DOCUMENTATION

Project Overview

The **Color Match Game** is a simple Android application that tests the player's ability to match a target color name with its correct visual representation. The app provides immediate feedback and keeps track of the score.

Technologies Used

- **Programming Language**: Kotlin
- **Framework**: Android SDK
- **Minimum Android Version**: API 21 (Lollipop)
- **Build System**: Gradle
- **IDE**: Android Studio

Setup Instructions

Open in Android Studio

1. Open Android Studio.
2. Click Open Project and navigate to the downloaded project folder.

Sync Gradle

- Click File > Sync Project with Gradle Files.
- Wait until the sync finishes.

Build & Run

- Select a physical device or emulator.
- Click the **Run** button or press **Shift + F10**.

App Structure

- **MainActivity.kt**
  - Displays a **Start Game** button.
  - On button click, opens GameActivity.
- **GameActivity.kt**
  - Displays a **target color** (targetColorView).
  - Shows the **current score** (scoreTextView).

- Methods to handle **correct** and **wrong answers** with Toast messages.

🔹 **res/layout/activity_game.xml**

- Defines the user interface with a vertical layout containing:
    - TextView for target color.
    - TextView for score.

How the App Works

1.**Launch App** – User sees a "Start Game" button.
2.**Start Game** – Navigates to GameActivity.
3.**Game Screen** – Displays a target color name and score.
4.**User Interaction** – The user tries to match the correct color (future enhancement).
5.**Feedback** – Shows Toast messages for correct/wrong choices and updates the score.

Future Enhancements

- Add **color buttons** to let users select colors.
- Use **random colors** for target and choices.
- Add **timer** to increase challenge.
- Store **high scores** using SharedPreferences or a database.
- Improve UI/UX with animations and colors.

Conclusion

The Color Match Game App is a simple yet engaging Android application designed to test and improve users' color recognition and matching skills. Through a dynamic and interactive interface, players can challenge themselves to quickly identify and select the correct color based on a given target, all while receiving immediate feedback and tracking their score.

The app not only demonstrates essential Android development skills—including activity management, UI design, and event handling—but also serves as a foundation for expanding into more advanced features like high score tracking, sound effects, and levels of difficulty.

This project was developed using Kotlin, following best practices in Android development. It showcases the ability to create user-friendly and functional mobile applications, laying a solid foundation for more complex game development and mobile programming projects in the future.