# Leave Management System

## DbHelper.java

```java
package com.rohan.q1lms;

import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import androidx.annotation.Nullable;

public class DbHelper extends SQLiteOpenHelper {
    private static final String DATABASE_NAME = "lms.db";
    private static final int Version = 1;

    public DbHelper(@Nullable Context context) {
        super(context, DATABASE_NAME, null, Version);
    }

    public static final String TABLE_EMPLOYEES = "tblEmployees";
    public static final String TABLE_LEAVES = "tblLeaves";
    public static final String ID = "_id";
    public static final String USERNAME = "username";
    public static final String PASSWORD = "password";

    public static final String EMP_ID = "id";
    public static final String LEAVE_REASON = "reason";
    public static final String LEAVE_DATE = "date";
    public static final String LEAVE_TIME = "time";
    public static final String LEAVE_STATUS = "status";

    private static final String CREATE_TBLEMPLOYEES = "CREATE TABLE " +
TABLE_EMPLOYEES + " ("
            + ID + " INTEGER PRIMARY KEY AUTOINCREMENT, "
            + USERNAME + " TEXT,"
            + PASSWORD + " TEXT )";

    private static final String CREATE_TBLLEAVES = "CREATE TABLE " +
TABLE_LEAVES + " ("
            + ID + " INTEGER PRIMARY KEY AUTOINCREMENT,"
            + EMP_ID + " INTEGER,"
            + LEAVE_REASON + " TEXT,"
            + LEAVE_DATE + " TEXT,"
            + LEAVE_TIME + " TEXT,"
            + LEAVE_STATUS + " TEXT )";

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL(CREATE_TBLEMPLOYEES);
        db.execSQL(CREATE_TBLLEAVES);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_EMPLOYEES);
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_LEAVES);
        onCreate(db);
    }
}
```

## DbManager.java

```java
package com.rohan.q1lms;


import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;

import java.util.ArrayList;
import java.util.List;

public class DbManager {
    private DbHelper dbHelper;
    private SQLiteDatabase db;

    public DbManager(Context context) {
        dbHelper = new DbHelper(context);
    }

    public void open() {
        db = dbHelper.getWritableDatabase();
    }

    public void close() {
        dbHelper.close();
    }

    // Check User if Exists
    public boolean checkUser(String username) {
        db = dbHelper.getWritableDatabase();

        Cursor c = db.query(dbHelper.TABLE_EMPLOYEES, new
String[]{dbHelper.ID}, dbHelper.USERNAME + " =?", new String[]{username},
null, null, null);

        boolean isExists = c.getCount() > 0;

        c.close();
        db.close();
        return isExists;
    }

    // Add Employee
    public long addEmployee(String username, String password) {
        ContentValues cv = new ContentValues();
        cv.put(dbHelper.USERNAME, username);
        cv.put(dbHelper.PASSWORD, password);

        SQLiteDatabase db = dbHelper.getWritableDatabase();

        long isAdded = db.insert(dbHelper.TABLE_EMPLOYEES, null, cv);

        db.close();

        return isAdded;
    }
```

```java
    // Apply Leave
    public long addLeaveRequest(int employeeId, String reason, String status, String date, String time) {
        ContentValues cv = new ContentValues();
        cv.put(dbHelper.EMP_ID, employeeId);
        cv.put(dbHelper.LEAVE_REASON, reason);
        cv.put(dbHelper.LEAVE_STATUS, status);
        cv.put(dbHelper.LEAVE_DATE, date);
        cv.put(dbHelper.LEAVE_TIME, time);

        SQLiteDatabase db = dbHelper.getWritableDatabase();

        long isApplied = db.insert(dbHelper.TABLE_LEAVES, null, cv);

        db.close();
        return isApplied;
    }

    // Get all Leaves
    public Cursor getAllLeaveRequests() {
        SQLiteDatabase db = dbHelper.getReadableDatabase();
        Cursor c = db.query(dbHelper.TABLE_LEAVES, null, null, null, null, null, null);
        return c;
    }

    // Get Leave Requests for Employee
    public List<String> getLeaveRequestsForEmployee(int employeeId) {
        SQLiteDatabase db = dbHelper.getReadableDatabase();

        Cursor c = db.query(DbHelper.TABLE_LEAVES, null, dbHelper.EMP_ID +
" = ?", new String[]{String.valueOf(employeeId)}, null, null, null);

        List<String> leaveReqList = new ArrayList<>();
        while (c.moveToNext()) {
            String id = c.getString(0);
            String reason = c.getString(2);
            String date = c.getString(3);
            String time = c.getString(4);
            String status = c.getString(5);
            leaveReqList.add("Id: " + id + "\nReason: " + reason + "\nDate:
" + date + "\nTime: " + time + "\nStatus: " + status);
        }

        c.close();
        db.close();

        return leaveReqList;
    }

    // Reject Leave
    public boolean rejectLeaveRequest(int leaveId) {
        SQLiteDatabase db = dbHelper.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put(dbHelper.LEAVE_STATUS, "Rejected");
        int rowsAffected = db.update(dbHelper.TABLE_LEAVES, cv, dbHelper.ID
+ " = ?", new String[]{String.valueOf(leaveId)});
        return rowsAffected > 0;
    }
```

```java
    // Approve Leave
    public boolean approveLeaveRequest(int leaveId) {
        SQLiteDatabase db = dbHelper.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put(dbHelper.LEAVE_STATUS, "Approved");
        int rowsAffected = db.update(dbHelper.TABLE_LEAVES, cv, dbHelper.ID
+ " = ?", new String[]{String.valueOf(leaveId)});
        return rowsAffected > 0;
    }


}
```

## activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Welcome to LMS!"
        android:textAlignment="center"
        android:textSize="30dp"
        android:textStyle="bold" />

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

        <Button
            android:id="@+id/btnRegister"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Registration" />

        <Button
            android:id="@+id/btnLogin"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"
            android:text="Login" />
    </LinearLayout>
</LinearLayout>
```

## MainActivity.java

```java
package com.rohan.q1lms;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    Button btnLogin, btnRegister;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        SharedPreferences sharedPreferences =
getSharedPreferences("MySharedPref", MODE_PRIVATE);
        int id = sharedPreferences.getInt("id", 0);
        boolean isAdmin = sharedPreferences.getBoolean("isAdmin", false);
        if (id != 0) {
            if (isAdmin) {
                startActivity(new Intent(getApplicationContext(),
AdminDashboard.class));
            } else {
                startActivity(new Intent(getApplicationContext(),
EmployeeDashboard.class));
            }
        }

        controlInitialization();
        buttonClicks();
    }

    protected void buttonClicks() {

        // btnLogin Click
        btnLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
Login.class));
            }
        });
```

```java
        // btnRegister Click
        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
Registration.class));
            }
        });
    }

    protected void controlInitialization() {
        btnLogin = findViewById(R.id.btnLogin);
        btnRegister = findViewById(R.id.btnRegister);
    }
}
```

## activity_registration.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".Registration">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Registration"
        android:textAlignment="center"
        android:textSize="30dp" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="User Name:"
        android:textSize="20dp" />

    <EditText
        android:id="@+id/txtUsername"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Password:"
        android:textSize="20dp" />
```

```xml
    <EditText
        android:id="@+id/txtPassword"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="*****"
        android:inputType="textPassword" />

    <Button
        android:id="@+id/btnRegister"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Register" />

</LinearLayout>
```

## Registration.java

```java
package com.rohan.q1lms;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class Registration extends AppCompatActivity {

    EditText txtUsername, txtPassword;
    Button btnRegister;
    DbManager db;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_registration);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        controlInitialization();
        buttonClicks();
    }
```

```java
    protected void buttonClicks() {
        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = txtUsername.getText().toString();
                String password = txtPassword.getText().toString();

                if (username.isEmpty() || password.isEmpty()) {
                    Toast.makeText(Registration.this, "Please fill all the
fields", Toast.LENGTH_SHORT).show();
                } else {
                    if (db.checkUser(username)) {
                        Toast.makeText(Registration.this, "Username already
exists", Toast.LENGTH_SHORT).show();
                    } else {
                        long result = db.addEmployee(username, password);
                        if (result != -1) {
                            Toast.makeText(getApplicationContext(),
"Registration successful", Toast.LENGTH_SHORT).show();
//                            finish();
                            startActivity(new
Intent(getApplicationContext(), Login.class));
                        } else {
                            Toast.makeText(Registration.this, "Registration
failed", Toast.LENGTH_SHORT).show();
                        }
                    }
                }
            }
        });
    }

    protected void controlInitialization() {
        txtUsername = findViewById(R.id.txtUsername);
        txtPassword = findViewById(R.id.txtPassword);
        btnRegister = findViewById(R.id.btnRegister);
    }
}
```

