In this assignment, we create a LaTeX document that generates a PDF, using this as your data source: `https://forecast.weather.gov/MapClick.php?CityName=Chicago&state=IL&site=LOT&textField1=41.837&textField2=-87.685&e=1`

1 Create a PDF Using Latex (10 points)

The document, which *must* be generated by LaTeX - not Word or any other document editing program, should contain at least the following elements.

- a title, "Chicago Weather Forecast"
- a section "Current Weather" Under this section, include at least the following text. "The current temperature is :currenttemp: degrees Fahrenheit." where :currenttemp: is replaced by the actual current temperature as reported by the URL at the time the document was generated.
- a figure that includes the illustrative picture of current weather (a small picture with clouds, sun, rain or whatever is on the page), with the caption "An illustration of current weather conditions."

Using the `figure` environment and `includegraphics` command demonstrated in class before the break, your figure will appear on the second page. This is ok, but if you would like to include it on the first page, put `\usepackage{float}` in the header of your document (before `\begin{document}`), and start your figure with `\begin{figure}[H]`.

1.1 turn-in instructions

Upload the generated PDF, called `report.pdf`. Make sure this was generated by the LaTeX command `pdflatex` - no other sources allowed. In grading, we will check for the required elements above.

2 A Makefile that automatically creates an up-to-date PDF (10 points)

For this part, you write a Makefile that automatically generates the report from the current data, extracting the temperature and description from the text, as well as extracting the image URL and downloading it. For part 1, you can copy-paste values from the webpage into your latex sources.

Create a Makefile containing at least these three targets:

1. `image` which downloads the image, saving it as "image.png". Note that the target is called image, but the file is saved as "image.png". This is intentional, to ensure a new image is downloaded every time.

2. `report.tex` which uses `envsubst` to create a report.tex containing today's appropriate weather descriptions from report.tmpl.

3. `report.pdf` which uses `pdflatex` to generate report.pdf from report.tex.

Use the envsubst command to automatically replace the relevant text fields within your document.

Important: in a Makefile rule, each line of the recipe runs as a separate command / child process, after replacing any Make variable references. That means that to refer to a shell variable, you need to use $$ instead of $. To make matters worse, any values stored in shell variables don't survive between lines. To work around this, without having to put all your code on a single line, put a backslash at the end of each line. Here is an example of using a shell variable in a multi-line recipe.

```
target:
    var="value"\
    echo $$value
```

2.1 turn-in instructions

Upload the Makefile and report.tmpl. In grading we will check that the files `image.png`, `report.tex` and `report.pdf` are generated correctly.