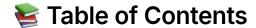
Android Development Lab Programs 📕 🧪

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- Overview
- Programs List
- Technical Requirements
- Learning Outcomes
- Notes

Overview

A comprehensive collection of fundamental Android programming examples demonstrating essential concepts in mobile app development. programs cover various UI components, data handling, and Android framework features. XX

Programs List

1. Login Form Authentication

- LinearLayout implementation for a basic login form
- Lusername and password fields using EditText
- Validates credentials against hardcoded values (e.g., Admin/1234)
- Toast messages for successful/failed login feedback

2. Activity Lifecycle Demo

- Demonstrates Android activity lifecycle methods (oncreate(), onstart(), etc.)
- A Toast messages at each lifecycle stage to visualize state changes

3. Calculator Application

- + x ÷ Implements basic arithmetic operations (Add, Subtract, Multiply, Divide)
- Input validation and error handling
- Clear button functionality to reset inputs
- Organized using LinearLayout for UI

4. UI Control Validations

- Validates email format using Patterns. EMAIL_ADDRESS
- Checks password length (minimum 6 characters)
- Proposition is a second of the second of the
- Of Uses Textutils to check for empty fields

5. User Registration System 🦻

- H Stores user registration details using SharedPreferences
- Imput fields for name and email
- Navigates between registration and welcome screens
- Displays stored user data on the welcome screen

6. Facebook-Style Layout 🎨

- Tacebook-style page created using RelativeLayout

7. Image Toggle Application **2**

- Implements image toggle functionality using FrameLayout
- handles image switching on click
- 🜎 Simple and interactive UI

8. Adapter & Exception Handling 📳

- III Uses GridView with ArrayAdapter for grid display
- A Exception handling for index-related errors

• 7 Toast messages for grid item clicks

9. Multi-Activity Navigation 🚀

- Ø Demonstrates navigation between two activities using Intents
- Duttons to switch between activities
- Basic activity lifecycle management

10. ListView Implementation

- Implements ListView using ArrayAdapter
- handles item click events with Toast messages
- Displays dynamic lists

11. Spinner Component 🕞

- U Dropdown menu created using Spinner
- ArrayAdapter for populating spinner items
- Solution
 Handles selection events and updates a TextView with the chosen item

12. SQLite Database Operations

- +Q Performs basic SQLite CRUD operations (Insert, Select)
- / User data entry form for database inputs
- Displays stored records in a TextView
- Troper implementation of a database helper class

Technical Requirements

- T Android Studio
- s Java programming knowledge
- SQLite database understanding
- 💸 XML layout design skills

Learning Outcomes

- Understanding Android UI components
- | Implementing data persistence
- Managing activity lifecycle
- handling user interactions
- 📳 Database integration
- § Exception handling
- **%** Layout design principles

Notes

- Seach program demonstrates specific Android concepts
- P Code includes comments for better understanding
- Programs follow Android best practices

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