**Semester 5 (ADSE I)**

**Python EProject**

**Developers**

Mohammad Umair | Fawad | Vishal Jethwa

**Introduction**

The Word Game project is a simple interactive game where players are presented with a word to guess, and they need to input their guesses within a certain number of attempts. The game offers three levels of difficulty: Beginner, Moderate, and Advanced, with varying lengths of words and maximum attempts allowed.

**Project Files**

* **word\_game.py**: This is the main Python script containing the code for the Word Game.
* **README.md**: A readme file with instructions on how to play the game.

**How to Play**

1. **Launch the Game**: Run the **word\_game.py** script to start the game.
2. **Select a Level**:
   * Enter **1** for Beginner level (3 maximum attempts).
   * Enter **2** for Moderate level (4 maximum attempts).
   * Enter **3** for Advanced level (6 maximum attempts).
   * Enter **0** to quit the game.
3. **Guess the Word**:
   * After selecting a level, you will be prompted to guess a word.
   * The game will display the length of the word to be guessed.
   * Enter your guess, making sure it has the correct number of letters.
4. **Feedback**:
   * If your guess is incorrect, the game will reveal the correctly guessed letters and replace the unknown letters with underscores.
   * If your guess is correct, you win the round.
5. **Win or Lose**:
   * If you correctly guess the word before running out of attempts, you win.
   * If you run out of attempts without guessing the word correctly, you lose.
6. **Play Again**:
   * You can choose to play another round at the same difficulty level or quit the game.

**Code Explanation**

* The game code is divided into functions and loops.
* The **main()** function is the entry point of the game.
* It allows players to select a level, provides feedback on their guesses, and determines whether they win or lose.

**Code Flow**

1. The **main()** function initializes the game and enters a loop that allows players to select a level or quit the game.
2. Players select a level by entering a number (1 for Beginner, 2 for Moderate, 3 for Advanced, or 0 to quit). The game sets a random word and maximum attempts based on the chosen level.
3. Players enter their guesses. If the guess is too short or too long, they are prompted to try again.
4. The game provides feedback by revealing correctly guessed letters and replacing unknown letters with underscores.
5. If the player correctly guesses the word, they win. If they run out of attempts, they lose.
6. Players have the option to play again or quit the game.

**Error Handling**

* The game handles errors such as non-numeric inputs and incorrect level selections, providing appropriate feedback to the player.

**Limitations**

* The game is text-based and lacks graphical elements.
* The word list for each level is predefined and limited to a small set of words.
* The game doesn't include a scoring system or a database of words to expand word choices.

**Conclusion**

The Word Game project is a fun and simple game that challenges players to guess words within a limited number of attempts. It can serve as a foundation for more complex word games and can be further enhanced with additional features and improvements. Have fun playing!