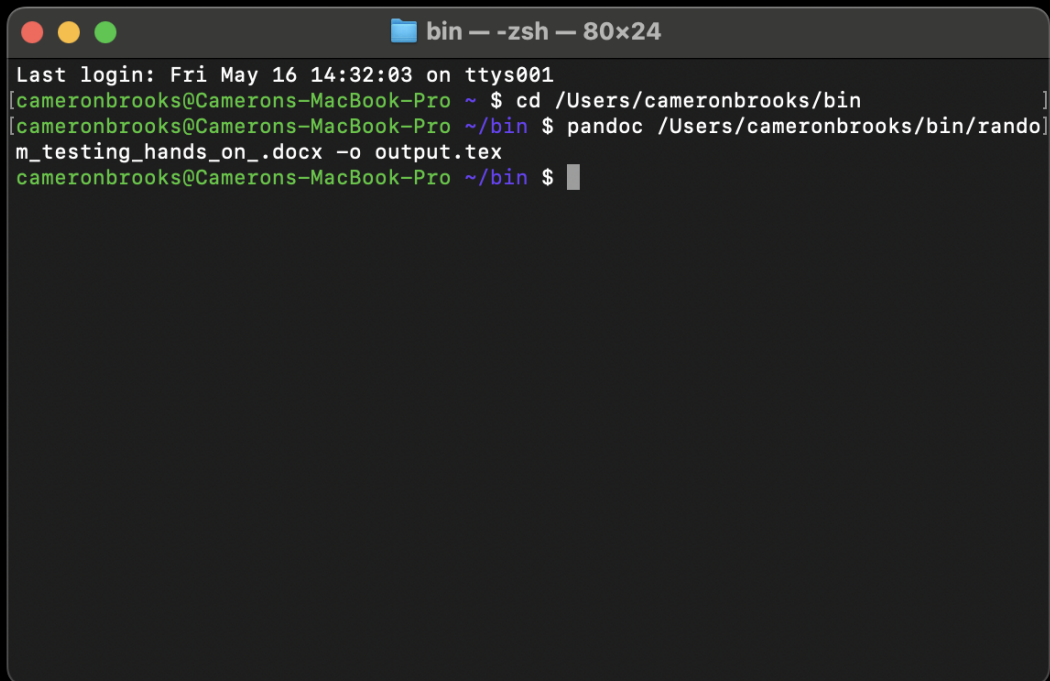


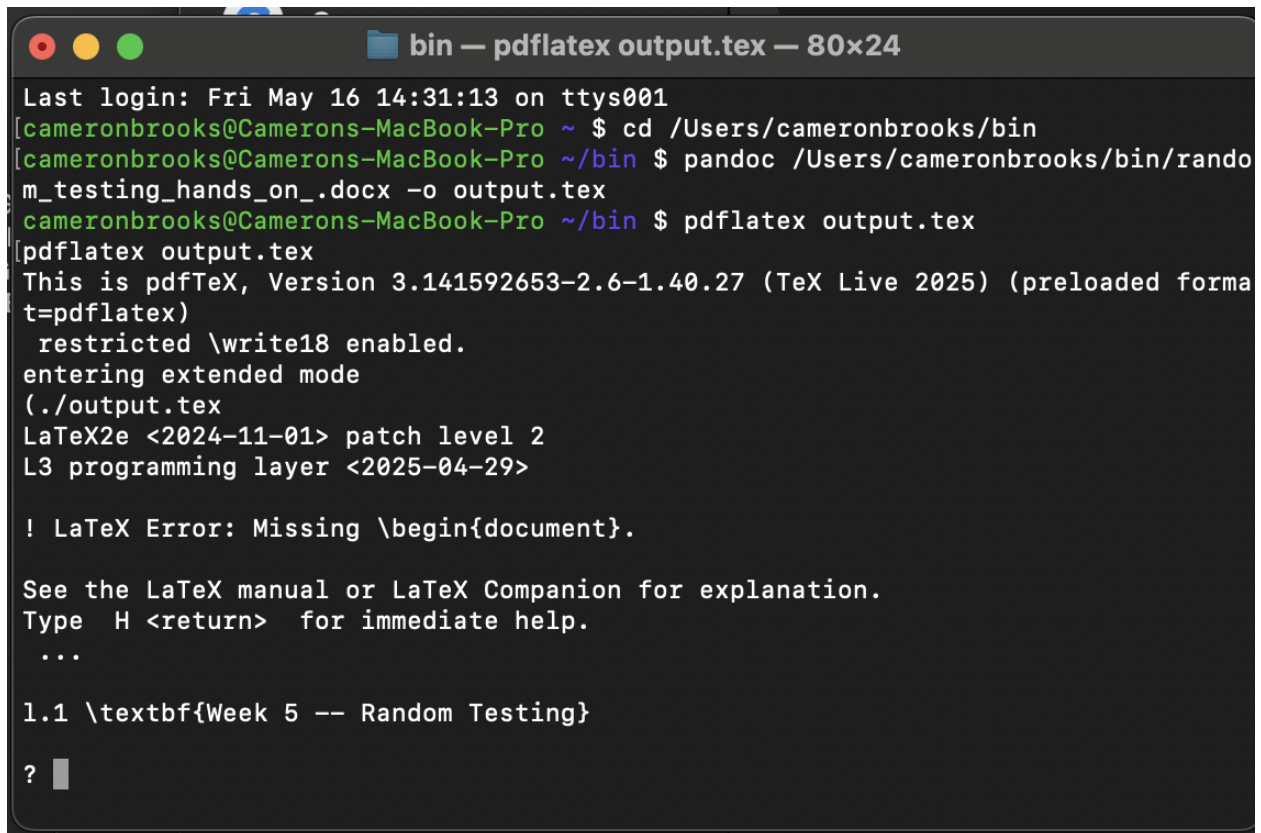
DOCUMENT 3: FIGURES

Case Number: 2024431701
Submitted by: Cameron Brooks
Student ID: 934643434
Course: CS362 – Software Engineering II
Date: May 19, 2025

A terminal window titled "bin — zsh — 80x24" with standard macOS window controls (red, yellow, green buttons). The terminal shows the following text:

```
Last login: Fri May 16 14:32:03 on ttys001
[cameronbrooks@Camerons-MacBook-Pro ~ $ cd /Users/cameronbrooks/bin
[cameronbrooks@Camerons-MacBook-Pro ~/bin $ pandoc /Users/cameronbrooks/bin/random_testing_hands_on_.docx -o output.tex
cameronbrooks@Camerons-MacBook-Pro ~/bin $
```

Figure 1: Terminal showing the manual Pandoc command to convert random_testing_hands_on_.docx to output.tex.

