LABORATORY REPORT

Semester: Fall Semester 2025-26 (Fast Track)

Mobile Application Development

MCA1006

Slot : B14+D11+D12+E11

Submitted by

NAME: VANSHIKA SHARMA

REGNO: 24MCA10039

Master of Computer Application

in

Submited to

Dr. SHARMILA JOSEPH

SCHOOL OF COMPUTING SCIENCE AND ENGINEERING VIT BHOPAL UNIVERSITY

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VANSHIKA SHARMA
24/05/25
24MCA10039

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Date:	Title
Exp No. 1	Implement the practical of Fragments along with the media queries.

AIM OF THE EXPERIMENT:

Implement the practical of Fragments along with the media queries.

PROCEDURE:

- Fragment Setup: Defines FragmentOne (profile), FragmentTwo (image), and FragmentThree (dynamic text). Each has its own layout.
- Main Layout: activity_main.xml includes three buttons at the top and a FrameLayout below to display the chosen fragment.
- MainActivity Control: Loads FragmentOne by default. Buttons in MainActivity trigger the replacement of the current fragment with the selected one.
- Dynamic Content: FragmentThree programmatically sets its text when created.

CODE:

FragmentOne.java

```
package com.example.classFragments.fragments

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import androidx.fragment.app.Fragment
import com.example.classfragments.R

class FragmentOne : Fragment() {
    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View? {
        return inflater.inflate(R.layout.fragment_one, container, false)
    }
}
```

FragmentTwo.java

```
package com.example.classfragments.fragments  // ✅ lowercase 'f'

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
//import android.widget.Button
import androidx.fragment.app.Fragment
import com.example.classfragments.R

class FragmentTwo : Fragment() {

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View {
        return inflater.inflate(R.layout.fragment_two, container, false)
    }

    override fun onViewCreated(view: View, savedInstanceState: Bundle?) {
        super.onViewCreated(view, savedInstanceState)

        // Optional: Handle back button
//        val backButton: Button? = view.findViewById(R.id.btn_back)
//        backButton?.setOnClickListener {
//            requireActivity().supportFragmentManager.popBackStack()
//        }
    }
}
```

FragmentThree.java

```
package com.example.classfragments.fragments

import android.os.Bundle
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.TextView
import androidx.fragment.app.Fragment
import com.example.classfragments.R

class FragmentThree : Fragment() {

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View {
        return inflater.inflate(R.layout.fragment_three, container, false)
    }

    override fun onViewCreated(view: View, savedInstanceState: Bundle?) {
        super.onViewCreated(view, savedInstanceState)

        val textView = view.findViewById<TextView>(R.id.descText)
        textView.text = "My name is Vanshika. I want to become a
astronaut."
```

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```
    }
}
```

```
package com.example.classfragments

import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
import com.example.classfragments.databinding.ActivityMainBinding
import com.example.classFragments.fragments.FragmentOne
import com.example.classfragments.fragments.FragmentTwo
import com.example.classfragments.fragments.FragmentThree

class MainActivity : AppCompatActivity() {
    private lateinit var binding: ActivityMainBinding

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        binding = ActivityMainBinding.inflate(layoutInflater)
        setContentView(binding.root)

        // Load default fragment
        supportFragmentManager.beginTransaction()
            .replace(R.id.fragment_container, FragmentOne())
            .commit()

        binding.btnFragmentOne.setOnClickListener {
            supportFragmentManager.beginTransaction()
                .replace(R.id.fragment_container, FragmentOne())
                .commit()
        }

        binding.btnFragmentTwo.setOnClickListener {
            supportFragmentManager.beginTransaction()
                .replace(R.id.fragment_container, FragmentTwo())
                .commit()
        }

        binding.btnFragmentThree.setOnClickListener {
            supportFragmentManager.beginTransaction()
                .replace(R.id.fragment_container, FragmentThree())
                .commit()
        }
    }
}
```

activity_main.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">

    <!-- Top Button Bar -->
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```
        android:orientation="horizontal"
        android:gravity="center"
        android:padding="8dp"
        android:weightSum="3">

        <Button
            android:id="@+id/btnFragmentOne"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Fragment One"/>

        <Button
            android:id="@+id/btnFragmentTwo"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Fragment Two"/>

        <Button
            android:id="@+id/btnFragmentThree"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Fragment Three"/>

    </LinearLayout>

    <!-- Fragment Display Area -->
    <FrameLayout
        android:id="@+id/fragment_container"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1" />
</LinearLayout>
```

Fragment_one.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:padding="16dp"
android:gravity="center">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:src="@drawable/profile"
        android:contentDescription="Image One" />

    <TextView
        android:id="@+id/titleText"
        android:layout_marginTop="16dp"
        android:text="Hi My name is Vanshika"
        android:textSize="20sp"
        android:textStyle="bold"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
```

```
</LinearLayout>
```

fragmentTwo.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:padding="16dp"
    android:gravity="center">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:src="@drawable/img_2"
        />

    </LinearLayout>
```

