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There do not seem to be any significant inconsistencies or errors in the model on initial impression. Your implementation thus far looks to be completely on the right track. Looking at the documentation it seems like there may have been an error in it as the variable “g” isn’t described. I believe it is meant to represent the number of gems in hand which seems redundant in this circumstance as you have defined that if there is one in hand it doesn’t particularly matter, thus no truth value is necessary to represent greater numbers of gems in hand (2, 3, 4) as the H proposition covers both zero gems or one or greater gems.

As far as documentation, having notes about how the constraints provided are attached to the rules and goals of the game directly would provide clarity on the model for those who have never played Mancala. Additionally, placing these notes within the code as in-line comments would make the code more comprehensible for those who do not have the model’s documentation sheet.

Clarifying that this model is for a single step play but also the preparation towards the next play (your constraint for altering the number of gems in hand, your constraint for the repeat turn clause etc.) would provide clarity on what exactly is being modeled. I think a good way of describing it is that your model covers the process of an entire turn and that repeating this model in a chain would allow for a full game to be executed.

I appreciate the way your group has approached the model exploration; I think that designing the model to prioritize certain most strategically positive moves makes sense. I think a gap in the model may be in modeling this structure of importance using propositional logic. Think about how an if, elif and else clauses might be build using propositions. You then would be able to apply the same strategy to identifying the importance of each type of move to solidify the model’s completeness.

Responses to Requested Feedback:

1. Covered in first paragraph of feedback.

2. The constraints that are presented in your draft seem complete based on the summary of the game. Given that it is a game being modeled, a player who “understands the game” will be one who knows the board and game constraints. In this case, I’d look at your constraints and the rule set of Mancala and see if the rules and goals of a turn that are covered are represented somehow by the constraints you have built. After performing some research on Mancala, I believe that the board and game constraints you have presented are accurate and would be enough to properly model the play of one move of the game.

3. This project does seem to be in the correct scope for the assignment. I believe that the scale of propositions and constraints allows for the right complexity of the model. I would even argue that modeling for a randomized game state is a step past what is expected. For example, in class, the professor presented a model of tic-tac-toe that looked at a singular game state (with no randomization). If executing the randomization to its completion seems to look like too

dense of a task, I would consider possibly only looking at one game state with the same propositions and constraints as I believe that would fulfill the project's requirements.