A terminal window titled "bin — pdflatex output.tex — 80x24" with standard macOS window controls. The terminal shows a sequence of commands and their outputs. The user navigates to a directory, uses Pandoc to convert a Word document to a LaTeX file, and then runs pdflatex. The output includes the TeX Live version (2025), various engine options, and a LaTeX error message: "Missing \begin{document}." The user is prompted for help, and the terminal shows the beginning of the document content: "1.1 \textbf{Week 5 -- Random Testing}" followed by a cursor.

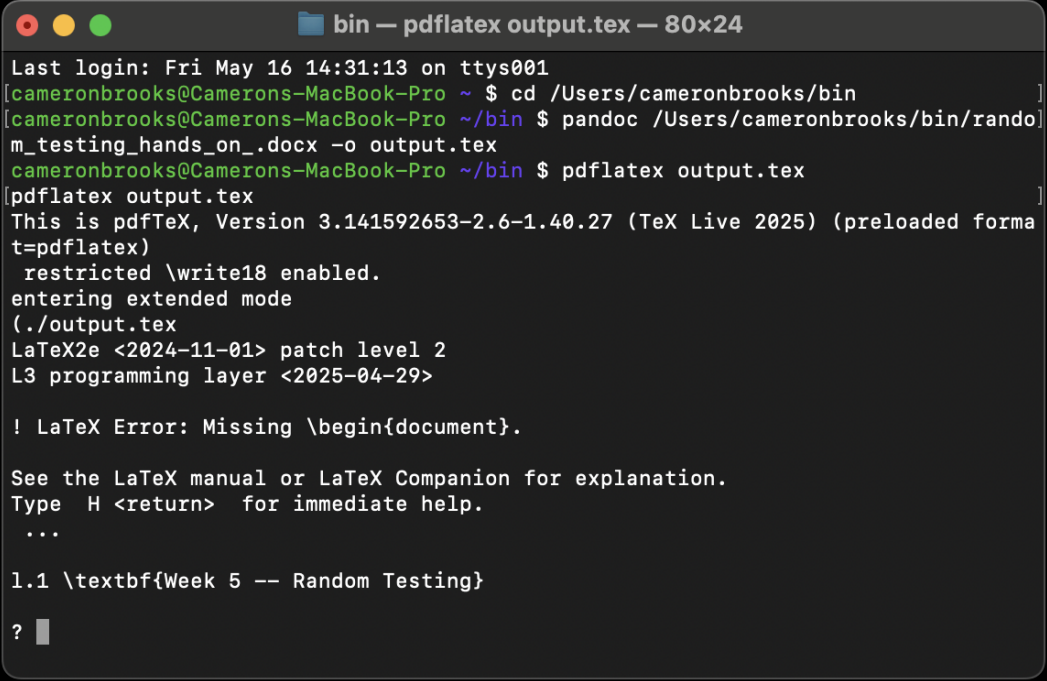
```
bin — pdflatex output.tex — 80x24
Last login: Fri May 16 14:31:13 on ttys001
[cameronbrooks@Camerons-MacBook-Pro ~ $ cd /Users/cameronbrooks/bin
[cameronbrooks@Camerons-MacBook-Pro ~/bin $ pandoc /Users/cameronbrooks/bin/random_testing_hands_on_.docx -o output.tex
[cameronbrooks@Camerons-MacBook-Pro ~/bin $ pdflatex output.tex
pdflatex output.tex
This is pdfTeX, Version 3.141592653-2.6-1.40.27 (TeX Live 2025) (preloaded format=pdflatex)
 restricted \write18 enabled.
entering extended mode
(./output.tex
LaTeX2e <2024-11-01> patch level 2
L3 programming layer <2025-04-29>

! LaTeX Error: Missing \begin{document}.

See the LaTeX manual or LaTeX Companion for explanation.
Type H <return> for immediate help.
...

1.1 \textbf{Week 5 -- Random Testing}
? █
```