fragmentThree.xml

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#F5F5F5">

    <TextView
        android:id="@+id/descText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Initial Text"
        android:textSize="24sp"
        android:layout_gravity="center" />
</FrameLayout>
```

RESULT:

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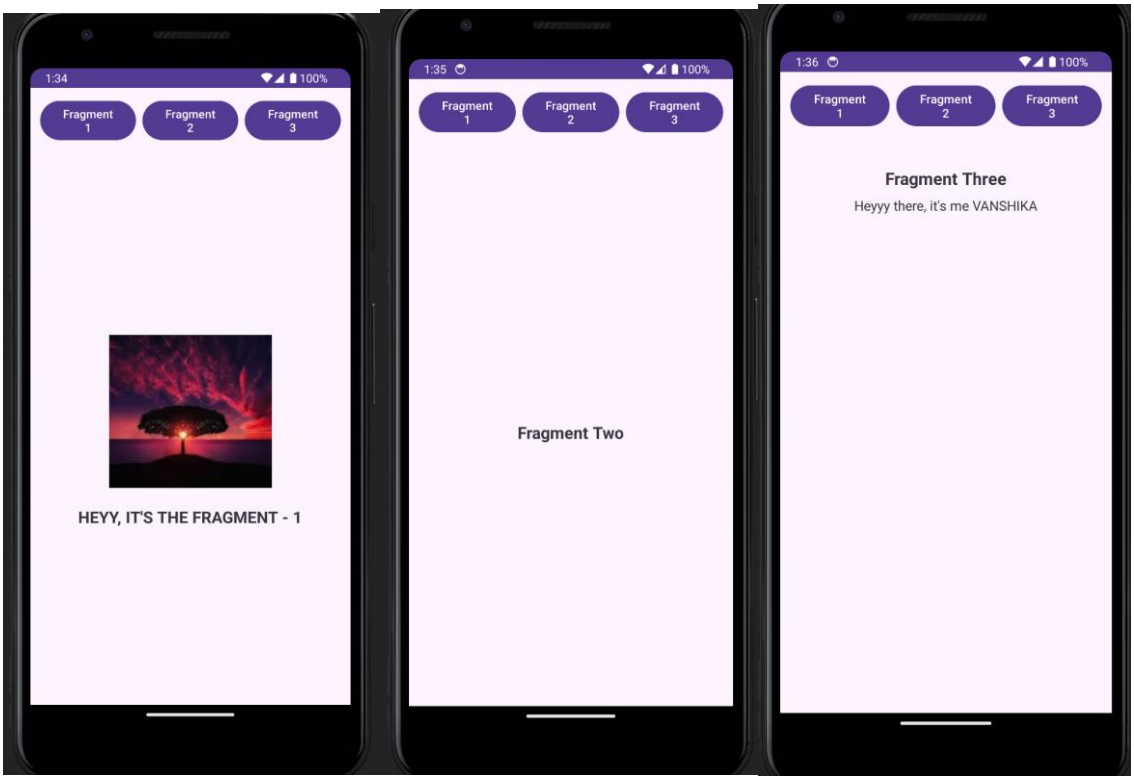

Date:	Title
Exp No. 2	Demonstrate the UI components including navigation Drawer, Drag and Drop,

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	List View and others.

AIM OF THE EXPERIMENT:

Demonstrate the UI components including navigation Drawer, Drag and Drop, List View and others.

PROCEDURE:

1. Main Setup: MainActivity uses a DrawerLayout to host Fragments and a Toolbar.
2. Drawer Navigation: drawer_menu.xml defines options; selection switches the displayed fragment.
3. Fragment Display: MainActivity manages loading HomeFragment or DragDropFragment into a container.
4. Contact List: HomeFragment shows contacts in a ListView using a custom adapter and layout.
5. Drag & Drop: DragDropFragment enables an image to be freely dragged and repositioned on screen.

CODE:

AndroidManifest.xml

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

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.MyHybridApp"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER"
```

```
/>
            </intent-filter>
        </activity>
    </application>

</manifest>
```

DragDropFragment.java

```
package com.example.myhybridapp.fragments; // Your package name

import android.content.ClipData;
import android.os.Build;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.util.Log;
import android.view.DragEvent;
import android.view.LayoutInflater;
import android.view.MotionEvent;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.RelativeLayout;

import com.example.myhybridapp.R;

public class DragDropFragment extends Fragment {

    ImageView img;
    RelativeLayout rootLayout;
    RelativeLayout.LayoutParams layoutParams;
    String msg = "DragDropFragment";

    public DragDropFragment() {
        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        View view = inflater.inflate(R.layout.fragment_drag_drop,
container, false);

        img = view.findViewById(R.id.imageView);
        rootLayout = view.findViewById(R.id.root_layout);
        layoutParams = (RelativeLayout.LayoutParams) img.getLayoutParams();

        img.setOnTouchListener(new View.OnTouchListener() {
            @Override
            public boolean onTouch(View v, MotionEvent event) {
                if (event.getAction() == MotionEvent.ACTION_DOWN) {
                    ClipData data = ClipData.newPlainText("", "");
                    View.DragShadowBuilder shadowBuilder = new
View.DragShadowBuilder(v);

                    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.N) {
                        v.startDragAndDrop(data, shadowBuilder, v, 0);
```

```
                    } else {
                        v.startDrag(data, shadowBuilder, v, 0);
                    }
                    v.setVisibility(View.INVISIBLE);
                    return true;
                }
                return false;
            }
        });

        rootLayout.setOnDragListener(new View.OnDragListener() {
            @Override
            public boolean onDrag(View v, DragEvent event) {
                final int action = event.getAction();

                switch (action) {
                    case DragEvent.ACTION_DRAG_STARTED:
                        Log.d(msg, "Drag started");
                        return true;
                    case DragEvent.ACTION_DRAG_LOCATION:
                        return true;
                    case DragEvent.ACTION_DROP:
                        Log.d(msg, "Dropped");
                        float x = event.getX();
                        float y = event.getY();
                        layoutParams.leftMargin = (int) x - (img.getWidth()
/ 2);
                        layoutParams.topMargin = (int) y - (img.getHeight()
/ 2);
                        img.setLayoutParams(layoutParams);
                        return true;
                    case DragEvent.ACTION_DRAG_ENDED:
                        Log.d(msg, "Drag ended");
                        img.setVisibility(View.VISIBLE);
                        return true;
                    default:
                        break;
                }
                return false;
            }
        });

        return view;
    }
}
```

