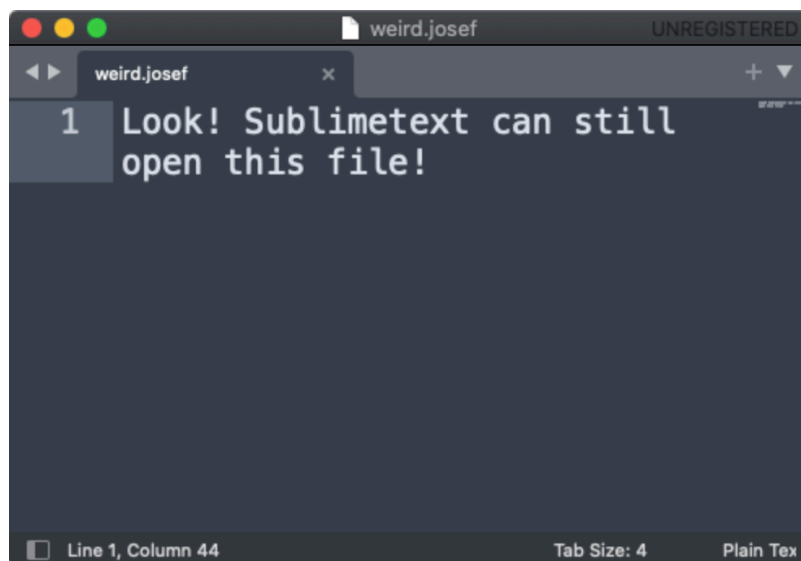# File Extensions

File Extensions
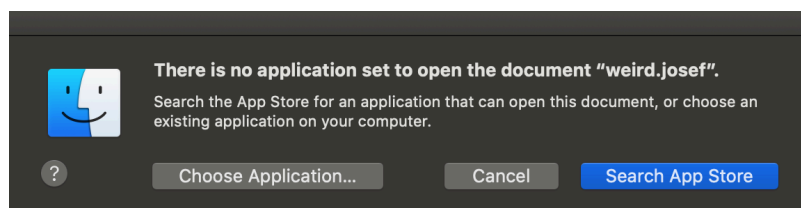
Looking at File Extensions

In this class, we're going to be looking at a bunch of different files which have different kinds of file extensions. All file extensions do is give you and your computer a hint to what you should find inside. Here's a few that we might see:

- `.txt` - a (raw) text file
- `.html` - an html file, to be viewed in a web browser
- `.xml` - an E**x**stensible **M**arkup **L**anguage file
- `.md` - a Markdown file (a file that can be converted into html)
- `.tex` - a LaTeX file (to be converted into a pdf)
- `.Rmd` - an R Markdown File (to be converted into html)
- `.py` - a Python script
- `.r` - an R script

But this isn't a complete list off all the possible file extensions you could create right now, because *anything* can be used as a file extension. I could, for example, save a raw text file with then file extension `.josef`, and Sublime Text could still open it with no problem.
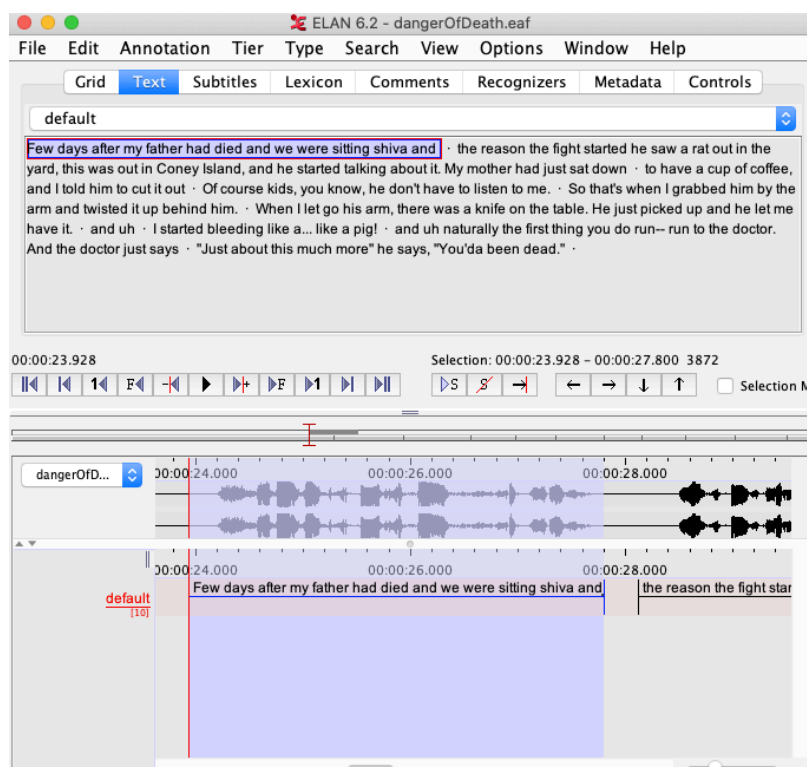
It only becomes an issue when I try to open the file just by double clicking on it. Then, my computer tells me that there's no application that can open it.

