Programming Project / C++ Hangman Game

Student 1: Zbercea Stefan

Student 2: Rad Rares

I. Task Description

Student 1 is responsible for:

* Designing and implementing the user interface for the Hangman game
* Managing the leaderboard system (tracking player scores and rankings)
* Handling file input/output operations (loading words and saving leaderboard data)

Student 2 is responsible for:

* Implementing the core Hangman game mechanics (guessing letters, checking win/lose conditions)
* Maintaining game history (storing past games played, guesses made, and results)

II. Data Types/Classes Used by the Team

The following classes will be used:

Player:

 - string name

 - int score

 - int games\_played

GameWord:

 - string word

 - bool guessed\_letters[] (tracking which letters have been guessed)

GameHistoryEntry:

 - string player\_name

 - string word

 - int attempts

 - bool won

III. File Structure

The following files will be used:

words.txt

 A file containing all the possible words for the game, stored as:

  <word\_1>

  <word\_2>

  ...

leaderboard.txt

 A file containing player scores and statistics, stored as:

  <player\_1\_name> <score> <games\_played>

  <player\_2\_name> <score> <games\_played>

  ...

history.txt

 A file logging past game sessions, stored as:

  <player\_name> <word> <attempts> <won (1 or 0)>

  <player\_name> <word> <attempts> <won (1 or 0)>

  ...

IV. Interacting with Executables

Application 1 (Interface, Leaderboard, File Handling):

 ./hangman\_app\_1.exe view\_leaderboard

  To display the current leaderboard

 ./hangman\_app\_1.exe view\_history

  To display past game history

 ./hangman\_app\_1.exe add\_player <name>

  To add a new player to the leaderboard

 ./hangman\_app\_1.exe reset\_leaderboard

  To reset all leaderboard data

./hangman\_app\_1.exe add\_word

To add a new word to the word list

Application 2 (Game Logic and History):

 ./hangman\_app\_2.exe start\_game <player\_name>

  To start a new Hangman game for the player

 ./hangman\_app\_2.exe guess\_letter <letter>

  To guess a letter in the current game session

 ./hangman\_app\_2.exe view\_word\_status

  To view the current revealed letters of the word

 ./hangman\_app\_2.exe end\_game

  To end the current game and save results to history and leaderboard