HomeFragment.java

```
package com.example.myhybridapp.fragments; // Your package name

import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
```

```
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

import com.example.myhybridapp.R;

public class HomeFragment extends Fragment {

    ListView contactListView;
    String[] contactNames = {
            "Alice Johnson",
            "Bob Smith",
            "Catherine Lee",
            "Daniel Williams",
            "Ella Brown",
            "Frank Harris",
            "Grace Wilson",
            "Henry Clark",
            "Isabella Lewis",
            "Jack White"
    };

    public HomeFragment() {
        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        View view = inflater.inflate(R.layout.fragment_home, container,
false);

        contactListView = view.findViewById(R.id.contactListView);

        ArrayAdapter<String> adapter = new ArrayAdapter<>(
                getContext(), // Use getContext() for fragments
                android.R.layout.simple_list_item_1,
                contactNames
        );
        contactListView.setAdapter(adapter);

        contactListView.setOnItemClickListener(new
AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int
position, long id) {
                String name = contactNames[position];
                Toast.makeText(getContext(), "You clicked: " + name,
Toast.LENGTH_SHORT).show();
            }
        });

        return view;
    }
}
```

MainActivity.java

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```java
package com.example.myhybridapp; // Your package name

import android.os.Bundle;
import android.view.MenuItem;
import android.widget.TextView;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.Toolbar;
import androidx.drawerlayout.widget.DrawerLayout;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;

import com.google.android.material.navigation.NavigationView;
import com.example.myhybridapp.fragments.HomeFragment;
import com.example.myhybridapp.fragments.DragDropFragment;

public class MainActivity extends AppCompatActivity {

    private DrawerLayout drawerLayout;
    private NavigationView navigationView;
    private Toolbar toolbar;
    // private TextView textView; // Removed as text is now in fragments

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

        drawerLayout = findViewById(R.id.drawer_layout);
        navigationView = findViewById(R.id.nav_view);
        toolbar = findViewById(R.id.toolbar);
        // textView = findViewById(R.id.textView); // Removed

        // Setup toolbar
        setSupportActionBar(toolbar);

        // Hamburger icon
        ActionBarDrawerToggle toggle = new ActionBarDrawerToggle(
                this, drawerLayout, toolbar,
                R.string.navigation_drawer_open,
                R.string.navigation_drawer_close);

        drawerLayout.addDrawerListener(toggle);
        toggle.syncState();

        // Load default fragment
        if (savedInstanceState == null) {
            loadFragment(new HomeFragment());
            navigationView.setCheckedItem(R.id.nav_home);
        }

        // Handle navigation item clicks
        navigationView.setNavigationItemSelectedListener(
                new NavigationView.OnNavigationItemSelectedListener() {
                    @Override
                    public boolean onNavigationItemSelected(@NonNull
```

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```
MenuItem item) {
                        int id = item.getItemId();
                        Fragment selectedFragment = null;
                        String toastMessage = "";

                        if (id == R.id.nav_home) {
                            selectedFragment = new HomeFragment();
                            toastMessage = "Home (Contact List)";
                        } else if (id == R.id.nav_drag_drop) {
                            selectedFragment = new DragDropFragment();
                            toastMessage = "Drag & Drop";
                        } else if (id == R.id.nav_settings) {
                            // You can add a placeholder fragment or just
show a toast for settings
                            toastMessage = "Settings (Not implemented
yet)";
                            // selectedFragment = new SettingsFragment();
// Uncomment if you create a SettingsFragment
                        }

                        if (selectedFragment != null) {
                            loadFragment(selectedFragment);
                            Toast.makeText(MainActivity.this, toastMessage,
Toast.LENGTH_SHORT).show();
                        } else {
                            Toast.makeText(MainActivity.this, toastMessage,
Toast.LENGTH_SHORT).show();
                        }

                        drawerLayout.closeDrawers(); // Close drawer after
selection
                        return true;
                    }
                });
    }

    private void loadFragment(Fragment fragment) {
        FragmentManager fragmentManager = getSupportFragmentManager();
        FragmentTransaction fragmentTransaction =
fragmentManager.beginTransaction();
        fragmentTransaction.replace(R.id.fragment_container, fragment);
        fragmentTransaction.commit();
    }
}
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/drawer_layout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <LinearLayout
```

```
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <androidx.appcompat.widget.Toolbar
            android:id="@+id/toolbar"
            android:layout_width="match_parent"
            android:layout_height="?attr/actionBarSize"
            android:background="?attr/colorPrimary"
            android:titleTextColor="@android:color/white"
            app:title="@string/app_name" />

        <FrameLayout
            android:id="@+id/fragment_container"
            android:layout_width="match_parent"
            android:layout_height="match_parent" />
    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:id="@+id/nav_view"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="start"
        android:fitsSystemWindows="true"
        android:background="@android:color/white"
        app:headerLayout="@layout/nav_header_main"
        app:menu="@menu/drawer_menu" />

</androidx.drawerlayout.widget.DrawerLayout>
```

Fragment_drag_drop.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/root_layout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".fragments.DragDropFragment">

    <TextView
        android:id="@+id/textViewDragDrop"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Drag and Drop the Image"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="24dp"/>

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/abc"
        android:layout_centerInParent="true"
```

```
        android:contentDescription="Draggable image" />

</RelativeLayout>
```

Fragment_home.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:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    android:gravity="center_horizontal"
    tools:context=".fragments.HomeFragment">

    <TextView
        android:id="@+id/headerText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Contact List"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="16dp"/>

    <ListView
        android:id="@+id/contactListView"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:divider="#DDDDDD"
        android:dividerHeight="1dp"/>
</LinearLayout>
```

