Lab 1

Java Code:

1. <u>CounterAppActivity.java</u>

```java
public class CounterAppActivity extends AppCompatActivity {
    FloatingActionButton btnAdd, btnSubtract, btnReset;
    TextView tvCount;
    int count = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_counter_app);
        btnAdd = findViewById(R.id.btn_add);
        btnSubtract = findViewById(R.id.btn_subtract);
        tvCount = findViewById(R.id.tv_count_value);
        btnReset = findViewById(R.id.btn_reset);
        btnAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                count++;
                tvCount.setText(String.valueOf(count));
            }
        });
        btnSubtract.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                count--;
                tvCount.setText(String.valueOf(count));
            }
        });
        btnReset.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                count = 0;
                tvCount.setText(String.valueOf(count));
            }
        });
    }
}
```

XML/Design Code

2. *activity_counter_app.xml*

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    android:padding="16dp"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".lab1.CounterAppActivity">

    <TextView
        android:id="@+id/tv_count_value"
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:layout_centerInParent="true"
        android:text="0"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">
    </TextView>

    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:id="@+id/btn_add"
        android:src="@drawable/baseline_add_24"
        android:tint="@color/white"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:id="@+id/btn_subtract"
        android:src="@drawable/baseline_minimize_24"
        android:tint="@color/white"
        android:layout_alignParentBottom="true"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>
    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:layout_centerHorizontal="true"
        android:id="@+id/btn_reset"
        android:src="@drawable/baseline_lock_reset_24"
        android:tint="@color/white"
        android:layout_alignParentBottom="true"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

</RelativeLayout>
```
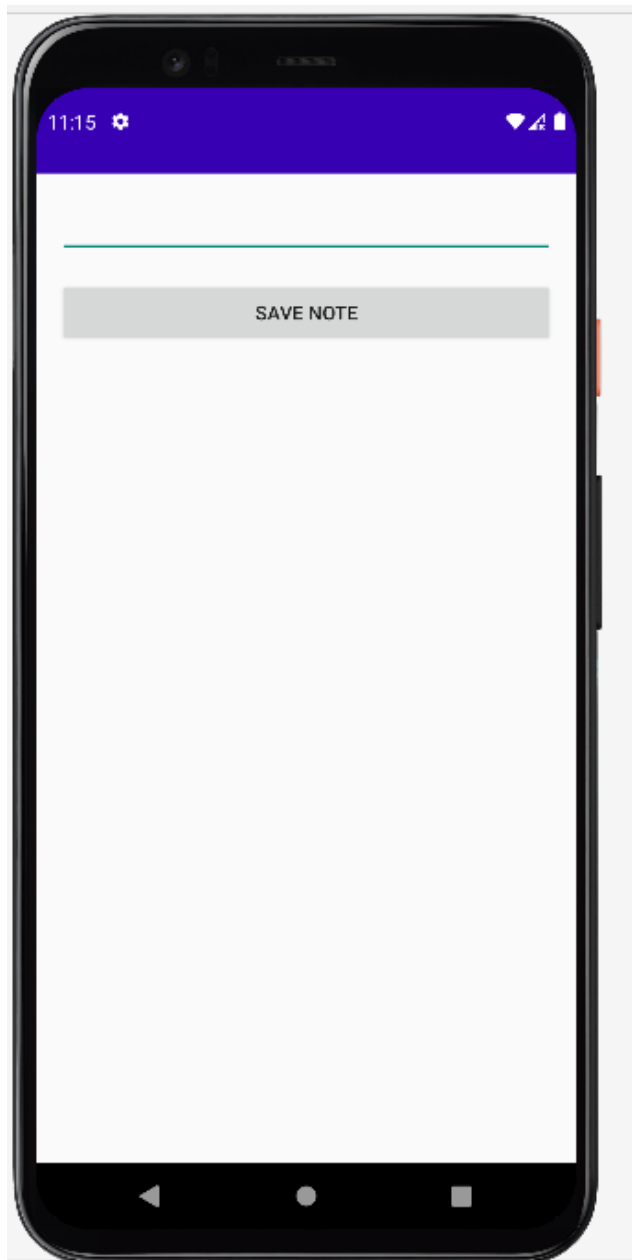
Lab 2

```java
public class BMICalculatorActivity extends AppCompatActivity {
    EditText etAge,etHeight,etWeight;
    Button btnCalculate;
    TextView tvBmiResult;
    RadioGroup radioGroupGender;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_bmicalculator);