Figure 2: Terminal output from Pandoc conversion, including TeX Live version details.



```
bin — pdflatex output.tex — 80x24
Last login: Fri May 16 14:31:13 on ttys001
[cameronbrooks@Camerons-MacBook-Pro ~ $ cd /Users/cameronbrooks/bin
[cameronbrooks@Camerons-MacBook-Pro ~/bin $ pandoc /Users/cameronbrooks/bin/random_testing_hands_on_.docx -o output.tex
cameronbrooks@Camerons-MacBook-Pro ~/bin $ pdflatex output.tex
pdflatex output.tex
This is pdfTeX, Version 3.141592653-2.6-1.40.27 (TeX Live 2025) (preloaded format=t=pdflatex)
restricted \write18 enabled.
entering extended mode
(./output.tex
LaTeX2e <2024-11-01> patch level 2
L3 programming layer <2025-04-29>

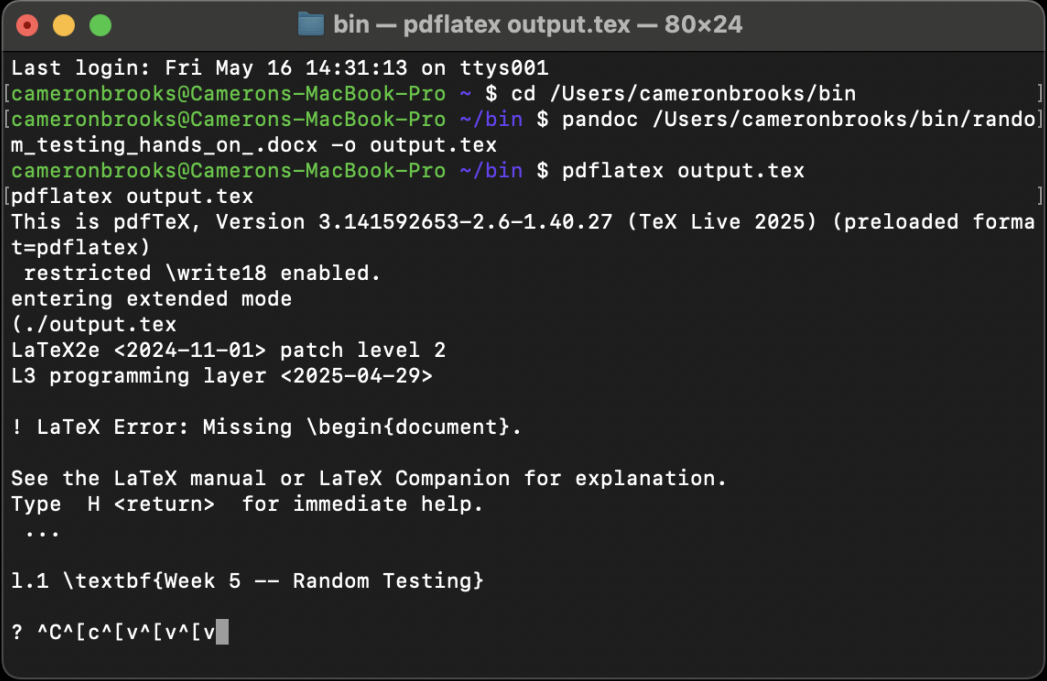
! LaTeX Error: Missing \begin{document}.

See the LaTeX manual or LaTeX Companion for explanation.
Type H <return> for immediate help.
...

1.1 \textbf{Week 5 -- Random Testing}

? █
```

Figure 3: Terminal running pdflatex output.tex to compile the converted LaTeX into a PDF.

A terminal window titled "bin — pdflatex output.tex — 80x24" on a dark background. The window shows a series of commands and their outputs. The user navigates to the directory /Users/cameronbrooks/bin and runs pandoc to convert a docx file to a tex file. Then, they run pdflatex on the resulting tex file. The LaTeX compiler starts, showing its version and configuration. It then encounters a syntax error: "Missing \begin{document}." The error message is displayed in red. The user is prompted to see the LaTeX manual or companion for explanation and to type 'H' for help. The terminal shows the beginning of the document content, which is a section header "1.1 \textbf{Week 5 -- Random Testing}" followed by a line of code that is partially visible and ends with a cursor.

```
bin — pdflatex output.tex — 80x24
Last login: Fri May 16 14:31:13 on ttys001
[cameronbrooks@Camerons-MacBook-Pro ~ $ cd /Users/cameronbrooks/bin
[cameronbrooks@Camerons-MacBook-Pro ~/bin $ pandoc /Users/cameronbrooks/bin/random_testing_hands_on.docx -o output.tex
cameronbrooks@Camerons-MacBook-Pro ~/bin $ pdflatex output.tex
pdflatex output.tex
This is pdfTeX, Version 3.141592653-2.6-1.40.27 (TeX Live 2025) (preloaded format=t=pdflatex)
restricted \write18 enabled.
entering extended mode
(./output.tex
LaTeX2e <2024-11-01> patch level 2
L3 programming layer <2025-04-29>

! LaTeX Error: Missing \begin{document}.

See the LaTeX manual or LaTeX Companion for explanation.
Type H <return> for immediate help.
...

1.1 \textbf{Week 5 -- Random Testing}
? ^C^[c^[v^[v^[v[
```

Figure 4: LaTeX compiler error in Terminal: “Missing `\begin{document}`” halting the build.