Nav_header_main.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="176dp"
    android:background="?attr/colorPrimary"
    android:gravity="bottom"
    android:orientation="vertical"
    android:padding="16dp"
    android:theme="@style/ThemeOverlay.AppCompat.Dark">

    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@mipmap/ic_launcher_round" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:paddingTop="8dp"
        android:text="Hybrid App Demo"
        android:textAppearance="@style/TextAppearance.AppCompat.Body1" />
```

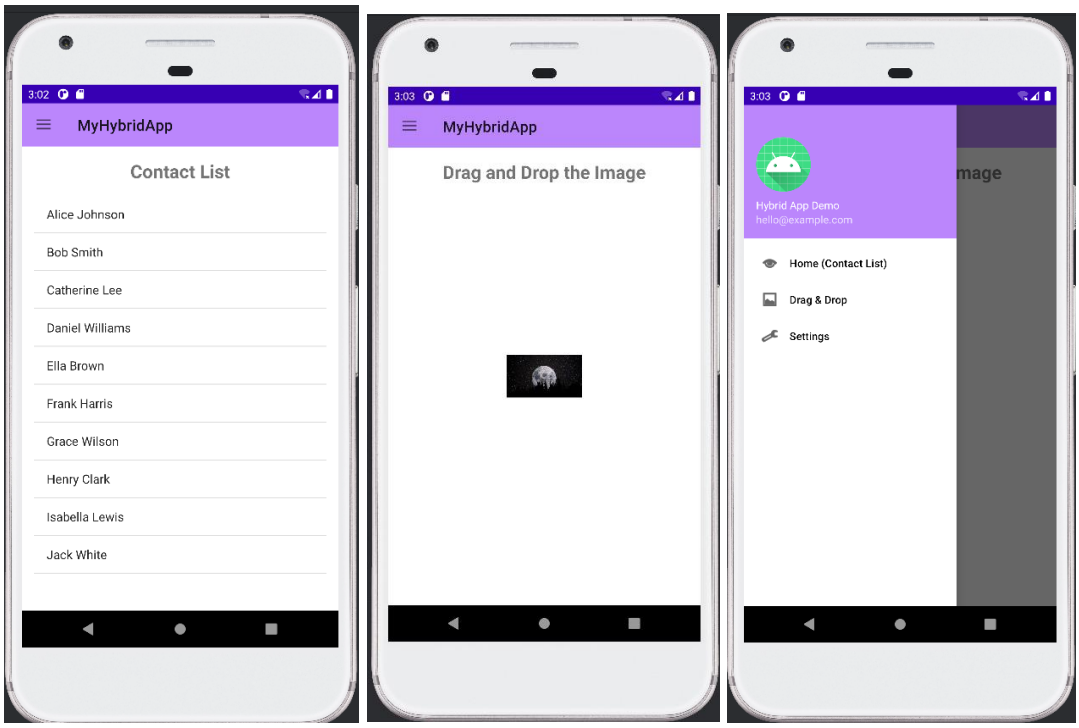
```
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="hello@example.com" />

</LinearLayout>
```

Drawer_menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/nav_home"
        android:title="Home (Contact List)"
        android:icon="@android:drawable/ic_menu_view" />
    <item
        android:id="@+id/nav_drag_drop"
        android:title="Drag &amp; Drop"
        android:icon="@android:drawable/ic_menu_gallery" />
    <item
        android:id="@+id/nav_settings"
        android:title="Settings"
        android:icon="@android:drawable/ic_menu_preferences" />
</menu>
```

RESULT:



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Date:	Title
Exp No. 3	Implement the usage of Animations in Android application.

AIM OF THE EXPERIMENT:

Implement the usage of Animations in Android application.

PROCEDURE:

- To implement animations in an Android application, first define your animation in XML (res/anim for view animations, res/animator for property animations) or programmatically.
- Then, in your Activity or Fragment code, load the animation (e.g., AnimationUtils.loadAnimation()) or create an ObjectAnimator/ValueAnimator.
- Finally, apply the loaded animation to the target View using methods like view.startAnimation() or animator.start(), triggering it based on user interaction or app state changes.

CODE:

MainActivity.java

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```java
package com.example.animationdemo;

import android.os.Bundle;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    TextView textView;
    Button btnFade, btnSlide, btnRotate, btnScale;

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

        textView = findViewById(R.id.textView);
        btnFade = findViewById(R.id.btnFade);
        btnSlide = findViewById(R.id.btnSlide);
        btnRotate = findViewById(R.id.btnRotate);
        btnScale = findViewById(R.id.btnScale);

        btnFade.setOnClickListener(v -> applyAnimation(R.anim.fade_in));
        btnSlide.setOnClickListener(v -> applyAnimation(R.anim.slide_in));
        btnRotate.setOnClickListener(v -> applyAnimation(R.anim.rotate));
        btnScale.setOnClickListener(v -> applyAnimation(R.anim.scale));
    }

    private void applyAnimation(int animId) {
        Animation animation = AnimationUtils.loadAnimation(this, animId);
        textView.startAnimation(animation);
    }
}
```

fade_in.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<alpha xmlns:android="http://schemas.android.com/apk/res/android"
    android:fromAlpha="0.0"
    android:toAlpha="1.0"
    android:duration="1000"/>
```

Rotate.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<rotate xmlns:android="http://schemas.android.com/apk/res/android"
    android:fromDegrees="0"
    android:toDegrees="360"
    android:pivotX="50%"
    android:pivotY="50%"
    android:duration="1000"/>
```

Scale.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<scale xmlns:android="http://schemas.android.com/apk/res/android"
    android:fromXScale="0.5"
    android:toXScale="1.5"
    android:fromYScale="0.5"
    android:toYScale="1.5"
    android:pivotX="50%"
    android:pivotY="50%"
    android:duration="1000"/>
```