        etAge=findViewById(R.id.et_age);
        etHeight=findViewById(R.id.et_height);
        etWeight=findViewById(R.id.et_weight);
        btnCalculate=findViewById(R.id.btn_calculate);
        tvBmiResult=findViewById(R.id.tv_bmi_result);
        radioGroupGender=findViewById(R.id.radio_group_gender);
        tvBmiResult.setText("");

        btnCalculate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String ageText = etAge.getText().toString().trim();
                String heightText = etHeight.getText().toString().trim();
                String weightText = etWeight.getText().toString().trim();

                int selectedGenderId = radioGroupGender.getCheckedRadioButtonId();
                String gender;
                if (selectedGenderId == R.id.radio_male) {
                    gender = "Male";
                } else if (selectedGenderId == R.id.radio_female) {
                    gender = "Female";
                } else {
                    Toast.makeText(BMICalculatorActivity.this, "Please select a gender",
Toast.LENGTH_SHORT).show();
                    return;
                }
                if (ageText.isEmpty()) {
                    etAge.setError("Please enter your age");
                    return;
                }
                if (heightText.isEmpty()) {
                    etHeight.setError("Please enter your height");
                    return;
                }
                if (weightText.isEmpty()) {
                    etWeight.setError("Please enter your weight");
```

```
                return;
            }
            double age = Double.parseDouble(ageText);
            double height = Double.parseDouble(heightText);
            double heightInM = height/100;
            double weight = Double.parseDouble(weightText);

            double bmi;
            bmi = weight/(heightInM*heightInM);
            tvBmiResult.setText("Your BMI is: " + String.format("%.2f", bmi));
        }
    });
}
}
```

XML/Design Code: *activity_bmicalculator.xml*

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    android:padding="16dp"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".lab2.BMICalculatorActivity">

    <RadioGroup
        android:id="@+id/radio_group_gender"
        android:orientation="horizontal"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <RadioButton
            android:text="Male"
            android:id="@+id/radio_male"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content">
        </RadioButton>
        <RadioButton
            android:text="Female"
            android:id="@+id/radio_female"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content">
        </RadioButton>
    </RadioGroup>

    <EditText
        android:id="@+id/et_age"
```

```xml
        android:layout_marginTop="16dp"
        android:inputType="number"
        android:hint="Enter your age in years"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
    </EditText>

    <EditText
        android:id="@+id/et_height"
        android:layout_marginTop="16dp"
        android:inputType="number"
        android:hint="Enter height in cm"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
    </EditText>
    <EditText
        android:id="@+id/et_weight"
        android:layout_marginTop="16dp"
        android:inputType="number"
        android:hint="Enter weight in kg"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
    </EditText>

    <Button
        android:id="@+id/btn_calculate"
        android:text="Calculate"
        android:layout_marginTop="32dp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
    </Button>

    <TextView
        android:id="@+id/tv_bmi_result"
        android:textStyle="bold"
        android:textSize="20sp"
        android:textColor="@color/black"
        android:text="Your BMI is 302"
        android:layout_marginTop="32dp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
    </TextView>
</LinearLayout>
```

Lab 3

Java Code: IntentsActivity.java

```java
public class IntentsActivity extends AppCompatActivity {
    Button btnNextActivity;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intents);
        btnNextActivity= findViewById(R.id.btn_next_activity);
        btnNextActivity.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                startActivity(new Intent(IntentsActivity.this, IntentsActivity2.class));
            }
        });
    }
}
```

XML/Design Code: *activity_intents.xml*

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    android:padding="16dp"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".lab3.IntentsActivity">