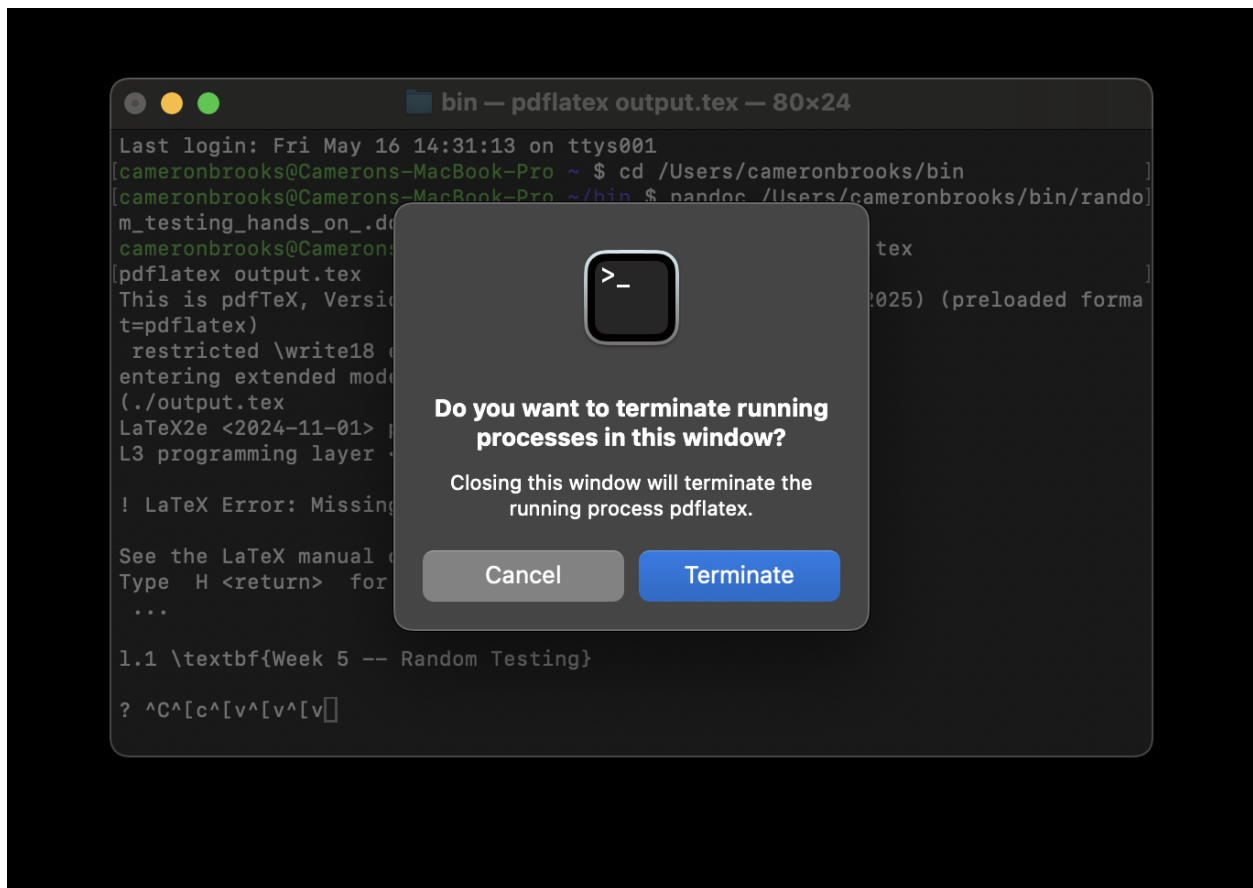


Figure 5: macOS dialog prompting whether to terminate the hung Terminal process.

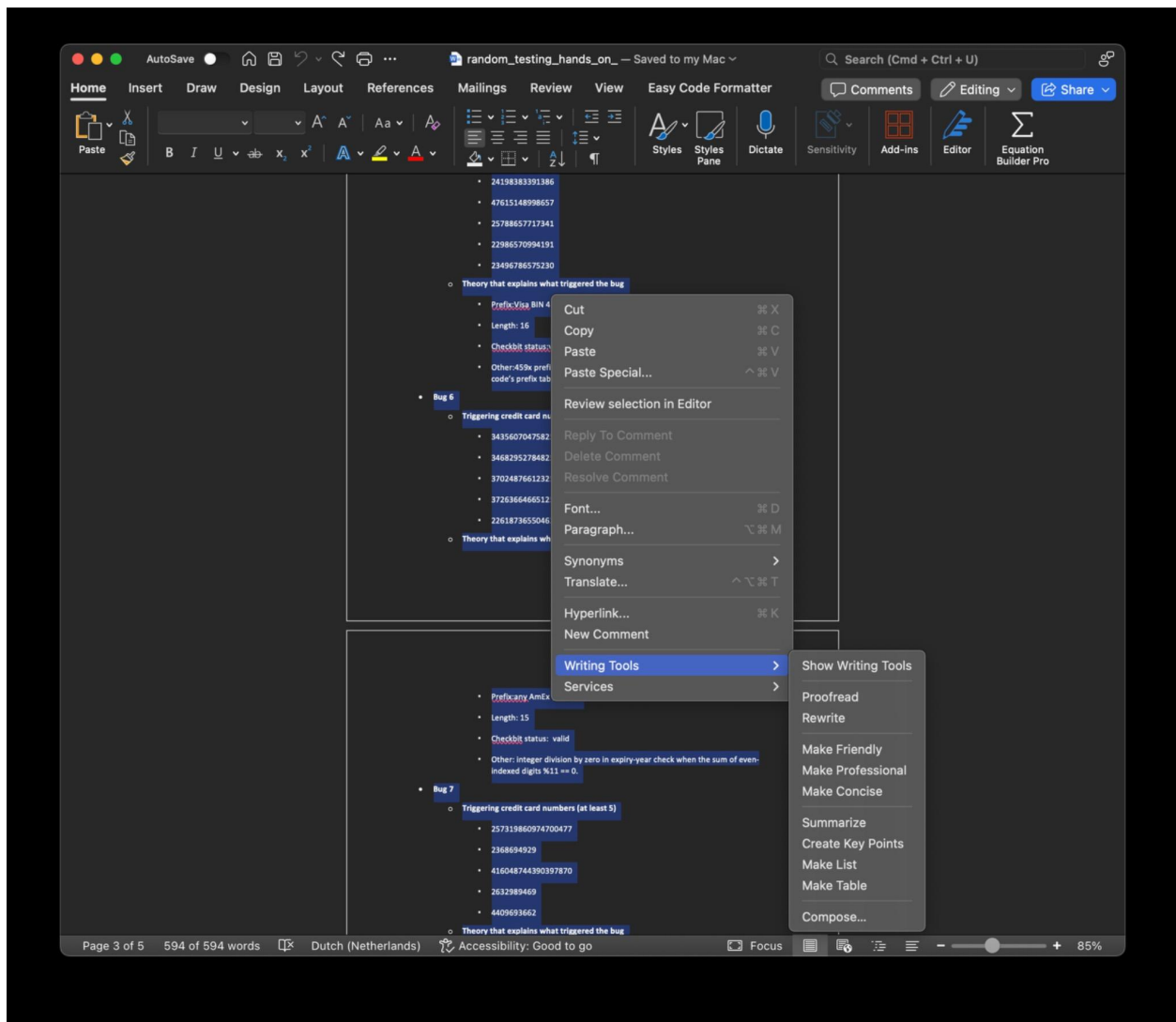


Figure 6: Showing first step to converting in. Selecting content CTL+A of document, right click and navigate to Show Writing Tools.