Slide_in.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<translate xmlns:android="http://schemas.android.com/apk/res/android"
    android:fromXDelta="-100%p"
    android:toXDelta="0"
    android:duration="1000"/>
```

RESULT:

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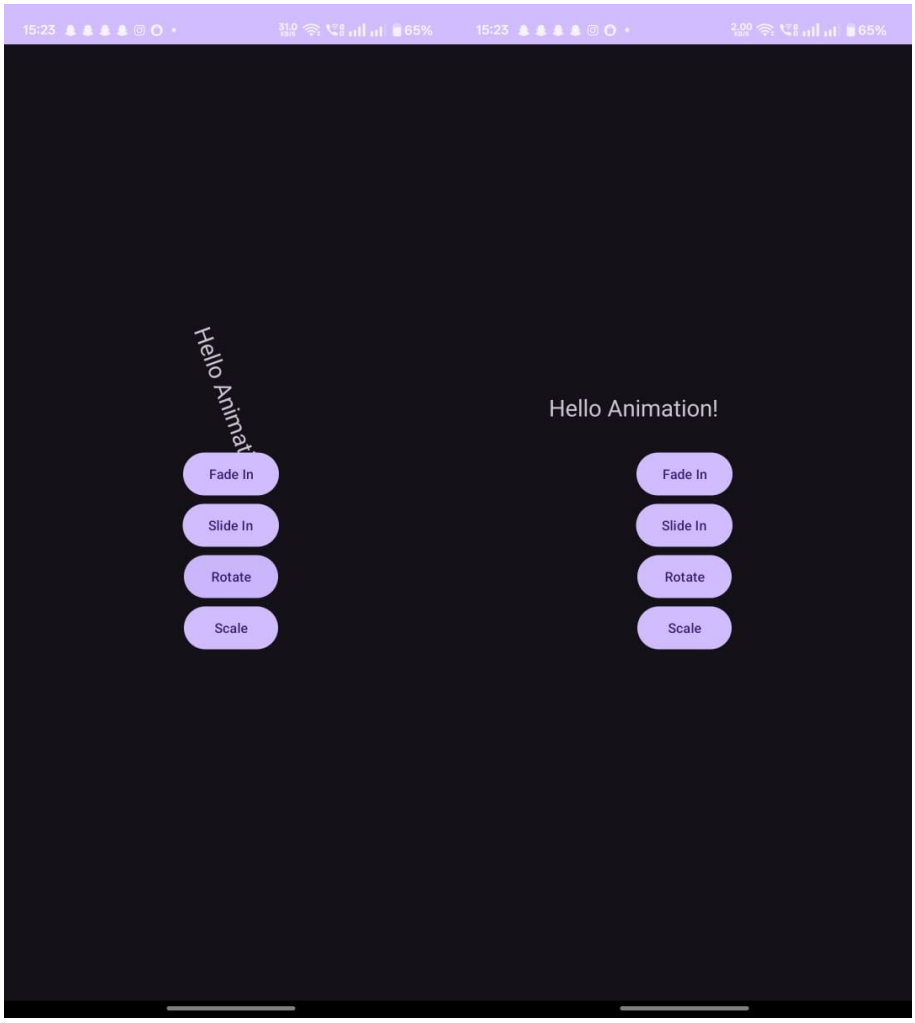

Date:	Title
Exp No. 4	Implement the sensors in the application and show Accelerometer, Gyroscope and the Light Sensor Level.

AIM OF THE EXPERIMENT:

Implement the sensors in the application and show Accelerometer, Gyroscope and the Light Sensor Level.

PROCEDURE:

- To implement sensors, first get a SensorManager instance and obtain references to the Sensor objects for Accelerometer (TYPE_ACCELEROMETER), Gyroscope (TYPE_GYROSCOPE), and Light (TYPE_LIGHT).

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- Then, implement the SensorEventListener interface in your Activity, overriding onSensorChanged() to update TextViews with event.values for each sensor.
- Finally, register the listener in onResume() and unregister it in onPause() using sensorManager.registerListener() and sensorManager.unregisterListener() respectively, to efficiently manage sensor data.

CODE:

GYROSCOPE:

MainActivity.java

```
package com.example.gyroscope;

import androidx.appcompat.app.AppCompatActivity;
import android.hardware.Sensor;
import android.hardware.SensorEvent;
import android.hardware.SensorEventListener;
import android.hardware.SensorManager;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
SensorEventListener {

    private SensorManager sensorManager;
    private Sensor gyroscopeSensor;
    private TextView textView;

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

        textView = findViewById(R.id.x_value);

        // Step 1: Get the system's sensor manager
        sensorManager = (SensorManager) getSystemService(SENSOR_SERVICE);

        // Step 2: Get the default gyroscope sensor
        gyroscopeSensor =
sensorManager.getDefaultSensor(Sensor.TYPE_GYROSCOPE);

        if (gyroscopeSensor == null) {
            Toast.makeText(this, "Gyroscope sensor not available.",
Toast.LENGTH_LONG).show();
            finish();
        }
    }

    @Override
    protected void onResume() {
        super.onResume();

        // Step 3: Register listener to start receiving gyroscope data
```

```
        if (gyroscopeSensor != null) {
            sensorManager.registerListener(this, gyroscopeSensor,
SensorManager.SENSOR_DELAY_NORMAL);
        }
    }

    @Override
    protected void onPause() {
        super.onPause();

        // Step 4: Unregister listener to save battery
        sensorManager.unregisterListener(this);
    }