There is no application set to open the document "weird.josef".
Search the App Store for an application that can open this document, or choose an existing application on your computer.

? | Choose Application... | Cancel | Search App Store

But, this isn't a big deal! When in doubt, try opening a file in a text editor.

It's common enough for specialized software to create files with specialized file extensions. Many programs will create `.log` files when the run, which tend to include a log of everything it did while it was running. Another example is the software commonly used to do transcription in linguistics called **Elan** ⤷ **(https://archive.mpi.nl/tla/elan)** , which saves files with a `.eaf` extension. Here's what an Elan file looks like when opened in the software.

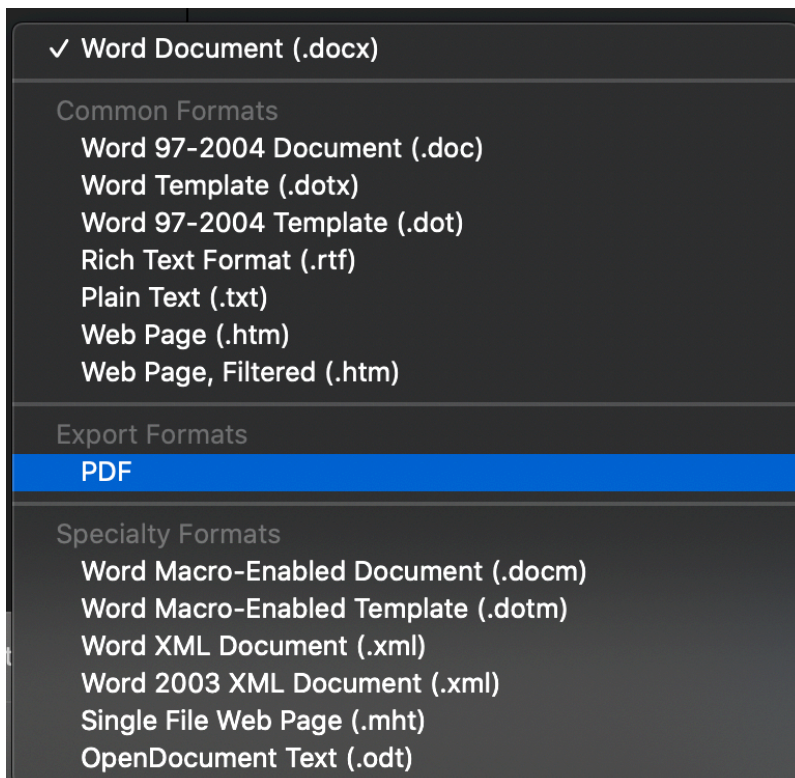But if try opening it with Sublime Text, this is what we get.

Don't worry about the details inside the screenshot! The point is that *inside* of `.eaf` files is just text. It's very structured text (`.xml` specifically), but still just text.
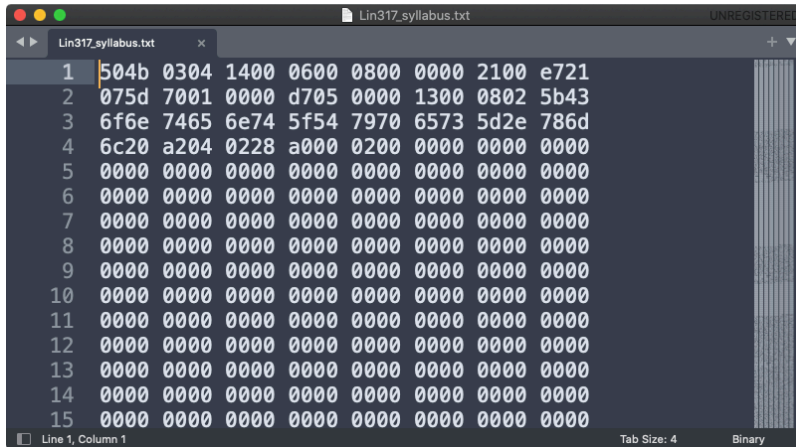

?

How do *I* set the file extension?

In most software you will have used so far, you don't get to choose the file extension when you save a document, or if you do, it's off a very limited list, and it also changes the *kind* of file. For example, here is the list of file types (indicated by their file extensions) that I can save a word doc in.