**activity_login.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".Login">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login"
        android:textAlignment="center"
        android:textSize="30dp" />
```

```xml
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="User Name:"
        android:textSize="20dp" />

    <EditText
        android:id="@+id/txtUsername"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Password:"
        android:textSize="20dp" />

    <EditText
        android:id="@+id/txtPassword"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="*****"
        android:inputType="textPassword" />

    <Button
        android:id="@+id/btnLogin"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Login" />

</LinearLayout>
```

**Login.java**

```java
package com.rohan.q1lms;

import android.content.Intent;
import android.content.SharedPreferences;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
```

```java
public class Login extends AppCompatActivity {
    EditText txtUsername, txtPassword;
    Button btnLogin;
    DbManager db;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_login);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        controlInitialization();
        buttonClicks();
    }

    protected void buttonClicks() {
        btnLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = txtUsername.getText().toString();
                String password = txtPassword.getText().toString();

                if (!username.isEmpty() || !password.isEmpty()) {
                    if (authenticateUser(username, password)) {
                        if (username.equals("admin") &&
password.equals("12345")) {
                            SharedPreferences sharedPreferences =
getSharedPreferences("MySharedPref", MODE_PRIVATE);
                            sharedPreferences.edit().putBoolean("isAdmin",
true).apply();
                            startActivity(new
Intent(getApplicationContext(), AdminDashboard.class));
                        } else {
                            startActivity(new
Intent(getApplicationContext(), EmployeeDashboard.class));
                        }
                    } else {
                        Toast.makeText(Login.this, "Invalid username or
password", Toast.LENGTH_SHORT).show();
                    }
                } else {
                    Toast.makeText(Login.this, "Please fill all the
fields", Toast.LENGTH_SHORT).show();
                }
            }
        });
    }

    private boolean authenticateUser(String username, String password) {
        DbHelper dbHelper = new DbHelper(this);
        SQLiteDatabase database = dbHelper.getWritableDatabase();
```

```java
        Cursor c = database.query(dbHelper.TABLE_EMPLOYEES, new
String[]{DbHelper.ID}, dbHelper.USERNAME + " = ? AND " + dbHelper.PASSWORD
+ " = ?", new String[]{username, password}, null, null, null);

        boolean isAuthenticated = (c.getCount() > 0);
        if (isAuthenticated) {
            c.moveToFirst();
            int id = c.getInt(0);
            getSharedPreferences("MySharedPref",
MODE_PRIVATE).edit().putInt("id", id).apply();
        }

        c.close();
        database.close();

        return isAuthenticated;
    }

    protected void controlInitialization() {
        txtUsername = findViewById(R.id.txtUsername);
        txtPassword = findViewById(R.id.txtPassword);
        btnLogin = findViewById(R.id.btnLogin);
    }
}
```

**activity_employee_dashboard.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".EmployeeDashboard">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Employee Dashboard"
        android:textAlignment="center"
        android:textSize="30dp" />

    <Button
        android:id="@+id/btnShowLeaves"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Show Leaves"/>

    <Button
        android:id="@+id/btnApplyLeave"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
```

```xml
            android:text="Apply Leave"/>

    <Button
        android:id="@+id/btnLogout"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Logout"/>

</LinearLayout>
```

## EmployeeDashboard.java

```java
package com.rohan.q1lms;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class EmployeeDashboard extends AppCompatActivity {

    Button btnShowLeaves, btnApplyLeave, btnLogout;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_employee_dashboard);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        controlInitialization();
        buttonClicks();
    }

    protected void buttonClicks() {
        btnLogout.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                getSharedPreferences("MySharedPref",
MODE_PRIVATE).edit().clear().apply();
                startActivity(new Intent(getApplicationContext(),
MainActivity.class));
            }
        });
```

```java
        btnShowLeaves.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
EmployeeLeaves.class));
            }
        });

        btnApplyLeave.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
ApplyLeave.class));
            }
        });
    }
    protected void controlInitialization() {
        btnLogout = findViewById(R.id.btnLogout);
        btnShowLeaves = findViewById(R.id.btnShowLeaves);
        btnApplyLeave = findViewById(R.id.btnApplyLeave);
    }
}
```

**activity_apply_leave.xml**

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

    <LinearLayout
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:id="@+id/main"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        tools:context=".ApplyLeave">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Apply Leave"
            android:textAlignment="center"
            android:textSize="30dp" />

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="Leave Reason:"
            android:textSize="20dp" />

