# Project Summary

*Our project takes in a 5x4 wordle board colouring (the last row is all green) and some solution word. Our goal is to determine the solutions of 3 five letter words that meet the constraints of the board colouring (“green”,”yellow”,”white’).*

# Propositions

*List of the propositions used in the model, and their (English) interpretation.*

# Constraints

*List of constraint types used in the model and their (English) interpretation. You only need to provide one example for each constraint type: e.g., if you have constraints saying “cars have one colour assigned” in a car configuration setting, then you only need to show the constraints for a single car. Essentially, we want to see the pattern for all of the types of constraints, and not every constraint enumerated.*

# Model Exploration

*List all the ways that you have explored your model – not only the final version, but intermediate versions as well. See (C3) in the project description for ideas.*

# Jape Proof Ideas

*List the ideas you have to build sequents & proofs that relate to your project.*

# Requested Feedback

Currently our wordle board and solution word are hard coded into the program, this is for ease as we build the model but will not remain the case.

*As we worked to understand how to build our model, we created two different encoding files run.py and run2.py, which both succeed in ways some ways and failed in others, moving forward we are looking to combine the successes of each to form one file.*

*At present we are able to currently assign every index of the wordle board to letter(s) that fit the colour constraints, however all of those assignments output in one solution in the run2.py file. We are curious why it is outputting as 1 solution rather than a permutation of all letter possibilities between the 5 indices in a row. When we try to establish that a tile can only hold one letter at once, or that a row is true when 5 five consecutive assignments (by indices) are true, the number of solutions is automatically 0.*

*In the run.py file we have seen some more success with the number of output solutions, though they remain incorrect in several ways. You will see in our code that within our first iteration establishing some constraints, a final constraint about the truth of some letter at some index as being green is commented out, for when this constraint runs, our model goes from outputting 9 digits of solutions to 0. We do not understand why this is, and must in some manner employ a constraint of this time about which letters at which indices can be green.*

# First-Order Extension

*Describe how you might extend your model to a predicate logic setting, including how both the propositions and constraints would be updated.* ***There is no need to implement this extension!***

For all indices

# Useful Notation

*Feel free to copy/paste the symbols here and remove this section before submitting.*