    <TextView
        android:id="@+id/tv_intent1"
        android:textSize="20sp"
        android:textStyle="bold"
        android:layout_centerInParent="true"
        android:text="This is first activity/screen"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>
    <Button
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:layout_below="@id/tv_intent1"
        android:text="Next Activity"
        android:id="@+id/btn_next_activity"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">
    </Button>
</RelativeLayout>
```
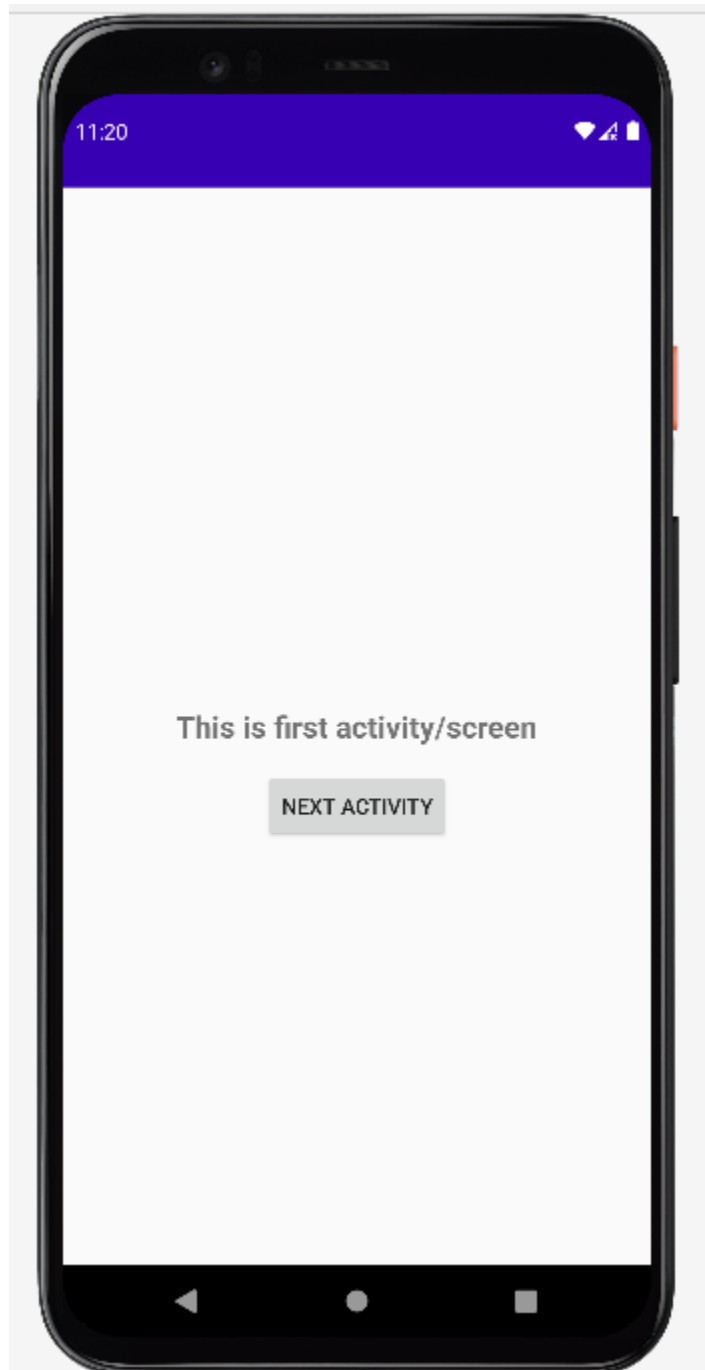
Lab 4

Java Code: CrudSqliteActivity.java

```java
public class CrudSqliteActivity extends AppCompatActivity implements
NoteDeleteClickListener, NoteClickListener {
    private static final String TAG = "CrudSqliteActivity";
    DatabaseOperations dbOperations;
    EditText etAddNote;
    Button btnAddNote;
    RecyclerView rcvNotes;
    NotesAdapter notesAdapter;
    List<NoteModel> notes = new ArrayList<>();

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_crud_sqlite);
        dbOperations = new DatabaseOperations(this);
        etAddNote = findViewById(R.id.et_add_note);
        btnAddNote = findViewById(R.id.btn_add_note);
        rcvNotes = findViewById(R.id.rcv_notes);
        btnAddNote.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String text = etAddNote.getText().toString().trim();
                if (text.isEmpty()) {
                    etAddNote.setError("Please write something");
                    return;
                }
                dbOperations.insertData(text);
                etAddNote.getText().clear();
                setNotesRecycler();
            }
        });
        getNotesData();
        setNotesRecycler();
    }
    private void getNotesData() {
        List<NoteModel> dataList = dbOperations.getAllData();
        notes.clear();
        notes.addAll(dataList);
        for (NoteModel i : notes) {
            System.out.println(i.getNote());
        }
    }
    private void setNotesRecycler() {
        getNotesData();
        rcvNotes.setLayoutManager(new LinearLayoutManager(this));
        if (notesAdapter == null) {
            notesAdapter = new NotesAdapter(this, notes, this::onNoteDeleteClicked,
```