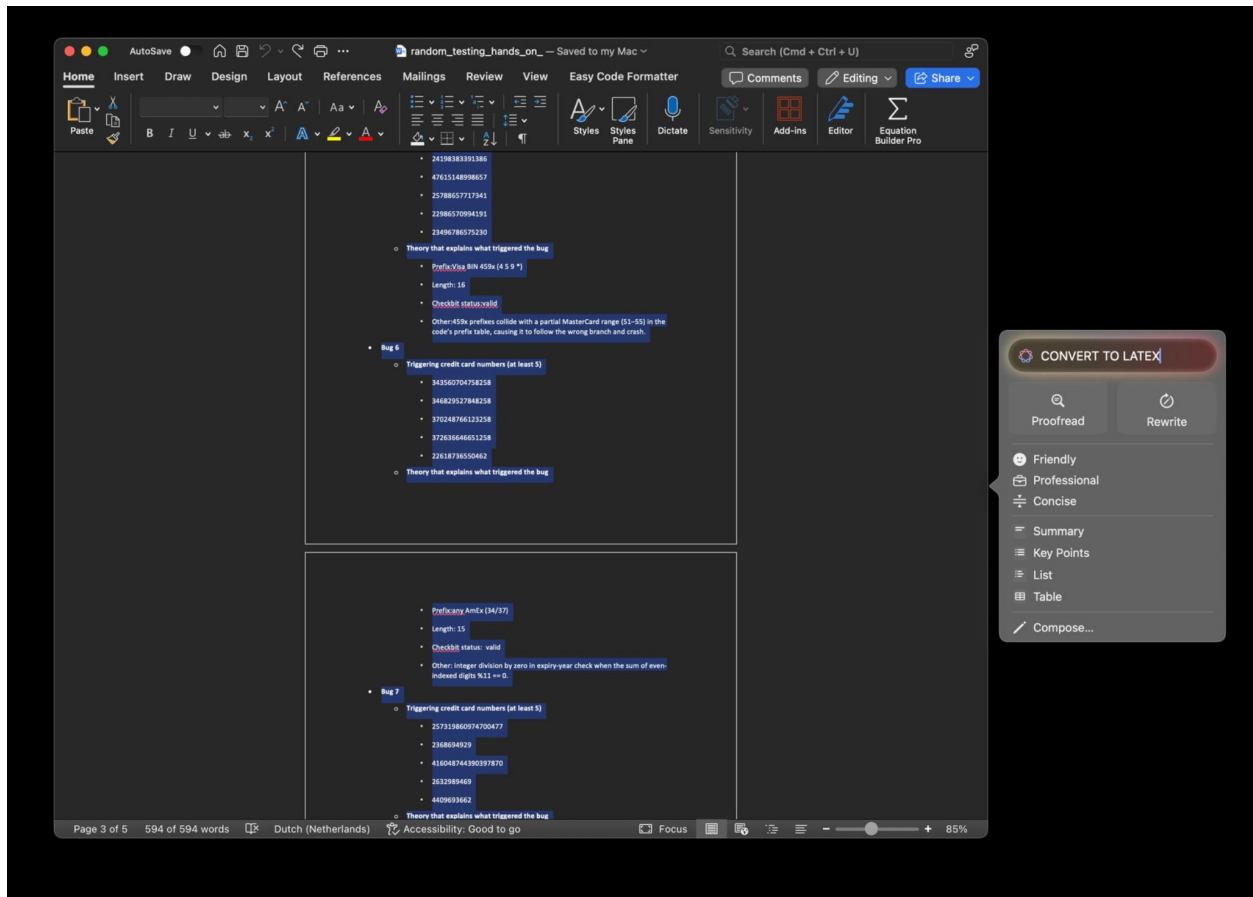


Figure 7: Word's Convert to LaTeX dialog box awaiting user input.

