WEB SCRAPING LAB

In this lab, you will get practice with a key skill, web scraping, while also demonstrating that you are a master Bayesian. Using events A and B of your choosing, you will use data scraped from www.sports-reference.com to inform the probabilities in Bayes Theorem.

Requirements:

You will be submitting a write-up of your analysis (approximately 1 page), as well as your code. While I will be sanity checking your code, you will be evaluated primarily on your write-up. This evaluation will center on the three core pillars of this course:

English Explanation: This pillar takes center stage in this assignment. I am looking for a clean and clear application of Bayes Theorem, not any sort of technical wizardry. Look at the data that is available to you, and come up with an idea that leaves no doubt about your understanding of the Theorem. Your write-up should start with a clear description of events A and B, and move on to describe your prior, likelihood, and eventual posterior.

Numerically Grounded: Your write-up should go on to describe the data that was used to generate these numbers. Again, inform me – don't try to impress me. My general expectation is that (barring a *really* good reason) you will need to scrape data from more than one game, but there is no need to scrape every piece of data off of this site. Do enough to demonstrate that you understand Bayes Theorem. You are welcome to explain how your results could be augmented with additional data.

Actionable: You should be able to describe in one or two sentences why your result *could* be actionable. I say "could" here because you might choose an event B that turns out to have very little effect on the posterior. That's okay – there's no need to start over with a new idea. The important thing here is that your initial formulation is convincing. It must be believable that event B *could* have an effect on event A. And of course, you should also be able to comment on the actionability of your idea based on the numerical results.

Due Date: Tuesday January 30th, at 10:30am

This assignment will be submitted in two parts:

- Write-up via Gradescope.
- Code via: `provide comp152san scrapelab bayes.py`

If, for some reason, your code submission involves more files than just **`bayes.py`**, just list them out after **`bayes.py`** in the **`provide`** command.