```java
this::onNoteClicked);
        rcvNotes.setAdapter(notesAdapter);
    } else {
        notesAdapter.notifyDataSetChanged();
    }
}

@Override
public void onNoteDeleteClicked(NoteModel noteModel) {
    dbOperations.deleteData(noteModel.getNoteId());
    setNotesRecycler();
    Log.d(TAG, "onNoteDeleteClicked: " + noteModel.getNoteId());
    Toast.makeText(this, "Delete Clicked", Toast.LENGTH_SHORT).show();
}
@Override
public void onNoteClicked(NoteModel noteModel) {
    Log.d(TAG, "onNoteClicked: ");
    Toast.makeText(this, "Clicked", Toast.LENGTH_SHORT).show();
    showDialog(noteModel);
}
private void showDialog(NoteModel noteModel) {
    AlertDialog.Builder builder = new AlertDialog.Builder(this);
    View dialogView = getLayoutInflater().inflate(R.layout.dialog_edit_note, null);
    builder.setView(dialogView);
    final EditText editText = dialogView.findViewById(R.id.etEditNote);
    editText.setText(noteModel.getNote());
    builder.setPositiveButton("Yes", (dialogInterface, i) -> {
        String enteredText = editText.getText().toString();
        dbOperations.updateData(enteredText, noteModel.getNoteId());
        setNotesRecycler();
        editText.getText().clear();
        dialogInterface.dismiss(); // Dismiss the dialog
    });
    builder.setNegativeButton("No", (dialogInterface, i) -> dialogInterface.dismiss());
    AlertDialog dialog = builder.create();
    dialog.show();
}
}
```

DatabaseHelper.java

```java
public class DatabaseHelper extends SQLiteOpenHelper {

    static final String TABLE_NAME = "my_table";
    static final String COLUMN_ID = "id";
    static final String COLUMN_NAME = "note";
    private static final int DATABASE_VERSION = 1;
    private static final String DATABASE_NAME = "my_database.db";
```

```java
    public DatabaseHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        String createTableQuery = "CREATE TABLE " + TABLE_NAME + "(" +
            COLUMN_ID + " INTEGER PRIMARY KEY AUTOINCREMENT," +
            COLUMN_NAME + " TEXT)";
        db.execSQL(createTableQuery);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        String dropTableQuery = "DROP TABLE IF EXISTS " + TABLE_NAME;
        db.execSQL(dropTableQuery);
        onCreate(db);
    }
}
```

DatabaseOperations.java

```java
public class DatabaseOperations {
    private static final String TAG = DatabaseOperations.class.getSimpleName();
    private DatabaseHelper dbHelper;
    public DatabaseOperations(Context context) {
        dbHelper = new DatabaseHelper(context);
    }
    public void insertData(String name) {
        SQLiteDatabase db = dbHelper.getWritableDatabase();
        ContentValues values = new ContentValues();
        values.put(DatabaseHelper.COLUMN_NAME, name);
        long newRowId = db.insert(DatabaseHelper.TABLE_NAME, null, values);
        Log.d(TAG, "Inserted row id: " + newRowId + "Data:" + name);
        //db.close();
    }

    public List<NoteModel> getAllData() {
        List<NoteModel> dataList = new ArrayList<>();
        SQLiteDatabase db = dbHelper.getReadableDatabase();
        Cursor cursor = db.query(DatabaseHelper.TABLE_NAME, null, null, null, null, null, null);
        if (cursor != null && cursor.moveToFirst()) {
            do {
                int id = cursor.getInt(cursor.getColumnIndex(DatabaseHelper.COLUMN_ID));
                String name =
cursor.getString(cursor.getColumnIndex(DatabaseHelper.COLUMN_NAME));
                Log.d(TAG, "Cursor Data - ID = " + id + ", Name = " + name);
                NoteModel dataModel = new NoteModel(id, name);
                dataList.add(dataModel);
                Log.d(TAG, "getAllData: Data - ID = " + dataModel.getNoteId() + ", Name = " +
dataModel.getNote());
            } while (cursor.moveToNext());
```

