Planets\_App

Planets\_App is a simple and educational Android application developed to demonstrate the use of ListView and Custom Adapter in Android using Java. This app displays a list of planets along with the number of moons they have and their representative images. When a user taps on any planet item, a toast message appears showing the name of the selected planet.

# What I Learned

During the development of this project, I gained hands-on experience with the following concepts:

* ListView: Implemented a scrollable list of planets using Android's ListView component.
* Custom Adapter: Created a custom adapter to efficiently bind data (planet name, moon count, and image) to the ListView.
* ViewHolder Pattern: Used the ViewHolder pattern to optimize performance and minimize repeated calls to findViewById.
* Toast Messages: Added interactivity by showing a toast with the planet's name when a list item is clicked.
* Model Class: Designed a Planets model class to represent planet data cleanly and encapsulate its properties.
* XML Layouts: Learned how to design a custom layout for each item in the list using XML.

# Features

* Displays a list of planets with their names, moon counts, and images.
* Responsive user interface using ListView and custom layouts.
* On item click, shows a toast message with the planet's name.
* Modular and scalable codebase using best practices for ListView adapters.

# How It Works

* A list of planet objects is created in MainActivity.java.
* Each planet includes a name, moon count, and an image resource.
* A custom adapter (MyCustomAdapter.java) binds this data to a custom layout (item\_list\_layout.xml) for each row in the ListView.
* The ListView displays the list, and clicking on an item triggers a toast message showing the name of the selected planet.

# Screenshots

(You can add screenshots here if you'd like)

# Getting Started

* Clone the repository.
* Open it in Android Studio.
* Build and run on an emulator or real device.

# Technologies Used

* Java
* Android SDK
* XML Layouts
* Android Studio

# Future Improvements

* Add more details for each planet, such as distance from the sun, size, or atmospheric data.
* Use RecyclerView instead of ListView for better performance and flexibility.
* Add animations or transitions for a more dynamic UI.