20CYS404

Android Application
Development

Lab Exam
Notes App

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Experiment Number : Lab Exam - 03

Aim:
> To Create a notes app with following functionalities:
> 1. Create an empty notes
> 2.

Code:

File : activity_main.java

```java
package com.example.notes;

import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.Button;
import android.widget.ListView;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import java.util.List;

public class MainActivity extends AppCompatActivity implements
NoteAdapter.OnNoteClickListener {

    private ListView noteListView;
    private Button newNoteButton;

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

        noteListView = findViewById(R.id.noteListView);
        newNoteButton = findViewById(R.id.newNoteButton);

        // Initialize DatabaseHelper and fetch notes from SQLite database
        final DatabaseHelper databaseHelper = new DatabaseHelper(this);
        final List<Note> notes = fetchNotesFromDatabase(databaseHelper);

        // Set up NoteAdapter for the ListView with this as the OnNoteClickListener
        final NoteAdapter adapter = new NoteAdapter(this, notes, this);
        noteListView.setAdapter(adapter);

        // Set click listener for creating a new note
        newNoteButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(MainActivity.this, NoteDetailActivity.class);
                startActivity(intent);
            }
        });

        // Set long click listener for deleting a note
        noteListView.setOnItemLongClickListener(new
AdapterView.OnItemLongClickListener() {
            @Override
            public boolean onItemLongClick(AdapterView<?> adapterView, View view, int
position, long id) {
```

```java
                showDeleteDialog(adapter, position);
                return true;
            }
        });
    }

    private List<Note> fetchNotesFromDatabase(DatabaseHelper databaseHelper) {
        return databaseHelper.getAllNotes();
    }

    private void showDeleteDialog(final NoteAdapter adapter, final int position) {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setMessage("Are you sure you want to delete this note?")
                .setPositiveButton("Delete", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                        Note noteToDelete = adapter.getItem(position);
                        deleteNoteFromDatabase(noteToDelete.getId());
                        adapter.remove(noteToDelete);
                        adapter.notifyDataSetChanged();
                        // Inform the user that the note has been deleted
                        showToast("Note deleted");
                    }
                })
                .setNegativeButton("Cancel", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                        // User canceled the operation
                    }
                })
                .show();
    }

    private void deleteNoteFromDatabase(long noteId) {
        DatabaseHelper databaseHelper = new DatabaseHelper(this);
        databaseHelper.deleteNoteById(noteId);
    }

    private void showToast(String message) {
        // Display a toast message (implement this method based on your preferences)
    }

    @Override
    public void onNoteClick(Note note) {
        // Handle note click (open NoteDetailActivity for editing)
        Intent intent = new Intent(MainActivity.this, NoteDetailActivity.class);
        intent.putExtra("noteId", note.getId());
        startActivity(intent);
    }
}
```

File : MainActivity.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center_horizontal"
    android:padding="16dp"
    android:background="#F5F5F5">
```

```xml
    <!-- App Title -->
    <TextView
        android:id="@+id/appTitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="My Notes"
        android:textSize="24sp"
        android:textStyle="bold"
        android:paddingBottom="16dp"
        android:textColor="#000000" />

    <!-- ListView for displaying notes -->
    <ListView
        android:id="@+id/noteListView"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:textColor="#000000"
        android:textStyle="bold"
        android:divider="#000000"
        android:dividerHeight="1dp"
        android:background="#FFFFFF"
        android:padding="8dp" />

    <!-- List item layout for notes -->
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:padding="8dp">

        <!-- Image next to each note -->
        <ImageView
            android:id="@+id/noteImage"
            android:layout_width="48dp"
            android:layout_height="48dp"
            android:src="@drawable/img"
            android:layout_marginEnd="8dp"
            android:contentDescription="Note Image" />

        <!-- TextView for note content -->
        <TextView
            android:id="@+id/noteText"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="B.Sai Swaroop \n CYS21007"
            android:textSize="16sp"
            android:textColor="#000000" />
    </LinearLayout>