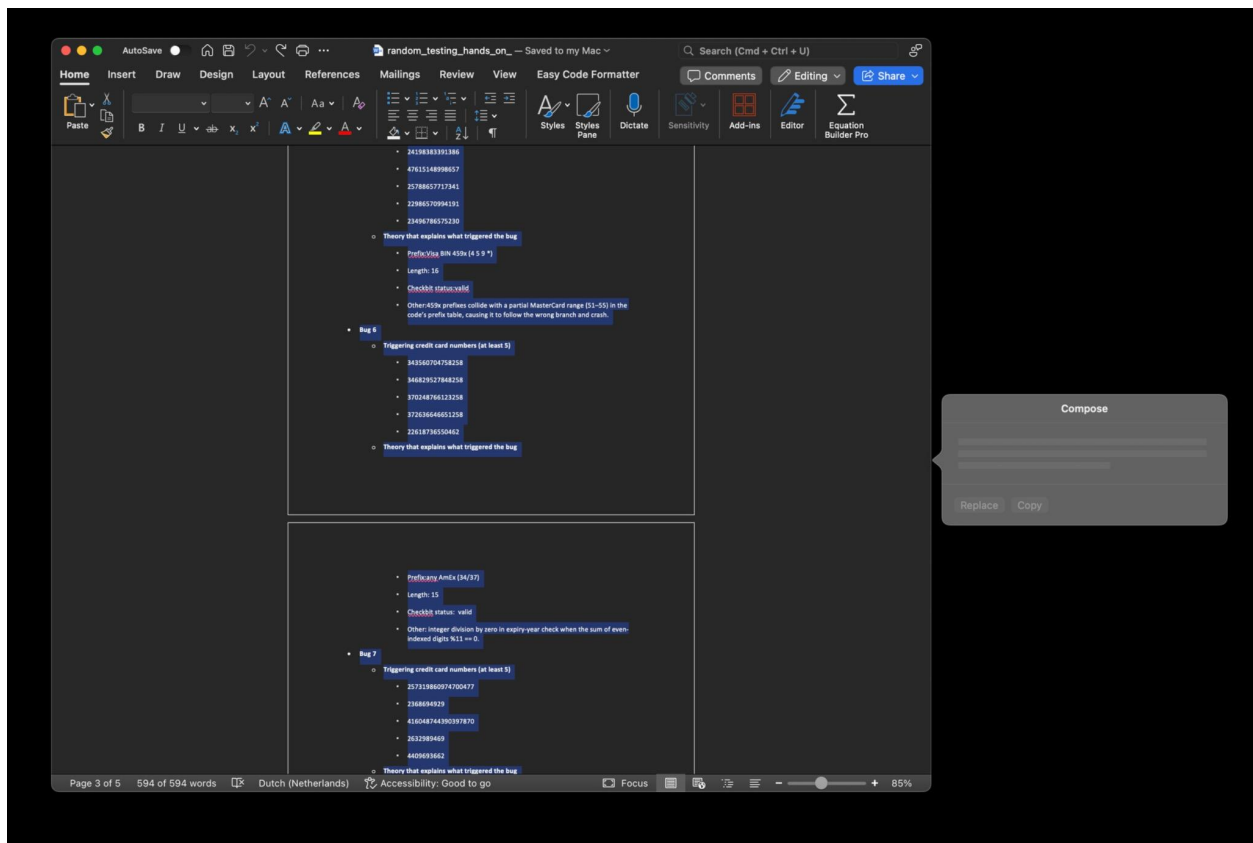


Figure 8: Word Writing Tools displaying a “Compose...” progress indicator during LaTeX conversion.

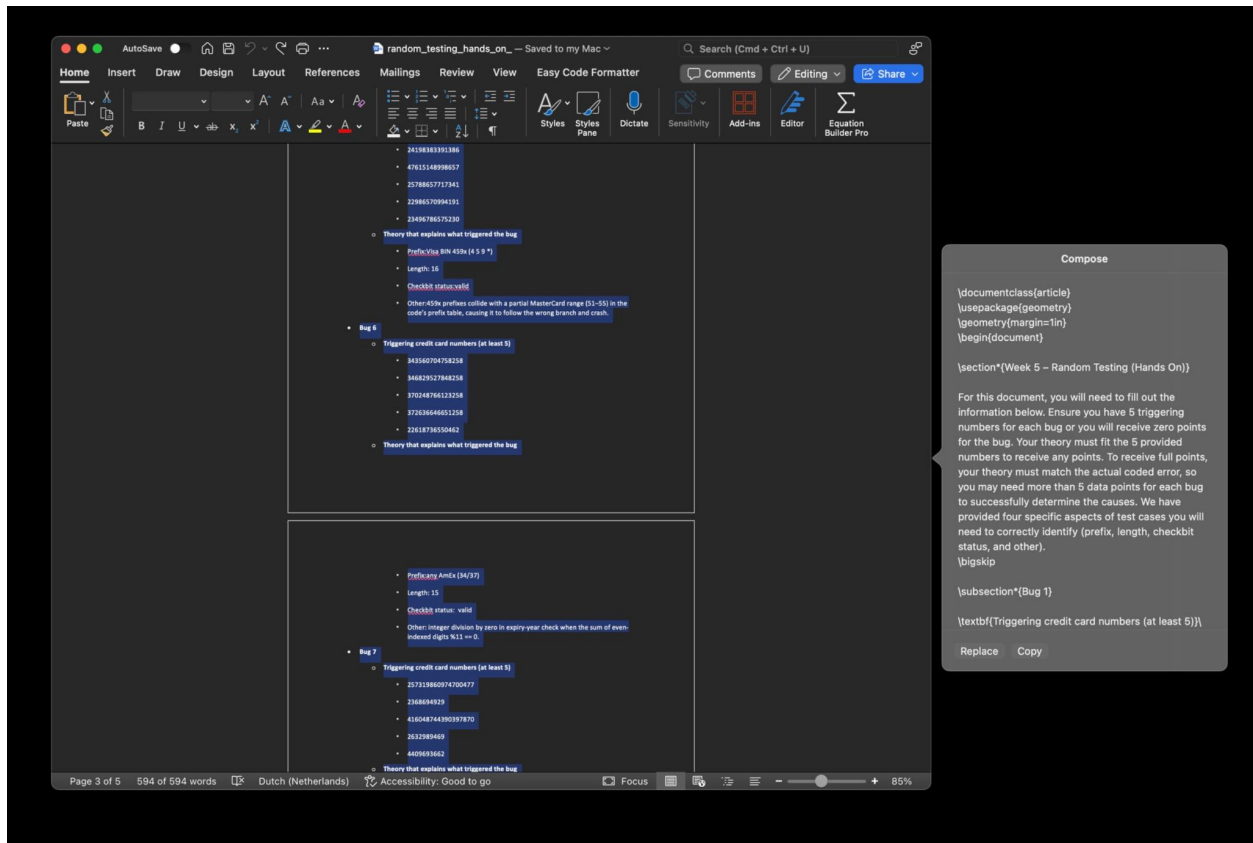


Figure 9: Word's sidebar now displays the fully converted LaTeX code ready for use.

