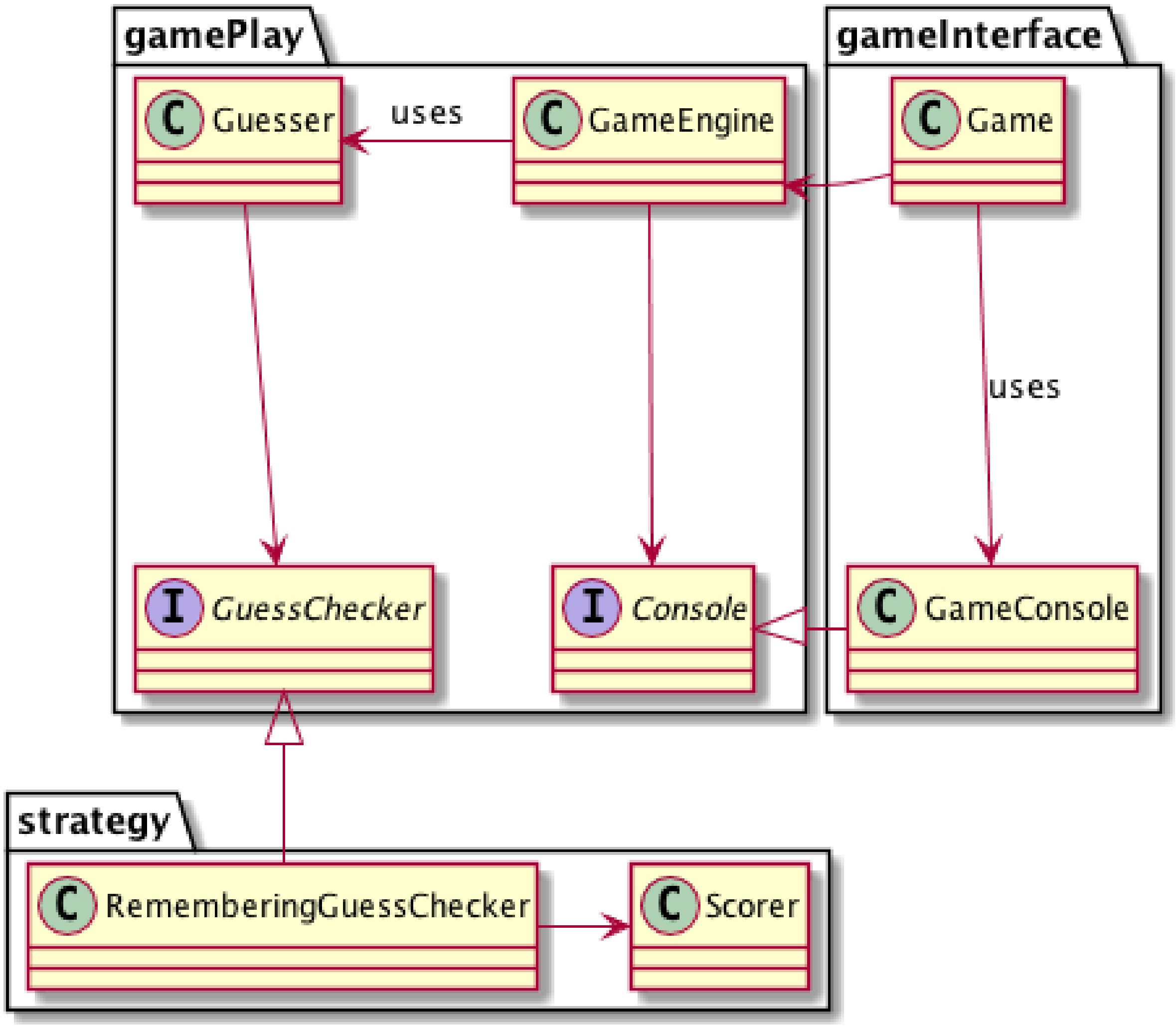
Activity 6-5: Practice on the Mastermind code

We will spend some time looking around at the completed code for the Mastermind game. Recall the diagram describing the structure of the code.



Load the code in IntelliJ

1. Go to our Moodle class page, and download the **Mastermind Code** zip file.
2. Extract the contents of the zip file into the directory where you save your CS321 projects. The zip file contains a MasterMind folder in it, so you don't need to create any special folders.
3. Start IntelliJ, and use the "File -> New Project from Sources" option to start a new project based on the MasterMind folder that you just extracted.

4. Once the project is open, navigate into one of the test classes, and use the “Add JUnit 4 to classpath” intention on any of the red “junit” references in the imports section of the test.
5. Run all the tests by right-clicking on the green test directory and choosing “Run all tests”, make sure your tests pass.
6. Find and run the Game class’ main method in the src directory, and play the game once, to make sure it all works.

Questions to answer

0. Are the classes and interfaces separated in modules according to the diagram?
1. Identify which parts/lines of the code establish each of the arrows we have in the diagram, namely:
   - Arrow from Game to GameConsole
   - Arrow from Game to GameEngine
   - Arrow from GameConsole to Console
   - Arrow from GameEngine to Console
   - Arrow from GameEngine to Guesser
   - Arrow from Guesser to GuessChecker
   - Arrow from RememberingGuessChecker to GuessChecker
   - Arrow from RememberingGuessChecker to Scorer
2. What are the methods specified in the Console interface? What method is missing from there that we would have expected?
3. What are the private methods of the GameConsole class, and what do they do?
4. How are the console and guessChecker provided to the GameEngine class?
5. If we want to move the GameConsole class to the upper level, what prevents us from doing that? How can we fix it?
6. What are the methods specified in the GuessChecker interface? What do they do? Are their names appropriate?
7. How does the RememberingGuessChecker implement the methods in the GuessChecker interface?
8. When are new instances of the Scorer class created?
9. If we want to change the set of letters that the game is based on, which files would that affect?
10. How is the Guesser generating new guesses?
11. The Score and ScoreRecord classes are not in our diagram yet.

- Why do you think they were omitted?
- Where would they be added in the diagram?
- What arrows/relationships will they have with the other parts of the diagram?