    <!-- Button to create new notes -->
    <Button
        android:id="@+id/newNoteButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Create New Note"
        android:textColor="#FFFFFF"
        android:textSize="18sp"
        android:backgroundTint="#2196F3"
        android:padding="12dp"
        android:elevation="4dp"
        android:layout_marginTop="16dp"
        android:layout_marginBottom="16dp" />

</LinearLayout>
```

File : Activity_Note_Detail.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

    android:gravity="center_horizontal"

    android:padding="16dp"

    android:background="#F5F5F5">


    <!-- EditText for Note Heading -->

    <EditText

        android:id="@+id/noteHeadingEditText"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:hint="Note Heading"

        android:textSize="18sp"

        android:textColor="#000000"

        android:backgroundTint="#CCCCCC"

        android:padding="12dp"

        android:layout_marginBottom="16dp"

        android:elevation="2dp" />


    <!-- EditText for Note Details -->

    <EditText

        android:id="@+id/noteDetailsEditText"

        android:layout_width="match_parent"

        android:layout_height="0dp"

        android:layout_weight="1"

        android:hint="Note Details"

        android:gravity="top|start"
```

```xml
        android:textSize="16sp"

        android:padding="12dp"

        android:backgroundTint="#EEEEEE"

        android:elevation="2dp"

        android:textColor="#000000"

        android:scrollbars="vertical" />


    <!-- Save Button -->

    <Button

        android:id="@+id/saveNoteButton"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:text="Save Note"

        android:textColor="#FFFFFF"

        android:textSize="18sp"

        android:backgroundTint="#4CAF50"

        android:padding="12dp"

        android:layout_marginTop="16dp"

        android:elevation="4dp" />


</LinearLayout>
```