    // Step 5: What happens when gyroscope sensor data changes
    @Override
    public void onSensorChanged(SensorEvent event) {
        if (event.sensor.getType() == Sensor.TYPE_GYROSCOPE) {
            float x = event.values[0]; // rotation around x-axis (rad/s)
            float y = event.values[1]; // rotation around y-axis (rad/s)
            float z = event.values[2]; // rotation around z-axis (rad/s)

            textView.setText("Rotation:\nX: " + x + "\nY: " + y + "\nZ: " +
z);
        }
    }

    @Override
    public void onAccuracyChanged(Sensor sensor, int accuracy) {
        // Not used
    }
}
```

activity_main.xml

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

    android:gravity="center"
    android:layout_height="match_parent"
    android:padding="24dp">

    <TextView
        android:id="@+id/x_value"
        android:text="X: "
        android:textSize="20sp"
        android:layout_margin="10dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/y_value"
        android:text="Y: "
        android:textSize="20sp"
        android:layout_margin="10dp"
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/z_value"
        android:text="Z: "
        android:textSize="20sp"
        android:layout_margin="10dp"

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

</LinearLayout>
```

LIGHTSENSOR:

MainActivity.java

```
package com.example.lightsensor;

import android.hardware.Sensor;
import android.hardware.SensorEvent;
import android.hardware.SensorEventListener;
import android.hardware.SensorManager;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity implements
SensorEventListener {

    private SensorManager sensorManager;
    private Sensor lightSensor;
    private TextView lightValueTextView;
    private TextView lightStatusTextView;

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

        // Initialize views
        lightValueTextView = findViewById(R.id.light_value);
        lightStatusTextView = findViewById(R.id.light_status);

        // Get sensor manager and light sensor
        sensorManager = (SensorManager) getSystemService(SENSOR_SERVICE);

        if (sensorManager != null) {
            lightSensor =
sensorManager.getDefaultSensor(Sensor.TYPE_LIGHT);

            if (lightSensor != null) {
                sensorManager.registerListener(this, lightSensor,
SensorManager.SENSOR_DELAY_NORMAL);
            } else {
                lightStatusTextView.setText("Light sensor not available");
            }
        }
```

```
    }

    @Override
    public void onSensorChanged(SensorEvent event) {
        if (event.sensor.getType() == Sensor.TYPE_LIGHT) {
            float lightValue = event.values[0];

            // Update UI with light value
            lightValueTextView.setText("Light Intensity: " + lightValue + "
lx");

            // Provide some context about the light level
            String lightCondition;
            if (lightValue < 10) {
                lightCondition = "Very dark";
            } else if (lightValue < 50) {
                lightCondition = "Dark";
            } else if (lightValue < 200) {
                lightCondition = "Dim";
            } else if (lightValue < 1000) {
                lightCondition = "Normal";
            } else if (lightValue < 5000) {
                lightCondition = "Bright";
            } else {
                lightCondition = "Very bright";
            }

            lightStatusTextView.setText("Condition: " + lightCondition);
        }
    }

    @Override
    public void onAccuracyChanged(Sensor sensor, int accuracy) {
        // Can be implemented if needed
    }

    @Override
    protected void onPause() {
        super.onPause();
        if (sensorManager != null) {
            sensorManager.unregisterListener(this);
        }
    }

    @Override
    protected void onResume() {
        super.onResume();
        if (sensorManager != null && lightSensor != null) {
            sensorManager.registerListener(this, lightSensor,
SensorManager.SENSOR_DELAY_NORMAL);
        }
    }
}
```

activity_main.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:gravity="center"
    android:padding="16dp"
    tools:context=".LightSensorActivity">

    <TextView
        android:id="@+id/sensor_title"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Light Sensor Data"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="24dp"/>

    <TextView
        android:id="@+id/light_value"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Light Intensity: Waiting for data..."
        android:textSize="18sp"
        android:layout_marginBottom="16dp"/>

    <TextView
        android:id="@+id/light_status"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Condition: Unknown"
        android:textSize="18sp"/>

    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/ic_light"
        android:layout_marginTop="32dp"
        android:contentDescription="Light sensor icon"/>

</LinearLayout>
```

Ic_light.xml

```
<vector android:height="24dp" android:tint="#FFA500"
    android:viewportHeight="24" android:viewportWidth="24"
    android:width="24dp"
xmlns:android="http://schemas.android.com/apk/res/android">
    <path android:fillColor="@android:color/white"
android:pathData="M12,7c-2.76,0 -5,2.24 -5,5s2.24,5 5,5 5,-2.24 5,-5 -
2.24,-5 -5,-5zM2,13l2,0c0.55,0 1,-0.45 1,-1s-0.45,-1 -1,-1l-2,0c-0.55,0 -
1,0.45 -1,1s0.45,1 1,1zM20,13l2,0c0.55,0 1,-0.45 1,-1s-0.45,-1 -1,-1l-2,0c-
0.55,0 -1,0.45 -1,1s0.45,1 1,1zM11,2v2c0,0.55 0.45,1 1,1s1,-0.45 1,-1v-
2c0,-0.55 -0.45,-1 -1,-1s-1,0.45 -1,1zM11,20v2c0,0.55 0.45,1 1,1s1,-0.45
1,-1v-2c0,-0.55 -0.45,-1 -1,-1s-1,0.45 -1,1zM5.99,4.58c-0.39,-0.39 -1.03,-
0.39 -1.41,0 -0.39,0.39 -0.39,1.03 0,1.41l1.06,1.06c0.39,0.39 1.03,0.39
1.41,0s0.39,-1.03 0,-1.41l-1.06,-1.06zM18.36,16.95c-0.39,-0.39 -1.03,-0.39
-1.41,0 -0.39,0.39 -0.39,1.03 0,1.41l1.06,1.06c0.39,0.39 1.03,0.39 1.41,0
0.39,-0.39 0.39,-1.03 0,-1.41l-1.06,-1.06zM19.42,5.99c0.39,-0.39 0.39,-1.03
```