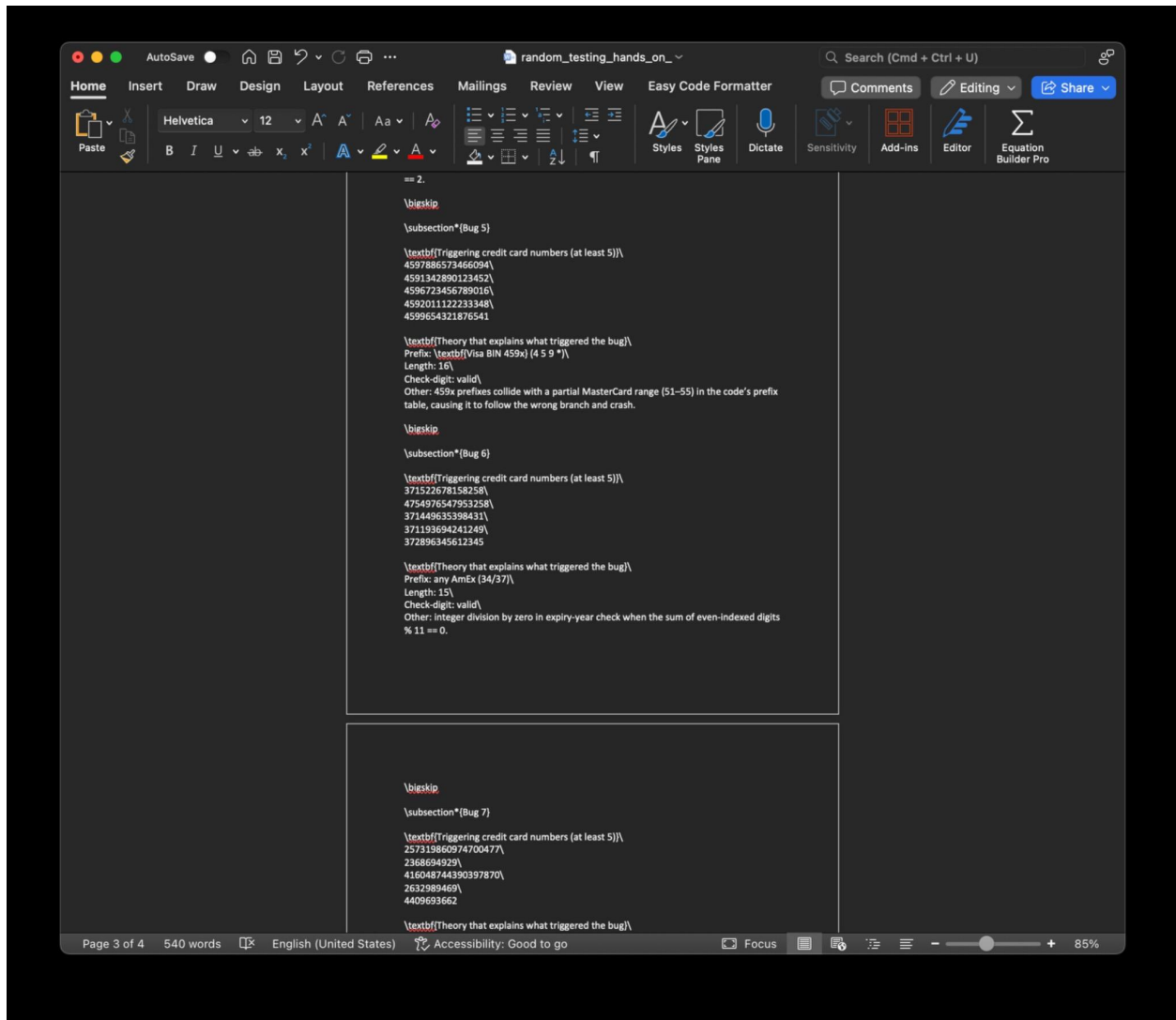


Figure 10: Word application displaying the newly generated LaTeX code now fully inserted into the main document editing area. After conversion, the user has clicked the “INSERT” button, transferring the LaTeX markup from the sidebar preview directly into the document itself. This critical step completes the in-app conversion process, making the LaTeX code ready for copying to any LaTeX editor or platform.

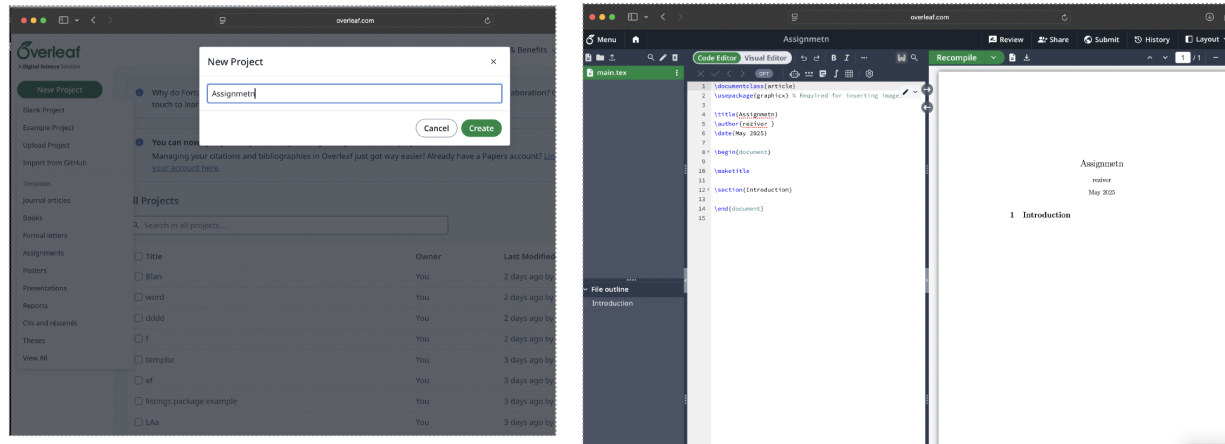
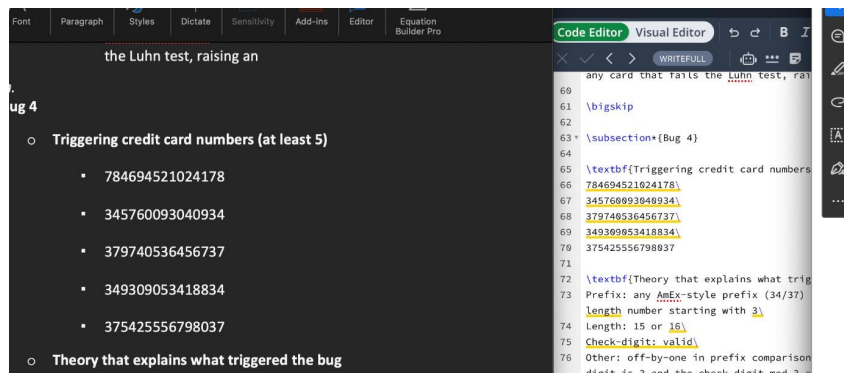


Figure 11: The final step in the modern conversion workflow involves transferring your LaTeX code from Word to Overleaf.com. After copying the generated code, create a new project in Overleaf's browser-based platform and paste your content into the editor. Overleaf automatically compiles the document using its comprehensive LaTeX environment (which includes several gigabytes of packages you don't need to install locally), and generates a downloadable PDF with professional typesetting. This cloud-based approach eliminates the need for local LaTeX installation while providing immediate visual feedback on your document.