File : NoteAdapter.java

```java
package com.example.notes;


import android.app.AlertDialog;

import android.content.Context;

import android.content.DialogInterface;

import android.view.LayoutInflater;

import android.view.View;
```

```java
import android.view.ViewGroup;

import android.widget.ArrayAdapter;

import android.widget.TextView;

import android.widget.Toast;


import androidx.annotation.NonNull;

import androidx.annotation.Nullable;


import java.util.List;


public class NoteAdapter extends ArrayAdapter<Note> {


    private Context context;

    private List<Note> notes;

    private OnNoteClickListener onNoteClickListener;


    public NoteAdapter(Context context, List<Note> notes, OnNoteClickListener
onNoteClickListener) {

        super(context, 0, notes);

        this.context = context;

        this.notes = notes;

        this.onNoteClickListener = onNoteClickListener;

    }


    @NonNull

    @Override

    public View getView(final int position, @Nullable View convertView, @NonNull
ViewGroup parent) {

        final Note note = getItem(position);


        if (convertView == null) {

            convertView =
LayoutInflater.from(getContext()).inflate(android.R.layout.simple_list_item_1, parent,
```

```java
false);
    }


    TextView textView = convertView.findViewById(android.R.id.text1);

    textView.setText(note.getHeading());



    // Set click listener for editing a note

    convertView.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View view) {

            if (onNoteClickListener != null) {

                onNoteClickListener.onNoteClick(note);

            }

        }

    });



    // Set long click listener for deleting a note

    convertView.setOnLongClickListener(new View.OnLongClickListener() {

        @Override

        public boolean onLongClick(View view) {

            showDeleteDialog(position);

            return true;

        }

    });



    return convertView;

}


private void showDeleteDialog(final int position) {

    AlertDialog.Builder builder = new AlertDialog.Builder(context);

    builder.setMessage("Are you sure you want to delete this note?")

            .setPositiveButton("Delete", new DialogInterface.OnClickListener() {

                @Override
```

```java
                    public void onClick(DialogInterface dialogInterface, int i) {

                        Note noteToDelete = getItem(position);

                        deleteNoteFromDatabase(noteToDelete.getId());

                        notes.remove(noteToDelete);

                        notifyDataSetChanged();

                        showToast("Note deleted");

                    }

                })

                .setNegativeButton("Cancel", new DialogInterface.OnClickListener() {

                    @Override

                    public void onClick(DialogInterface dialogInterface, int i) {

                        // User canceled the operation

                    }

                })

                .show();

    }


    private void deleteNoteFromDatabase(long noteId) {

        DatabaseHelper databaseHelper = new DatabaseHelper(context);

        databaseHelper.deleteNoteById(noteId);

    }


    private void showToast(String message) {

        Toast.makeText(context, message, Toast.LENGTH_SHORT).show();

    }


    // Interface for handling note clicks

    public interface OnNoteClickListener {

        void onNoteClick(Note note);

    }

}
```
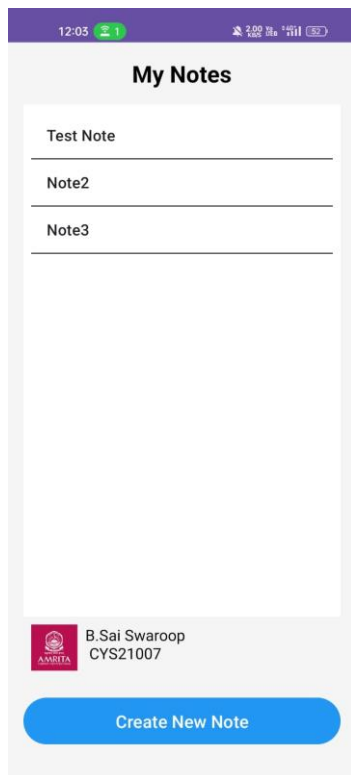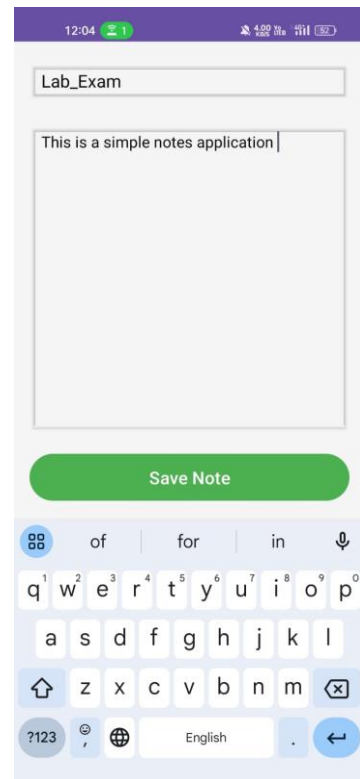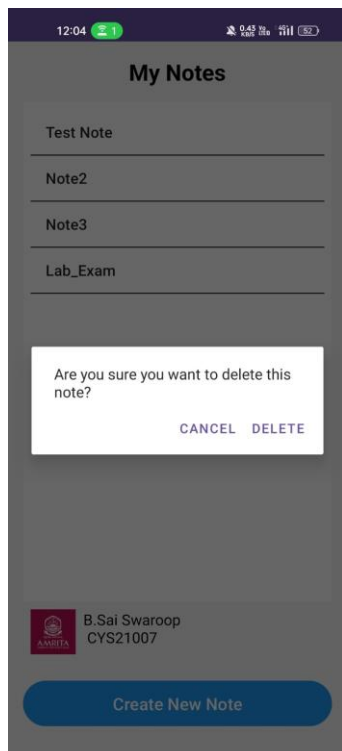
Output:

1. List of Created Notes :

2. Editing a Node:

3. Deleting a Node:

Result:

A simple Notes app has been created with the following functionalities:

1. Creating an empty notes.

2. Add a new Note.

3. Reading the Created Notes.

4. Deleting the Note.