```java
            cursor.close();
        }
        //db.close();
        return dataList;
    }
    public void updateData(String newName, int id) {
        SQLiteDatabase db = dbHelper.getWritableDatabase();
        ContentValues values = new ContentValues();
        values.put(DatabaseHelper.COLUMN_NAME, newName);
        int rowsAffected = db.update(DatabaseHelper.TABLE_NAME, values,
            DatabaseHelper.COLUMN_ID + "=?", new String[]{String.valueOf(id)});
        Log.d(TAG, "Rows affected: " + rowsAffected);
        //db.close();
    }
    public void deleteData(int id) {
        SQLiteDatabase db = dbHelper.getWritableDatabase();
        int rowsAffected = db.delete(DatabaseHelper.TABLE_NAME,
            DatabaseHelper.COLUMN_ID + "=?", new String[]{String.valueOf(id)});
        Log.d(TAG, "Rows affected: " + rowsAffected);
        //db.close();
    }
}
public class NoteModel {
    private String note;
    private int noteId;
    public NoteModel() {
    }
    public NoteModel(int noteId, String note) {
        this.noteId = noteId;
        this.note = note;
    }
    public String getNote() {
        return note;
    }
    public void setNote(String note) {
        this.note = note;
    }
    public int getNoteId() {
        return noteId;
    }
    public void setNoteId(int noteId) {
        this.noteId = noteId;
    }
}
```

NotesAdapter.java

```java
interface NoteDeleteClickListener {
    void onNoteDeleteClicked(NoteModel noteModel);
```

```java
}
interface NoteClickListener {
    void onNoteClicked(NoteModel noteModel);
}
public class NotesAdapter extends RecyclerView.Adapter<NotesAdapter.NotesViewHolder> {
    private static final String TAG = "NotesAdapter";
    private Context context;
    private List<NoteModel> noteModelList;
    private NoteDeleteClickListener noteDeleteClickListener;
    private NoteClickListener noteClickListener;

    public NotesAdapter(Context context, List<NoteModel> noteModelList,
NoteDeleteClickListener noteDeleteClickListener, NoteClickListener noteClickListener) {
        this.context = context;
        this.noteModelList = noteModelList;
        this.noteDeleteClickListener = noteDeleteClickListener;
        this.noteClickListener = noteClickListener;
    }

    @NonNull
    @Override
    public NotesViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType)
{
        Log.d(TAG, "onCreateViewHolder: notesSize:" + noteModelList.size());
        View view = LayoutInflater.from(parent.getContext()).inflate(R.layout.single_note, parent,
false);
        return new NotesViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull NotesViewHolder holder, int position) {
        NoteModel noteModel = noteModelList.get(position);
        holder.tvNotes.setText(noteModel.getNote());
        Log.d(TAG, "onBindViewHolder: " + noteModel.getNote());
        holder.cardNote.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                noteClickListener.onNoteClicked(noteModel);
            }
        });
        holder.btnDelete.setOnClickListener(view -> {
            if (position != RecyclerView.NO_POSITION) {
                noteDeleteClickListener.onNoteDeleteClicked(noteModel);
            }
        });
    }

    @Override
    public int getItemCount() {
        return noteModelList.size();
    }
```

```java
    class NotesViewHolder extends RecyclerView.ViewHolder {
        TextView tvNotes;
        ImageButton btnDelete;
        CardView cardNote;

        public NotesViewHolder(@NonNull View itemView) {
            super(itemView);
            int position = getAdapterPosition();
            Log.d(TAG, "NotesViewHolder: position:" + position);
            tvNotes = itemView.findViewById(R.id.tv_note);
            cardNote = itemView.findViewById(R.id.card_note);
            btnDelete = itemView.findViewById(R.id.btn_delete);


        }
    }
}
```

activity_crud_sqlite.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".lab4.CrudSqliteActivity">

    <EditText
        android:id="@+id/et_add_note"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"></EditText>

    <Button
        android:id="@+id/btn_add_note"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:text="Save Note"></Button>

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/rcv_notes"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"></androidx.recyclerview.widget.RecyclerView>

</LinearLayout>
```

single_note.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.cardview.widget.CardView
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/card_note"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"
    app:contentPadding="8dp">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center">

