Project Title: Word Scramble Game

Here is the OOP based Java program of the project:

Code:

package com.muntaha.wordscramblegame;

import java.util.*;

public class WordScrambleGame {

   static String[] wordList = {"object", "inheritance", "java", "encapsulation", "abstraction", "polymorphism"};

   static Scanner scanner = new Scanner(System.in);

   static int score = 0;

   public static void main(String[] args) {

     System.out.println("Welcome to the Word Scramble Game!");

     System.out.println("Unscramble the words. Type 'exit' to quit.\n");

     for (String originalWord : wordList) {

       String scrambled = scrambleWord(originalWord);

       System.out.println("Scrambled Word: " + scrambled);

       System.out.print("Your Guess: ");

       String guess = scanner.nextLine().trim().toLowerCase();

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            if (guess.equals("exit")) {
                break;
            } else if (guess.equals(originalWord)) {
                System.out.println("Correct!\n");
                score++;
            } else {
                System.out.println("Wrong! The correct word was: " + originalWord + "\n");
            }
        }

        System.out.println("Game Over!");
        System.out.println("Your Final Score: " + score + "/" + wordList.length);
}


public static String scrambleWord(String word) {
    List<Character> characters = new ArrayList<>();
    for (char c : word.toCharArray()) {
        characters.add(c);
    }

    Collections.shuffle(characters); // Scramble the characters
    StringBuilder scrambled = new StringBuilder();
    for (char c : characters) {
        scrambled.append(c);
```

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        }

        return scrambled.toString();

    }

}
```

Key Functionalities:

- Randomly scramble words from a predefined list.
- Take user guesses and check if they are correct.
- Increase score for correct answers, and show the right word if wrong.
- Allow the user to exit the game anytime by typing exit.
- Display the final score after the game ends.

How It Works:

- The program starts by displaying a welcome message and instructions.
- It scrambles each word in the list and shows it to the user.
- The user types a guess.
- If the guess is correct, the score increases. If not, the correct word is shown.
- If the user types exit, the game ends immediately.
- The final score is displayed at the end.

Technologies Used:

- Java
- Scanner (for user input)
- ArrayList and Collections.shuffle (for shuffling characters)

How to Run the Program:

- **Compile the code:**
    - javac WordScrambleGame.java
- **Run the program:**
    - java WordScrambleGame