Fall 2022 INFO6205 Project

Wordle Player

Your task is to create a Wordle (https://www.nytimes.com/games/wordle/index.html) player that will choose the best word for any given move, according to the principles of entropy that you will find described in the following two videos:

- https://www.youtube.com/watch?v=v68zYyaEmEA
- https://www.youtube.com/watch?v=fRed0Xmc2Wg

If your team has *three* members, you must also provide a UI which connects to the Wordle game and plays on your behalf (see requirements).

One complication of the Wordle problems is that there is only one per day. That will make training your application a bit harder. However, I believe there is an archive of Wordle puzzles that you may be able to use.

Requirements

- Report (in PDF):
    - must show all team members with NUID;
    - must detail the steps you took to implement your solution;
    - must show a log of the moves that you made for at least one run;
    - must show statistics of as many Wordle games as you were able to play in the time available;
    - must show examples of the entropy table that you develop after 0, 1, 2, 3 moves;
    - must include an analysis of the problem in terms of complexity where k is the number of letters in each word (5 for Wordle) and n is the number of legitimate words;
    - should include graphs, charts as appropriate;
    - must include build instructions.
- You must follow the analysis in the second video (i.e., the corrected one), or possibly improve on it (but that must all be described in your report).
- UI: The UI will save you the effort of taking the results from Wordle and entering them into your program. And, of course, the UI will take the best guess for the next word and enter it automatically. You may need to build in a random delay or take other measures to persuade the Wordle server that you are not a “bot.” If you have fewer than three team members, a UI will get you a bonus.
- Your Wordle engine (not the UI) must be implemented in Java. You can build a UI any way that makes sense to you (Javascript, Java Swing, etc.).
- Whatever is required to build your application and/or UI must be detailed in your build instructions. All your code, including any pom.xml file (for Maven) must be

included in your repository (only one team member needs to host the repository). In other words, TAs or professor must be able to build your solution out of the box. If this is impossible (because you are using some obscure language or framework), then you must provide a video of a run (preferably successful).

- Your repository should be clean: no local-machine dependencies, no byte code files (.class), etc.
- (Bonus) if your app can play against variations of the Wordle game, that will also get you a bonus.