        <TextView
            android:id="@+id/tv_note"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_marginEnd="16dp"
            android:layout_weight="1"
            android:text="This will hold text of note"
            android:textColor="@color/black"></TextView>

        <ImageButton
            android:id="@+id/btn_delete"
            android:layout_width="50dp"
            android:layout_height="50dp"
            android:src="@drawable/baseline_delete_24"
            app:tint="#FF0000"></ImageButton>
    </LinearLayout>

</androidx.cardview.widget.CardView>
```
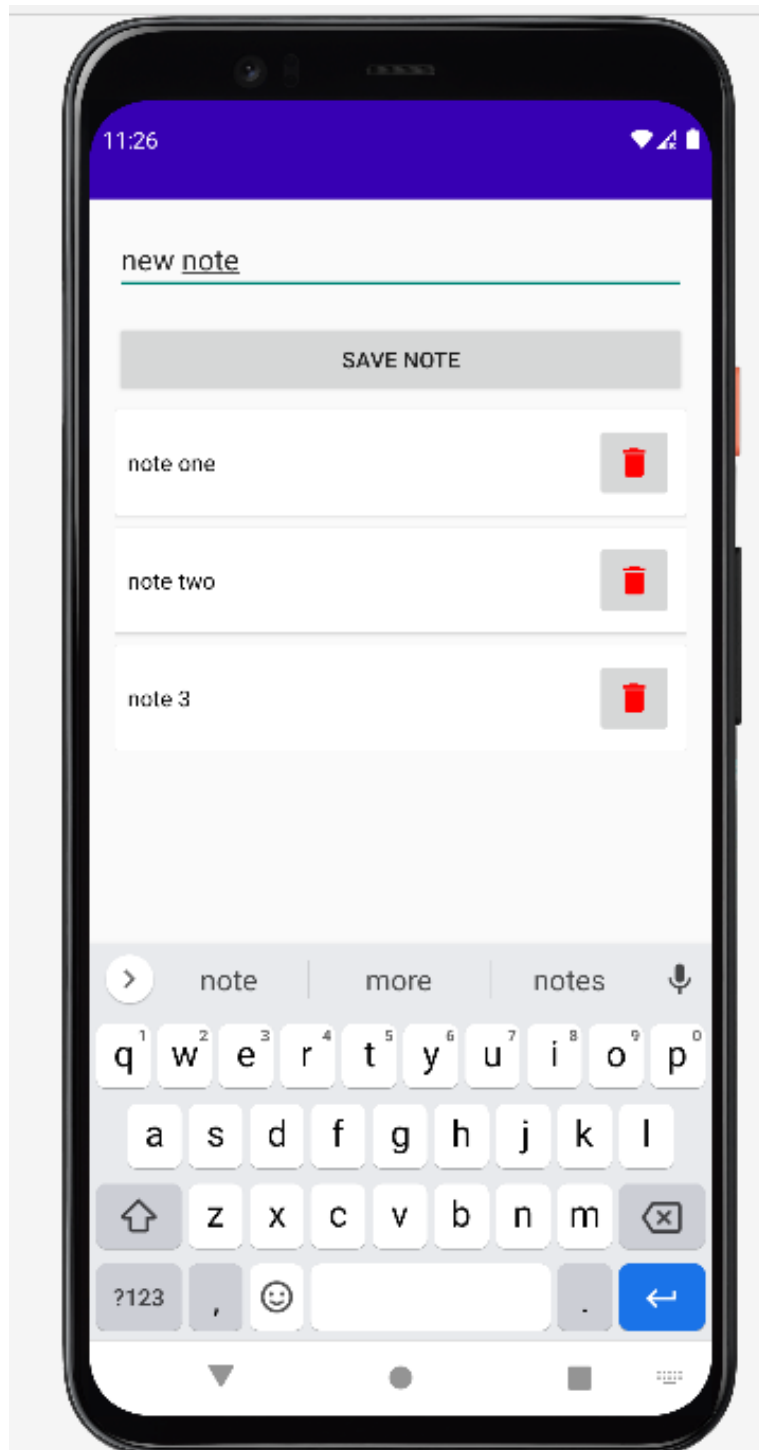
Lab 5

Java Code: VolleyPhpActivity.java