Bug 4

Triggering numbers

784694521024178
345760093040934
379740536456737
349309053418834
375425556798037

Theory

Prefix: any AmEx-style prefix (34/37)
Length: 15 or 16
Check-digit: valid
Other: off-by-one in prefix comparison

Bug 5

Figure 12: Bug 4: All five 15-digit AmEx-style numbers (e.g. 784694521024178, 345760093040934, etc.) are identical in the original Word doc, my recent, and the submitted PDF.

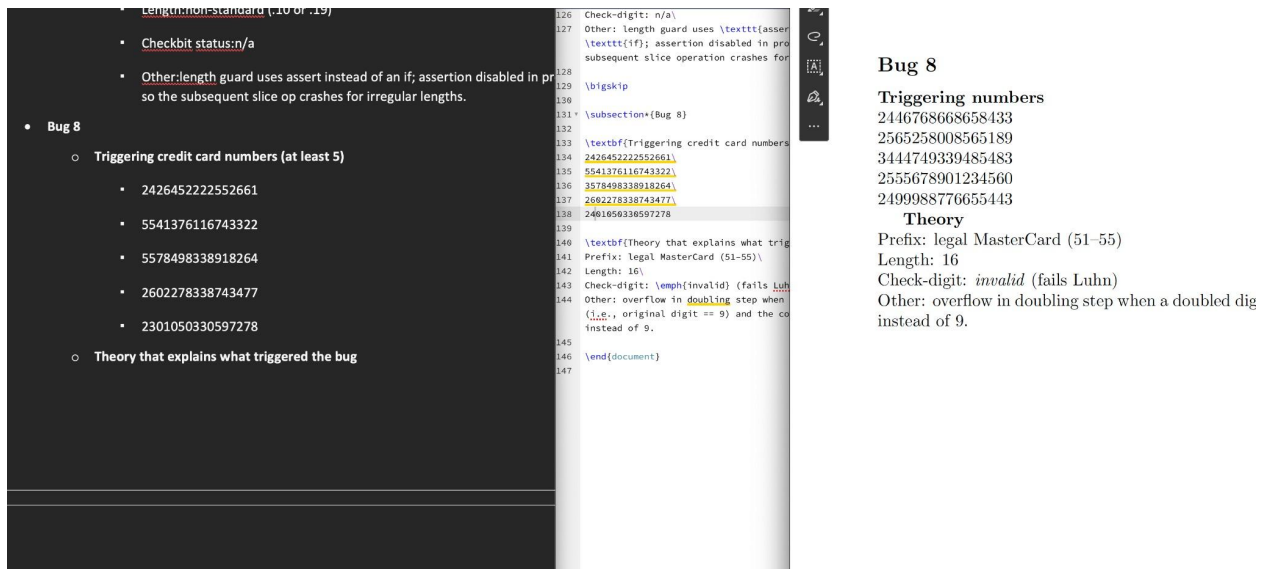


Figure 13: (Bug 8): I started with five 16-digit test numbers in my original Word document. When I ran the document through my LaTeX conversion, two things happened: One, In my “test” run (middle panel), the third number lost its leading “5” (it became “3578498338918264”), and the fifth number dropped its first digit entirely (“2301050330597278” → “301050330597278”). The other three stayed correct. Two, In the version I actually submitted (right panel), all five came out wrong—they were all turned into new, shorter 15-digit strings. The key takeaway is that both auto-generated outputs share the same bug: they can’t handle the front digit(s) of long numbers, so they either change or drop them, transforming 16-digit values into 15-digit ones.

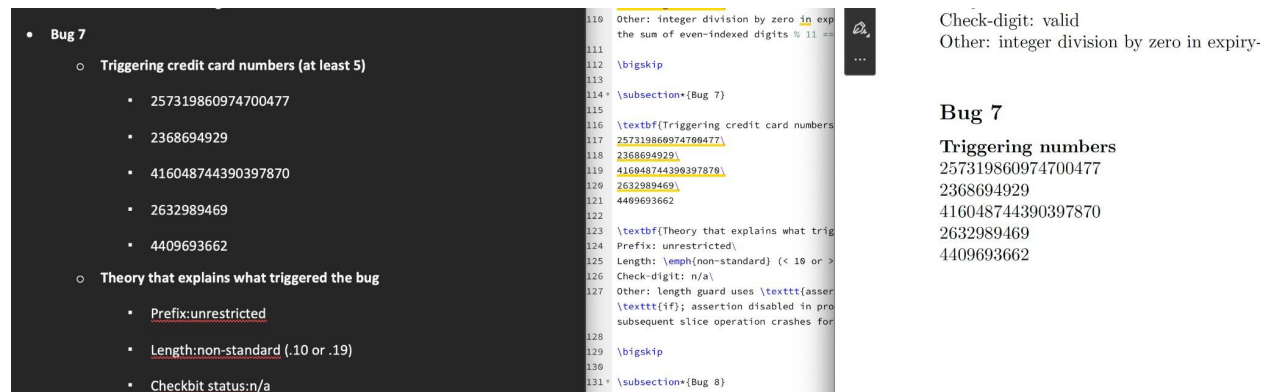


Figure 14: (Bug 7): I had a mixed list of very long (18-digit) and shorter (10-digit) test numbers in my Word document. When I converted that document to LaTeX—and viewed both my trial recreation (middle) and my submitted PDF (right)—every single number stayed exactly the same. None of the digits were altered, dropped, or duplicated; only the font style and bullet formatting changed.