```
0,-1.41 -0.39,-0.39 -1.03,-0.39 -1.41,0l-1.06,1.06c-0.39,0.39 -0.39,1.03
0,1.41s1.03,0.39 1.41,0l1.06,-1.06zM7.05,18.36c0.39,-0.39 0.39,-1.03 0,-
1.41 -0.39,-0.39 -1.03,-0.39 -1.41,0l-1.06,1.06c-0.39,0.39 -0.39,1.03
0,1.41 0.39,0.39 1.03,0.39 1.41,0l1.06,-1.06z"/>
</vector>
```

ACCELEROMETER:

MainActivity.java

```
package com.example.sensor;

import androidx.appcompat.app.AppCompatActivity;
import android.hardware.Sensor;
import android.hardware.SensorEvent;
import android.hardware.SensorEventListener;
import android.hardware.SensorManager;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements
        SensorEventListener {

    private SensorManager sensorManager;
    private Sensor accelerometerSensor;
    private TextView textView;


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

        textView = findViewById(R.id.x_value);

// Step 1: Get the system's sensor manager
        sensorManager = (SensorManager) getSystemService(SENSOR_SERVICE);

// Step 2: Get the default accelerometer sensor
        accelerometerSensor =
                sensorManager.getDefaultSensor(Sensor.TYPE_ACCELEROMETER);
    }

    @Override
    protected void onResume() {
        super.onResume();

// Step 3: Register listener to start receiving accelerometer data
        if (accelerometerSensor != null) {
            sensorManager.registerListener(this,accelerometerSensor,
                    SensorManager.SENSOR_DELAY_NORMAL);
        }
    }

    @Override
    protected void onPause() {
        super.onPause();
```

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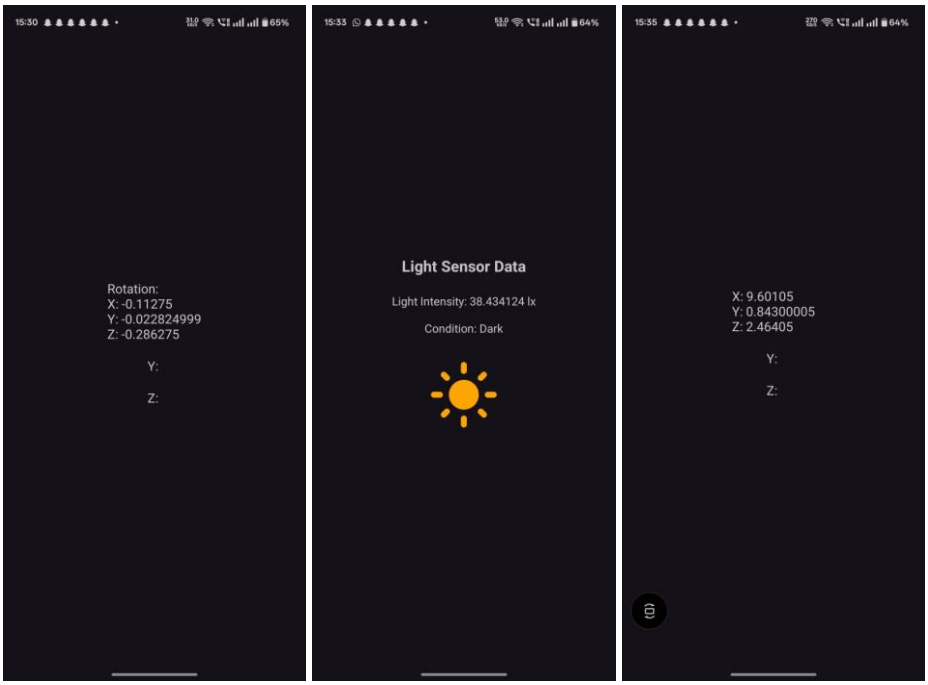
```
// Step 4: Unregister listener to save battery when app is not in front
        sensorManager.unregisterListener(this);
    }

    // Step 5: What happens when sensor data changes
    @Override
    public void onSensorChanged(SensorEvent event) {
        if (event.sensor.getType() == Sensor.TYPE_ACCELEROMETER) {
            float x = event.values[0];
            float y = event.values[1];
            float z = event.values[2];

// Step 6: Show the x, y, z values on screen
            textView.setText("X: " + x + "\nY: " + y + "\nZ: " + z);
        }
    }
    // This method is required by the SensorEventListener interface, even
if we don't use it
    @Override
    public void onAccuracyChanged(Sensor sensor, int accuracy) {
// Not used
    }
}
```

activity_main.xml

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

    android:gravity="center"
    android:layout_height="match_parent"
    android:padding="24dp">

    <TextView
        android:id="@+id/x_value"
        android:text="X: "
        android:textSize="20sp"
        android:layout_margin="10dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/y_value"
        android:text="Y: "
        android:textSize="20sp"
        android:layout_margin="10dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/z_value"
        android:text="Z: "
        android:textSize="20sp"
        android:layout_margin="10dp"

        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"/>

</LinearLayout>
```

RESULT:



Date:	Title
Exp No. 5	Create an Android application to showcase the Multiplatform functionality.

AIM OF THE EXPERIMENT:

Create an Android application to showcase the Multiplatform functionality.

PROCEDURE:

- To showcase "Multiplatform functionality" within an Android application, focus on creating conditional behaviors based on device capabilities or API levels.
- Begin by setting up an Android project and designing a simple UI in activity_main.xml that includes TextViews and Buttons for different features.