```java
public class VolleyPhpActivity extends AppCompatActivity {
    private static final String TAG = "VolleyPhpActivity";
    //   private static final String JSON_PLACEHOLDER_URL =
"http://localhost/get_posts.php";
    private static final String JSON_PLACEHOLDER_URL = "http://10.0.2.2/get_posts.php";
    ProgressDialog progressDialog;
    TextView tvResponseText;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_volley_php);
        tvResponseText = findViewById(R.id.tv_response_text);
        progressDialog = new ProgressDialog(this);
        getData();
    }

    private void getData() {
        progressDialog.show();
        RequestQueue requestQueue = Volley.newRequestQueue(this);
        JsonArrayRequest jsonArrayRequest = new JsonArrayRequest(
                Request.Method.GET,
                JSON_PLACEHOLDER_URL,
                null,
                new Response.Listener<JSONArray>() {
                    @Override
                    public void onResponse(JSONArray response) {
                        handleResponse(response);
                        Toast.makeText(VolleyPhpActivity.this, "Success fetching data",
Toast.LENGTH_SHORT).show();
                    }
                },
                new Response.ErrorListener() {
                    @Override
                    public void onErrorResponse(VolleyError error) {
                        Log.d(TAG, "onErrorResponse: " + error.getMessage());
                        Log.d(TAG, "onErrorResponse: " + error.toString());
                        Log.d(TAG, "onErrorResponse: " + error.getLocalizedMessage());
                        Log.d(TAG, "onErrorResponse: " + error.getCause());
                        if (error.networkResponse != null) {
                            int statusCode = error.networkResponse.statusCode;
                            Log.e(TAG, "Error response code: " + statusCode);
                        }
                        Toast.makeText(VolleyPhpActivity.this, "Error retrieving data",
Toast.LENGTH_SHORT).show();
                    }
                });
```

```
        requestQueue.add(jsonArrayRequest);
    }

    private void handleResponse(JSONArray jsonArray) {
        StringBuilder result = new StringBuilder();
        try {
            for (int i = 0; i < jsonArray.length(); i++) {
                JSONObject jsonObject = jsonArray.getJSONObject(i);
                int postId = jsonObject.getInt("id");
                String title = jsonObject.getString("title");
                String body = jsonObject.getString("body");
                result.append(String.valueOf(i + 1)).append("\t").append(title).append("\n\n\n");
            }
        } catch (JSONException e) {
            Log.e(TAG, "Error parsing JSON: " + e.getMessage());
        }
        tvResponseText.setText(result.toString());
        progressDialog.dismiss();
    }
}
```

activity_volley.xml
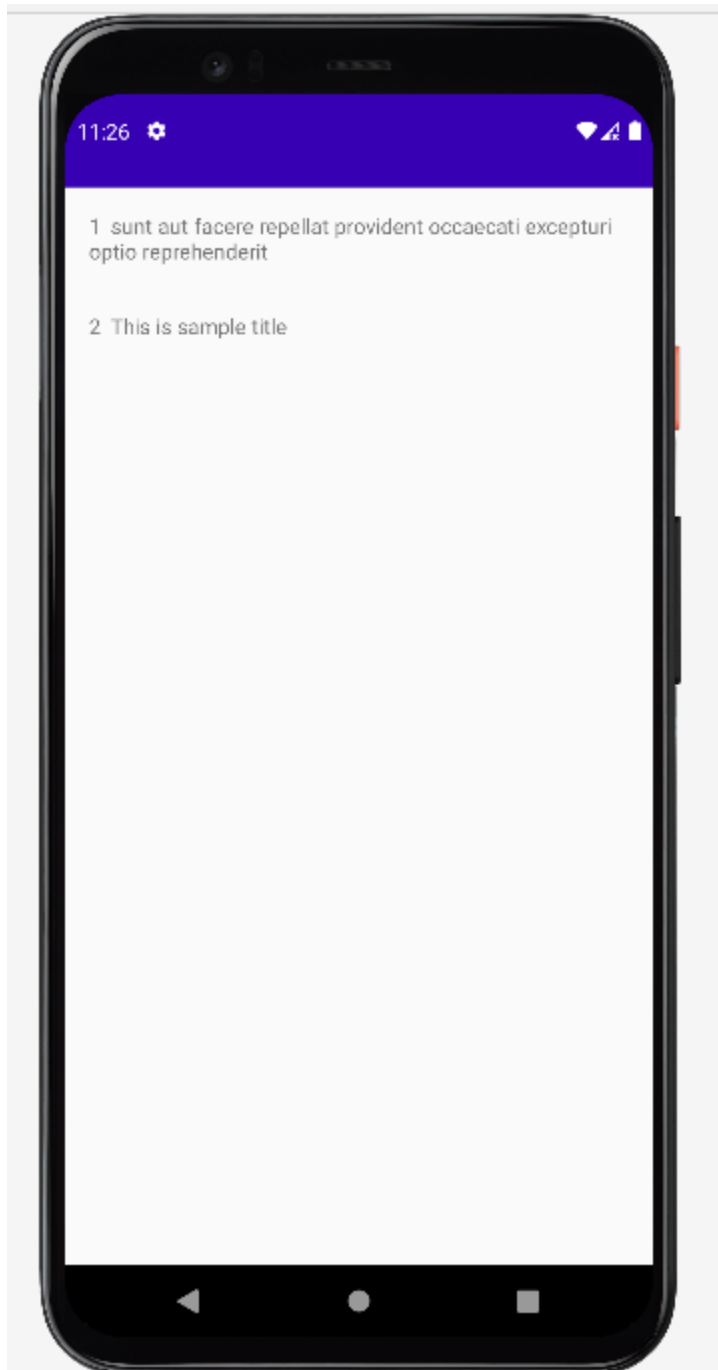
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    android:padding="16dp"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".lab5.VolleyPhpActivity">


    <TextView
        android:id="@+id/tv_response_text"
        android:layout_width="match_parent"
        android:layout_height="match_parent">
    </TextView>
</LinearLayout>
```

