Shipt Engineering Coding Assessment

Thank you for taking part in the Shipt technical interview! The goal of this portion of the interview is to give you an opportunity to demonstrate your software engineering skills, especially around code organization, data structure use, problem solving and testing, while optimizing for your time and energy. We will judge the submitted code as if it were production ready code. *Please refrain from using frameworks and libraries.* Please complete this in 5 business days. Reach out to your recruiter if you need more time.

Requirements

Create an implementation of the game Battleship. The game should be playable with at least one person. For example, human vs computer or human vs human.

The game consists of:
- 2 Players
- Each player has a grid on which to place ships
- The game begins once both players have placed their ships
- The players take turns choosing a position on the opponent's grid to attack

The result of an attack must be one of:
- "Hit" if the opponent has a ship covering the position
- "Miss" if there is no ship covering the position
- "Already Taken" if the position has previously been attacked
- "Sunk" if all the positions a ship covers have been hit
- "Win" if all the ships on the opponent's grid have been sunk

As is often the case, the given specification is ambiguous in regards to some details about a game of Battleship. Feel free to add constraints as you see fit in order to clarify

the specification and limit the problem scope to something appropriate for your allotted time.

Evaluation

Your solution will be evaluated on the following:

- Appropriate use of software design principles
- Proficiency with the chosen language and development stack
- Correctness - How do you verify the correctness of the solution?
- Maintainability - How easy is the solution to understand and modify?
- Extensibility - How easily could the solution be adapted to specification changes?
- Completeness - How much of the specification does the solution implement?

A user interface is not a requirement. Though your code should have some way of demonstrating functionality such as log statements, unit tests, console output, etc. as well as instructions for running the project.

Submission

You have a choice of options to submit your challenge:

- Commit your code to your personal GitHub account and send us a link at coding@shipt.com
- Create a new GitHub account to commit your code and send us a link at coding@shipt.com
- Save your challenge as a .zip file and send back to us at coding@shipt.com