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

```xml
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Reason for Leave"
            android:inputType="text" />

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="Leave Date:"
            android:textSize="20dp" />

        <DatePicker
            android:id="@+id/dpDate"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="24dp"
            android:calendarViewShown="false"
            android:datePickerMode="spinner" />

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="Leave Time:"
            android:textSize="20dp" />

        <TimePicker
            android:id="@+id/tpTime"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="24dp" />

        <Button
            android:id="@+id/btnApply"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:text="Apply Leave" />

    </LinearLayout>
</ScrollView>
```

**ApplyLeave.java**

```java
package com.rohan.q1lms;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.TimePicker;
import android.widget.Toast;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
```

```java
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class ApplyLeave extends AppCompatActivity {

    EditText txtReason;
    DatePicker dpDate;
    TimePicker tpTime;
    Button btnApply;
    DbManager db;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_apply_leave);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        controlInitialization();
        buttonClicks();
    }

    protected void buttonClicks() {
        btnApply.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String reason = txtReason.getText().toString();
                String date = dpDate.getDayOfMonth() + "/" +
(dpDate.getMonth() + 1) + "/" + dpDate.getYear();
                String time = tpTime.getCurrentHour() + ":" +
tpTime.getCurrentMinute();

                if (reason.isEmpty()) {
                    Toast.makeText(ApplyLeave.this, "Please enter reason
for leave", Toast.LENGTH_SHORT).show();
                } else {
                    SharedPreferences sharedPreferences =
getSharedPreferences("MySharedPref", MODE_PRIVATE);
                    int employeeId = sharedPreferences.getInt("id", 0);

                    long result = db.addLeaveRequest(employeeId, reason,
"Pending", date, time);

                    if (result != -1) {
                        Toast.makeText(getApplicationContext(), "Leave
applied successfully", Toast.LENGTH_SHORT).show();
                        startActivity(new Intent(getApplicationContext(),
EmployeeDashboard.class));
                    } else {
                        Toast.makeText(ApplyLeave.this, "Failed to apply
leave", Toast.LENGTH_SHORT).show();
                    }
```

```
                }
            }
        });
    }

    protected void controlInitialization() {
        txtReason = findViewById(R.id.txtReason);
        dpDate = findViewById(R.id.dpDate);
        tpTime = findViewById(R.id.tpTime);
        btnApply = findViewById(R.id.btnApply);
    }
}
```

## activity_employee_leaves.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".EmployeeLeaves">

    <ListView
        android:id="@+id/lvLeaveList"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:divider="@android:color/darker_gray"
        android:dividerHeight="1dp"/>

</LinearLayout>
```

## EmployeeLeaves.java

```java
package com.rohan.q1lms;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import java.util.List;

public class EmployeeLeaves extends AppCompatActivity {

    ListView lvLeaveList;
    DbManager db;
```

```java
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_employee_leaves);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        controlInitialization();
        try {
            displayLeaves();
        } catch (Exception e) {
            Toast.makeText(this, "Error displaying leave
requests"+e.getMessage(), Toast.LENGTH_SHORT).show();
        }
    }

    protected void displayLeaves() {
        SharedPreferences sharedPreferences =
getSharedPreferences("MySharedPref", MODE_PRIVATE);
        int employeeId = sharedPreferences.getInt("id", 0);

        if (employeeId != 0) {
            List<String> leaveRequests =
db.getLeaveRequestsForEmployee(employeeId);

            if (leaveRequests.isEmpty()) {
                Toast.makeText(this, "No leave requests found",
Toast.LENGTH_SHORT).show();
                return;
            } else {
//              Toast.makeText(this, "Leave requests",
Toast.LENGTH_SHORT).show();
                ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1, leaveRequests);
                lvLeaveList.setAdapter(adapter);
            }

        } else {
            Toast.makeText(this, "Employee ID not found",
Toast.LENGTH_SHORT).show();
        }
    }

    protected void controlInitialization() {
        lvLeaveList = findViewById(R.id.lvLeaveList);
    }
}
```

## activity_admin_dashboard.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".AdminDashboard">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Welcome Admin!"
        android:textAlignment="center"
        android:textSize="30dp" />

    <Button
        android:id="@+id/btnShowLeaves"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Show Leaves"/>

    <Button
        android:id="@+id/btnLogout"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Logout"/>
</LinearLayout>
```