Output:

1 sunt aut facere repellat provident occaecati excepturi
optio reprehenderit

2 This is sample title

Lab 6

Java Code: VolleyApiActivity.java

```java
public class VolleyApiActivity extends AppCompatActivity {
    private static final String TAG="VolleyApiActivity";
    private static final String
JSON_PLACEHOLDER_URL="https://jsonplaceholder.typicode.com/posts";
    ProgressDialog progressDialog;
    TextView tvResponseText;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_volley_api);
        tvResponseText= findViewById(R.id.tv_response_text);
        progressDialog= new ProgressDialog(this);
        getData();
    }

    private void getData() {
        progressDialog.show();
        RequestQueue requestQueue = Volley.newRequestQueue(this);
        JsonArrayRequest jsonArrayRequest = new JsonArrayRequest(
            Request.Method.GET,
            JSON_PLACEHOLDER_URL,
            null,
            new Response.Listener<JSONArray>() {
                @Override
                public void onResponse(JSONArray response) {
                    handleResponse(response);
                    Toast.makeText(VolleyApiActivity.this, "Success fetching data",
Toast.LENGTH_SHORT).show();
                }
            },
            new Response.ErrorListener() {
                @Override
                public void onErrorResponse(VolleyError error) {
                    Toast.makeText(VolleyApiActivity.this, "Error retrieving data",
Toast.LENGTH_SHORT).show();
                    Log.e(TAG, "Error retrieving data: " + error.getMessage());
                }
            });
        requestQueue.add(jsonArrayRequest);
    }
    private void handleResponse(JSONArray jsonArray) {
        StringBuilder result= new StringBuilder();
        try {
            for (int i = 0; i < jsonArray.length(); i++) {
                JSONObject jsonObject = jsonArray.getJSONObject(i);
                int postId = jsonObject.getInt("id");
```

```
                String title = jsonObject.getString("title");
                String body = jsonObject.getString("body");
                result.append(String.valueOf(i + 1)).append("\t").append(title).append("\n\n\n");
            }
        } catch (JSONException e) {
            Log.e(TAG, "Error parsing JSON: " + e.getMessage());
        }
        tvResponseText.setText(result.toString());
        progressDialog.dismiss();
    }
}
```

activity_volley_api.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<ScrollView
    android:padding="16dp"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".lab6.VolleyApiActivity">

    <TextView
        android:id="@+id/tv_response_text"
        android:layout_width="match_parent"
        android:layout_height="match_parent">
    </TextView>

</ScrollView>
```