

Project Title: Word Scramble Game

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Here is the OOP based Java program of the project:

Code:

```
import java.util.*;

public class WordScrambleGameee {

    static String[] wordList = {

        "LOVEUSTC", "Computer", "Mouse", "Rose", "Java",

        "Object", "Problem", "Flower", "Bird", "Project"

    };

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

    static final int TIME_LIMIT = 15; // seconds per turn

    public static void main(String[] args) {

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

        System.out.print("Enter number of players: ");

        int numPlayers = Integer.parseInt(scanner.nextLine());

        String[] playerNames = new String[numPlayers];

        int[] scores = new int[numPlayers];
```

```
// Get player names

for (int i = 0; i < numPlayers; i++) {

    System.out.print("Enter name of Player " + (i + 1) + ": ");

    playerNames[i] = scanner.nextLine();

}


// Game loop

for (String word : wordList) {

    String scrambled = scrambleWord(word);

    for (int i = 0; i < numPlayers; i++) {

        System.out.println("\n" + playerNames[i] + "'s turn");

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

        System.out.println("You have " + TIME_LIMIT + " seconds to guess.");

        long startTime = System.currentTimeMillis();

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

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

        long endTime = System.currentTimeMillis();

        long timeTaken = (endTime - startTime) / 1000;

        if (timeTaken > TIME_LIMIT) {
```

```

        System.out.println("Time's up! You took too long.");
    } else if (guess.equalsIgnoreCase(word)) {
        System.out.println("Correct!");
        scores[i]++;
    } else {
        System.out.println("Wrong! The correct word was: " + word);
    }
}

// Display scores
System.out.println("\n--- Game Over ---");

int highestScore = -1;
String winner = "";
for (int i = 0; i < numPlayers; i++) {
    System.out.println(playerNames[i] + "'s score: " + scores[i]);
    if (scores[i] > highestScore) {
        highestScore = scores[i];
        winner = playerNames[i];
    } else if (scores[i] == highestScore && !winner.contains(playerNames[i])) {
        winner += " & " + playerNames[i]; // handle tie
    }
}

```

```

        System.out.println("\nWinner: " + winner + " with " + highestScore + " points!");
    }

    // Scrambles a word by shuffling its letters
    public static String scrambleWord(String word) {
        List<Character> letters = new ArrayList<>();
        for (char c : word.toCharArray()) {
            letters.add(c);
        }
        Collections.shuffle(letters);

        StringBuilder scrambled = new StringBuilder();
        for (char c : letters) {
            scrambled.append(c);
        }
        return scrambled.toString();
    }
}

```

Explanation of Code (Feature-wise):

1. Allows multiple players:

- The game asks how many players are playing. Each player gets their turn to guess the scrambled word.
- Names and scores are tracked in arrays.

2. Random word scrambling:

- `scrambleWord()` shuffles the characters of each word using `Collections.shuffle()` for randomness.

3. Timer for each turn:

- `System.currentTimeMillis()` is used to calculate the time taken by each player.
- If the time exceeds `TIME_LIMIT`, their turn is skipped with a warning.

4. Winner announcement:

- After all rounds, scores are compared.
- The player(s) with the highest score is/are announced as the winner.

Technologies Used:

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

How to Run the Program:

Here's a step-by-step guide that show others how to run and enjoy my Word Scramble Game using NetBeans. I've also included the basic requirements and setup steps.

How to Run the Word Scramble Game in NetBeans

Requirements:

1. Java Development Kit (JDK) (version 8 or higher)
2. NetBeans IDE (version 12+ recommended)
3. Your game source file (e.g., `WordScrambleGame.java`)

Steps to Run the Game:

1. Install Java and NetBeans
 - Download and install the JDK from: <https://www.oracle.com/java/technologies/javase-downloads.html>
 - Download and install Apache NetBeans IDE from: <https://netbeans.apache.org/download/>
 - Open NetBeans and Create a Project

- Launch NetBeans.
- Go to File > New Project.
- Select Java maven > Java Application and click Next.
- Give your project a name (e.g., WordScrambleGame).
- Make sure “Create Main Class” is unchecked (since you’ll add it manually).
- Click Finish.
- 3. Add my Java File.
- Name the class WordScrambleGame and click Finish.
- Replace the default code with my full program code (paste the code from earlier).

2. Run the Program

- Click the green Run button (or press Shift + F6) to execute the program.
- The console will open at the bottom, and you’ll be prompted to enter:
- Number of players
- Player names
- Word guesses during each turn

3. Play and Enjoy!

Each player gets their turn with a scrambled word. You have 15 seconds per turn to guess the correct word.

At the end, the game shows each player’s score and announces the winner.

Helpful Tips:

- Make sure your class name and file name match exactly (WordScrambleGameee.java).
- Use `System.out.println()` for all game messages and prompts so they display properly in the NetBeans output window.
- Keep your words simple and lowercase to avoid typing issues — or handle case-insensitivity like the code already does.