## AdminDashboard.java

```java
package com.rohan.q1lms;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class AdminDashboard extends AppCompatActivity {

    Button btnLogout, btnShowLeaves;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_admin_dashboard);
```

```java
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        controlInitialization();
        buttonClicks();
    }

    protected void buttonClicks(){
        btnShowLeaves.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
AdminLeaves.class));
            }
        });

        btnLogout.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                getSharedPreferences("MySharedPref",
MODE_PRIVATE).edit().clear().apply();
                startActivity(new Intent(getApplicationContext(),
MainActivity.class));
            }
        });
    }

    protected void controlInitialization() {
        btnLogout = findViewById(R.id.btnLogout);
        btnShowLeaves = findViewById(R.id.btnShowLeaves);
    }
}
```

## activity_admin_leaves.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".AdminLeaves">

    <ListView
        android:id="@+id/lvLeaves"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:divider="@android:color/darker_gray"
        android:dividerHeight="1dp"/>
</LinearLayout>
```

## AdminLeaves.java

```java
package com.rohan.q1lms;

import android.content.Context;
import android.graphics.Color;
import android.os.Bundle;
import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
import android.widget.Button;
import android.widget.CursorAdapter;
import android.widget.ListView;
import android.widget.SimpleCursorAdapter;
import android.widget.TextView;
import android.widget.Toast;
import android.database.Cursor;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class AdminLeaves extends AppCompatActivity {

    ListView lvLeaves;
    DbManager db;
    DbHelper dbHelper;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_admin_leaves);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        dbHelper = new DbHelper(this);
        controlInitialization();
        displayLeaves();
    }

    protected void displayLeaves() {
        Cursor cursor = db.getAllLeaveRequests();
        if (cursor != null) {
            LeaveCursorAdapter adapter = new LeaveCursorAdapter(this,
cursor, db);
            adapter.notifyDataSetChanged();
            lvLeaves.setAdapter(adapter);
        }
    }
```

```java
    public class LeaveCursorAdapter extends CursorAdapter {

        private final DbManager dbManager;

        public LeaveCursorAdapter(Context context, Cursor cursor, DbManager
dbManager) {
            super(context, cursor, 0);
            this.dbManager = dbManager;
        }

        @Override
        public View newView(Context context, Cursor cursor, ViewGroup
parent) {
            LayoutInflater inflater = LayoutInflater.from(context);
            return inflater.inflate(R.layout.leave_view, parent, false);
        }

        @Override
        public void bindView(View view, Context context, Cursor cursor) {
            TextView lblId = view.findViewById(R.id.lblId);
            TextView lblEmpId = view.findViewById(R.id.lblEmpId);
            TextView lblReason = view.findViewById(R.id.lblReason);
            TextView lblStatus = view.findViewById(R.id.lblStatus);
            TextView lblDate = view.findViewById(R.id.lblDate);
            TextView lblTime = view.findViewById(R.id.lblTime);
            Button btnApprove = view.findViewById(R.id.btnApprove);
            Button btnReject = view.findViewById(R.id.btnReject);

            int idIndex = cursor.getColumnIndex("_id");
            int empIdIndex = cursor.getColumnIndex("id");
            int reasonIndex = cursor.getColumnIndex("reason");
            int statusIndex = cursor.getColumnIndex("status");
            int dateIndex = cursor.getColumnIndex("date");
            int timeIndex = cursor.getColumnIndex("time");
            int id = cursor.getInt(idIndex);
            int empId = cursor.getInt(empIdIndex);
            String reason = cursor.getString(reasonIndex);
            String status = cursor.getString(statusIndex);
            String date = cursor.getString(dateIndex);
            String time = cursor.getString(timeIndex);

            lblId.setText(String.valueOf(id));
            lblEmpId.setText(String.valueOf(empId));
            lblReason.setText(reason);
            lblStatus.setText(status);
            lblDate.setText(date);
            lblTime.setText(time);

            int color = status.equals("Pending") ? Color.RED : Color.BLACK;
            lblStatus.setTextColor(color);

            btnApprove.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    boolean approve = dbManager.approveLeaveRequest(id);
                    if (approve) {
                        Toast.makeText(context, "Leave Approved!",
Toast.LENGTH_SHORT).show();
                        displayLeaves();
                        notifyDataSetChanged();
                    } else {
```

