**Introduction**

The Anagram Game project aims to create an interactive game where players unscramble letters to form words. The motivation behind coding this project stems from the desire to develop a fun and engaging application that tests players' vocabulary and problem-solving skills. As someone passionate about both gaming and programming, creating a game like this provides an exciting opportunity to merge these interests.

The project is not solely for academic purposes; I intend to use the game as a learning tool for my own programming skills enhancement. Additionally, I plan to share the game with friends and family, turning it into a recreational activity during gatherings or downtime. It could also serve as a portfolio piece to showcase my programming abilities to potential employers or collaborators.

**Methods**

To accomplish the goal of creating the Anagram Game, several methods were employed:

**Word Bank**: A text file containing a list of words was used as the source for the game's word bank. These words were read into the program and stored in a data structure, such as a vector.

**Word Shuffling**: The selected word from the word bank was shuffled to create an anagram. This was achieved by randomly rearranging the letters of the word while ensuring that the resulting anagram is different from the original word.

**Guess Checking**: When the player submits a guess, the program compares it with the original word to determine if it's correct. If the guess is correct, the player's score is incremented, and a new word is selected. Otherwise, points are deducted from the score, and the correct word is displayed.

**Score Tracking**: The program keeps track of the player's score throughout the game, updating it after each guess. The game continues until the player's score reaches a certain threshold or falls to zero.

**Results**

The code successfully implements the Anagram Game, providing an interactive experience for players. Upon running the program, players are greeted with a welcome message and presented with a scrambled word to unscramble. They can input their guesses and receive feedback on whether their guess was correct or incorrect. The game continues until the player chooses to exit or reaches a winning or losing condition.

The output of the program includes prompts for the player to enter their guesses, messages indicating whether the guess was correct or incorrect, and updates on the player's score. Additionally, if the player's guess is incorrect, the correct word is displayed to provide feedback.

**Problem Encountered:**

During the development process, difficulties were encountered in ensuring that the shuffled word presented to the player is a valid anagram of the original word. This required implementing a method to verify the validity of the anagram to avoid presenting impossible challenges to the player. The main challenge was with the CheckGuess function.

**References**

C++ documentation: https://en.cppreference.com/

Stack Overflow: https://stackoverflow.com/

GeeksforGeeks: https://www.geeksforgeeks.org/