**Project 2 Code Documentation**

**Initial Refactoring Changes**

1. Changed recursive logic for input validation to iterative logic
2. Abbreviated “horizontal” and “vertical” to “H” and “V” for better UX

**Implementing AI**

* Enable users to select between 1 or 2 human players in the beginning
* If 1 human player, then the opponent will be an AI
* One among 3 difficulties (Easy, Medium, Hard) can be chosen for the AI opponent
* AI opponents are modeled as Player objects with is\_ai set to True and an ai\_difficulty field
* Gameplay loop has been updated such that all functions requiring player interaction can incorporate the AI opponent too
* The selection algorithm for each of the difficulties can be found in player.py under the get\_shot\_placement function

**Implementing Custom Addition**

* Players can view their individual stats using the “P” command during their turn
* The view\_stats function in the Player class handles displaying the player stats. It makes use of a get\_stats function to get the stat values
* Players can display the overall scoreboard using the “S” command during their turn
* display\_scoreboard function handles displaying the scoreboard. It relies on the get\_stats output from both player objects in the game