The important thing to keep in mind is that the *file extension does not affect the content of the file*. For example, if I wrote a poem in a Word document, saved it as a Word document, then just changed the file extension name from `.docx` to `.txt`, it has not become a raw text file. I did this with a copy of the course syllabus, and here's how it turned out:
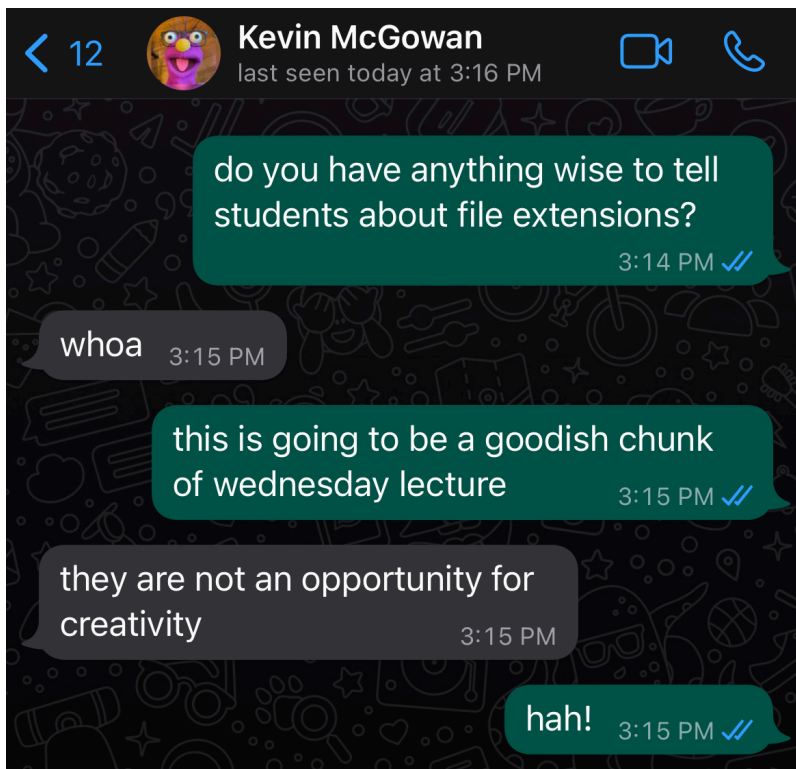

It's gibberish, because even though the *name* ends in `.txt` the *content* is still a Word document, which is encoded in a format that can't be read by a plain text editor.

In a text editor, you can save any file with any extension you want, just by typing it out when you save it. For that `weird.josef` file, I just typed in "weird.josef" as the full filename when I hit save. This means we can use the text editor to write and save *any* kind of file we're going to work with this semester.

!

So what file extensions should I use?

Even though you can save files with any extension doesn't mean you should! As professor McGowan put it:
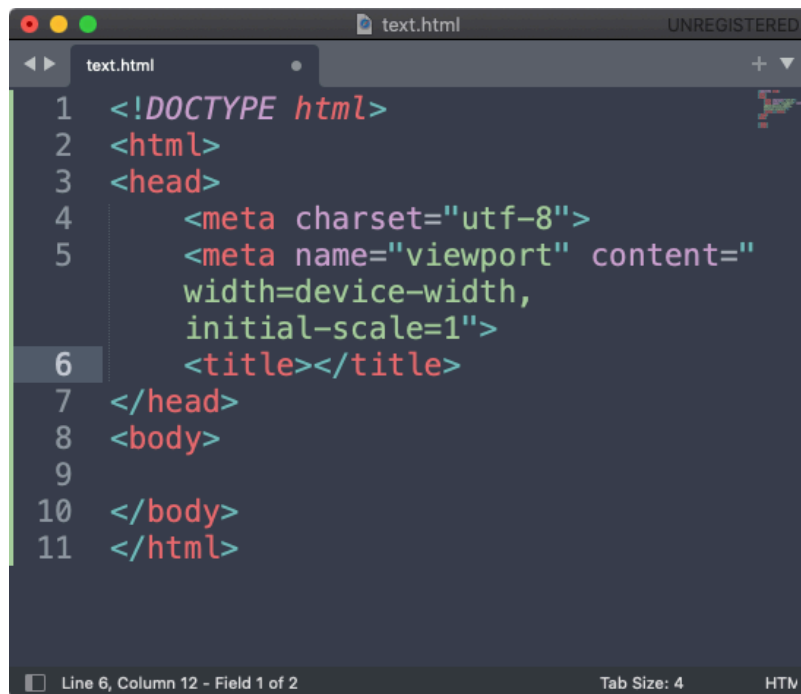
For a few reason in scientific computing, it is very important to follow conventions when giving file extensions for a few reasons.

1. It makes using the file faster when the content matches expectations from the file extension.
2. It makes it easier for other users to look at your files and understand what's supposed to be in them.
   a. The most important other user is *you*, 2 weeks from now.
3. If you save a file with the right extension, *good* text editors will help you out with color coding text, and even autocomplete!

For number 2, it's important to think of yourself in the future as a different person, who knows nothing about what you've been working on!

For number 3, if I create a blank file in sublime text and save it as `text.html`, it will now try to help me write the document. If I just type `<h` then hit tab, here's what it automatically generates!

```
text.html                                    UNREGISTERED

text.html                                          +  ▼
  1   <!DOCTYPE html>
  2   <html>
  3   <head>
  4       <meta charset="utf-8">
  5       <meta name="viewport" content="
          width=device-width,
          initial-scale=1">
  6       <title></title>
  7   </head>
  8   <body>
  9
 10   </body>
 11   </html>



    Line 6, Column 12 - Field 1 of 2         Tab Size: 4        HTM
```

This is all stuff I could have typed by hand to write my own html document, but I might've typoed it, and it's annoying to have to write the same stuff over and over again! So the text editor is helping me out based on guesses it's making from the file extension!