Syntax Problem #10

Objectives

1. Practice writing and running Python code.
2. Use Cartopy to plot contours on a map.
3. Use control statement techniques.

Problem

1. Write a Python program that reads in NCEP-NCAR Reanalysis geopotential heights from a remote server using xarray.
2. Plot the 300-hPa heights for March 14, 1993 at 00 UTC with appropriate contour levels (120 m). Use Plate Carree and Lambert Conformal Projections for the Continental Unitd States on two separate maps. For the Lambert Conformal Projection, use the following keyword arguments:

```
central_longitude=-100
central_latitude=40
```

A starter script is available at *syntax_problems/data/syntax10.py*.

Call the Plate Carree map **500hPa_heights_PC_<username>.png**.
Call the Lambert Conformal map **500hPa_heights_LCC_<username>.png**.

Notes:

- Double check to make sure you have the correct output and conversion for temperature.
- Make sure documentation (e.g., comment block and comments throughout code) is present in your source code.
- Make output informative so that anyone running your program understands what is being produced without seeing the assignment.
- Name the program **`syntax10_<username>.py`** and place a copy in `/share/share/syntax_problems/`.