```java
                        Toast.makeText(context, "Failed to approve Leave!",
Toast.LENGTH_SHORT).show();
                    }
                }
            });

            btnReject.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    boolean reject = dbManager.rejectLeaveRequest(id);
                    if (reject) {
                        Toast.makeText(context, "Leave Rejected!",
Toast.LENGTH_SHORT).show();
                        displayLeaves();
                        notifyDataSetChanged();
                    } else {
                        Toast.makeText(context, "Failed to reject Leave!",
Toast.LENGTH_SHORT).show();
                    }
                }
            });
        }
    }

    protected void controlInitialization() {
        lvLeaves = findViewById(R.id.lvLeaves);
    }
}
```

## LeaveCursorAdapter.java

```java
package com.rohan.q1lms;

import android.content.Context;
import android.database.Cursor;
import android.graphics.Color;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.CursorAdapter;
import android.widget.TextView;
import android.widget.Toast;

public class LeaveCursorAdapter extends CursorAdapter {

    private final DbManager dbManager;


    public LeaveCursorAdapter(Context context, Cursor cursor, DbManager
dbManager) {
        super(context, cursor, 0);
        this.dbManager = dbManager;
    }
```

```java
    @Override
    public View newView(Context context, Cursor cursor, ViewGroup parent) {
        LayoutInflater inflater = LayoutInflater.from(context);
        return inflater.inflate(R.layout.leave_view, parent, false);
    }

    @Override
    public void bindView(View view, Context context, Cursor cursor) {
        TextView lblId = view.findViewById(R.id.lblId);
        TextView lblEmpId = view.findViewById(R.id.lblEmpId);
        TextView lblReason = view.findViewById(R.id.lblReason);
        TextView lblStatus = view.findViewById(R.id.lblStatus);
        TextView lblDate = view.findViewById(R.id.lblDate);
        TextView lblTime = view.findViewById(R.id.lblTime);
        Button btnApprove = view.findViewById(R.id.btnApprove);
        Button btnReject = view.findViewById(R.id.btnReject);

        int idIndex = cursor.getColumnIndex("_id");
        int empIdIndex = cursor.getColumnIndex("id");
        int reasonIndex = cursor.getColumnIndex("reason");
        int statusIndex = cursor.getColumnIndex("status");
        int dateIndex = cursor.getColumnIndex("date");
        int timeIndex = cursor.getColumnIndex("time");
        int id = cursor.getInt(idIndex);
        int empId = cursor.getInt(empIdIndex);
        String reason = cursor.getString(reasonIndex);
        String status = cursor.getString(statusIndex);
        String date = cursor.getString(dateIndex);
        String time = cursor.getString(timeIndex);

        lblId.setText(String.valueOf(id));
        lblEmpId.setText(String.valueOf(empId));
        lblReason.setText(reason);
        lblStatus.setText(status);
        lblDate.setText(date);
        lblTime.setText(time);

        int color = status.equals("Pending") ? Color.RED : Color.BLACK;
        lblStatus.setTextColor(color);

        btnApprove.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                boolean approve = dbManager.approveLeaveRequest(id);
                if (approve) {
                    Toast.makeText(context, "Leave Approved!",
Toast.LENGTH_SHORT).show();
                    notifyDataSetChanged();
                } else {
                    Toast.makeText(context, "Failed to approve Leave!",
Toast.LENGTH_SHORT).show();
                }
            }
        });

        btnReject.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                boolean reject = dbManager.rejectLeaveRequest(id);
```

```java
                if (reject) {
                    Toast.makeText(context, "Leave Rejected!",
Toast.LENGTH_SHORT).show();
                    notifyDataSetChanged();
                } else {
                    Toast.makeText(context, "Failed to reject Leave!",
Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}
```

**leave_view.java**

```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:layout_margin="10dp"
    android:orientation="vertical">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Leave Id: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/lblId"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20dp"
            android:textStyle="bold" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Employee Id: "
            android:textSize="20dp"
            android:textStyle="bold" />
```

```xml
        <TextView
            android:id="@+id/lblEmpId"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20dp"
            android:textStyle="bold" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Leave Reason: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/lblReason"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20dp"
            android:textStyle="bold" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Leave Status: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/lblStatus"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20dp"
            android:textStyle="bold" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Leave Date: "
            android:textSize="20dp"
            android:textStyle="bold" />
```

```xml
        <TextView
            android:id="@+id/lblDate"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20dp"
            android:textStyle="bold" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Leave Time: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/lblTime"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="20dp"
            android:textStyle="bold" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:orientation="horizontal">

        <Button
            android:id="@+id/btnApprove"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Approve" />

        <Button
            android:id="@+id/btnReject"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginStart="8dp"
            android:text="Reject" />

    </LinearLayout>
</LinearLayout>
```