

# **Mobile Application Development Assignment**

**Project Title:** Study Notes & Quiz Tracker Android Application

# **Deliverable 1: Functional Requirements**

1. User Profile Management
2. Create Study Notes
3. Edit & Delete Notes
4. Subject-wise Notes Organization
5. Quiz Creation Module
6. Attempt Quiz Feature
7. Quiz Progress Tracking
8. State Preservation on Rotation
9. Background & Foreground Handling
10. Low-Memory Process Recovery

## **Deliverable 2: Feasibility Study**

Requirement	APIs / Libraries
Notes Management	EditText, RecyclerView, Room
Quiz Feature	RadioButton, ViewModel
State Handling	ViewModel, onSaveInstanceState
Persistent Storage	Room Database

# Deliverable 3: Technical Developer Guide (Java)

## Feature 1: Create & Save Study Notes

Java Entity Class using Room:

```
@Entity(tableName = "notes")
public class Note {

    @PrimaryKey(autoGenerate = true)
    public int id;

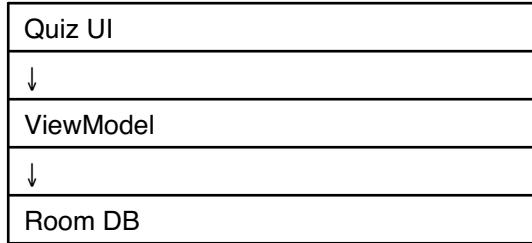
    public String title;
    public String content;
    public String subject;
}
```



## Feature 2: Attempt Quiz & Track Progress

Java code for saving quiz score:

```
int score = 8;  
QuizResult result = new QuizResult("OOP Quiz", score, 10);  
quizDao.insert(result);
```



## Feature 3: Android OS State Preservation

Java code for saving state on rotation:

```
@Override  
protected void onSaveInstanceState(Bundle outState) {  
    outState.putString("draft", editText.getText().toString());  
    super.onSaveInstanceState(outState);  
}
```

Rotation
ViewModel
SavedStateHandle
Room

**Conclusion:** This assignment demonstrates Android development using Java with proper lifecycle handling.