**Offline Games Collection**

**Project Name:** Offline Games Collection

**Project Moto:** Our goal is to provide users with a versatile platform for playing and enjoying offline games. This project is designed to cater to a wide audience by offering a collection of engaging games, user-friendly interfaces, and leaderboard functionality—all without requiring an internet connection.

**Team Name:** **Static Playmakers**

**Team Members:**

1. **Md. An Nahian Prince [12105007]**
2. **Shithi Rani Roy [12105009]**
3. **Ramjan Hossain Noor [12005034]**

**Benefits of This Project:**

1. **Offline Accessibility:**
   * Users can play games without requiring an internet connection, making it suitable for regions with poor or unstable connectivity.
2. **Stress Relief and Entertainment:**
   * The project provides users with a variety of games to relieve stress and pass leisure time.
3. **Skill Development:**
   * Certain games, such as Sudoku Solver and Tower of Hanoi, help users enhance problem-solving and logical reasoning skills.
4. **Engagement and Competition:**
   * The leaderboard feature fosters healthy competition and motivates users to improve their scores.
5. **Educational Value:**
   * Games like Number Conversion System and Hangman serve an educational purpose while entertaining users.
6. **Sharpens Cognitive Skills:**
   * The Minesweeper game sharpens users' brain knowledge by improving strategic thinking and problem-solving abilities.
7. **Memory Enhancement:**
   * The Memory Match game enhances users' memory retention and recall skills through engaging gameplay.
8. **Multiplayer Functionality:**
   * The inclusion of multiplayer modes, such as "Player vs Player" in Tic Tac Toe, adds social interaction and fun to the gaming experience.
9. **Customization and Variety:**
   * Users can choose from a collection of games with varying levels of difficulty, ensuring engagement for all age groups.

**Technologies Used in This Project:**

| **Feature/Concept** | **Description** |
| --- | --- |
| **☕ Java** | Core programming language used for logic and application development. |
| **🎨 JavaFX** | Framework for building rich graphical user interfaces. |
| **🎨 CSS** | Used for styling the user interface (application.css). |
| **🖥️ Eclipse IDE** | Development environment suggested by .classpath, .project, and .settings files. |
| **📂 File I/O** | File handling for data storage (users.dat, leaderboard.txt). |
| **🖼️ Resource Management** | Use of images and resources (background.png, ic\_apple.png). |
| **🛠️ OOP** | Evident from modular structures, classes, and inheritance. |
| **🔗 Modular Programming** | Use of module-info.java to define module dependencies. |
| **🎮 Game Development** | Includes logic for games like FlappyBird, SnakeGame, Minesweeper, etc. |
| **🌀 Game Physics/Animations** | For interactive games (e.g., FlappyBird, RacingCar3). |
| **💾 Data Serialization** | Likely used for saving and retrieving game state (e.g., UserManager). |
| **🔒 Access Control** | Managing user data and game logic securely (User, UserManager). |
| **🧮 Algorithm Design** | Algorithms for games like SudokuSolver, TowerOfHanoi, and 2048. |
| **🎛️ Event Handling** | For user interactions within games. |
| **🎨 Custom Graphics** | Customizing visual elements in the games. |

**UI Design:**