- In MainActivity.java, implement logic to programmatically check for specific device features (e.g., getPackageManager().hasSystemFeature(PackageManager.FEATURE_CAMERA_ANY)) or current API level (android.os.Build.VERSION.SDK_INT).
- Based on these checks, conditionally enable/disable buttons, show/hide TextViews, or display different messages, thereby demonstrating how the same codebase adapts its functionality to various Android "platforms" or device configurations.

CODE:

MainActivity.java

```
package com.example.multiplatformsupport;

import android.os.Bundle;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;

//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 android.util.DisplayMetrics;
import android.widget.TextView;


public class MainActivity extends AppCompatActivity {

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

        DisplayMetrics metrics = getResources().getDisplayMetrics();
        float width = metrics.widthPixels/ metrics.xdpi;
        float height = metrics.heightPixels/ metrics.ydpi;
        double screenSize = Math.sqrt(Math.pow(width, 2) + Math.pow(height,
2));

        Fragment fragment;
        if(screenSize > 7.0){
            fragment = new SecondFragment();
        }else{
            fragment = new FirstFragment();
        }

        FragmentManager fragmentManager = getSupportFragmentManager();
        FragmentTransaction fragmentTransaction =
fragmentManager.beginTransaction();
        fragmentTransaction.replace(R.id.fragmentContainer, fragment);
        fragmentTransaction.commit();
```

```
    }
}
```

FirstFragment.java

```
package com.example.multiplatformsupport;

import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

import androidx.fragment.app.Fragment;

public class FirstFragment extends Fragment {
    public FirstFragment() {

    }
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState) {
        return inflater.inflate(R.layout.first_fragment,container,false);
    }
}
```

SecondFragment.java

```
package com.example.multiplatformsupport;

import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import androidx.fragment.app.Fragment;

public class SecondFragment extends Fragment {
    public SecondFragment() {

    }
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState) {
        return inflater.inflate(R.layout.second_fragment,container,false);
    }
}
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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=".MainActivity">

    <FrameLayout
        android:id="@+id/fragmentContainer"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

First_fragment.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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=".MainActivity">

    <TextView
        android:id="@+id/helloText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello mobile"
        android:textSize="30sp"
        android:textColor="#000000"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

Second_fragment.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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=".MainActivity">

    <TextView
        android:id="@+id/helloText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello Tablet!"
        android:textSize="30sp"
        android:textColor="#000000"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"/>
```

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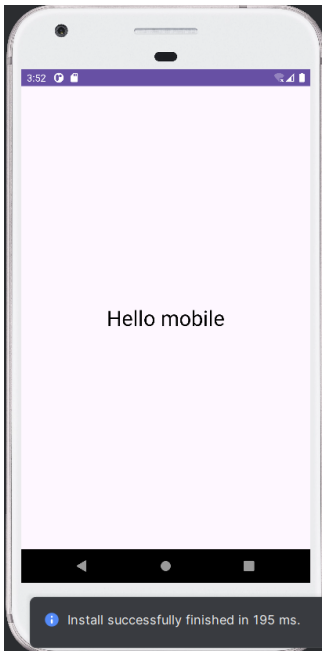
```
</androidx.constraintlayout.widget.ConstraintLayout>
```

RESULT:



Date:	Title
Exp. No: 06	Create an interactive personal portfolio website using HTML5, CSS3, and JavaScript, which showcases your profile, skills, and contact form with animations,media content, and error handling.

AIM-

Create an interactive personal portfolio website using HTML5, CSS3, and JavaScript, which showcases your profile, skills, and contact form with animations, media content, and error handling.

PROCEDURE-

- To build an interactive personal portfolio website, first, **structure your content using HTML5**, creating distinct sections for your profile, skills, and a contact form, ensuring all necessary media and input fields are in place. Next, **style the site with CSS3**, meticulously defining its visual appearance, layout, typography, and color scheme, while employing

media queries to guarantee responsiveness across various devices and incorporating **CSS animations** for engaging visual flair.

- Finally, **implement interactivity using JavaScript**, adding dynamic elements like image sliders, enhancing animations, and most critically, developing robust **client-side form validation and error handling** for the contact form to ensure a seamless and user-friendly experience.

CODE:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
  <title>Vanshika | Portfolio</title>
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css">
  <style>
    :root {
      --primary: #6c5ce7;
      --primary-dark: #5649c0;
      --secondary: #00cec9;
      --dark: #2d3436;
      --light: #f5f6fa;
      --accent: #fd79a8;
      --gradient: linear-gradient(135deg, var(--primary), var(--secondary));
    }

    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
      scroll-behavior: smooth;
    }

    body {
      font-family: 'Inter', -apple-system, BlinkMacSystemFont, 'Segoe UI', sans-serif;
      line-height: 1.6;
      background-color: var(--light);
      color: var(--dark);
      overflow-x: hidden;
    }
```

```
    header {
      background: var(--gradient);
      color: white;
      padding: 5rem 1rem 3rem;
      text-align: center;
      position: relative;
      overflow: hidden;
    }

    header::before {
      content: '';
      position: absolute;
      top: 0;
      left: 0;
      width: 100%;
      height: 100%;
      background: url("data:image/svg+xml,%3Csvg width='60' height='60'
viewBox='0 0 60 60' xmlns='http://www.w3.org/2000/svg'%3E%3Cpath d='M54.627
0h.186l-.093-.016-.093.016z' fill='%23ffffff' fill-opacity='0.05' fill-
rule='evenodd'/%3E%3C/svg%3E");
      opacity: 0.3;
    }

    header h1 {
      font-size: 3.5rem;
      margin-bottom: 0.5rem;
      font-weight: 800;
      position: relative;
      animation: fadeInDown 1s ease;
    }

    header p {
      font-size: 1.2rem;
      max-width: 600px;
      margin: 0 auto;
      position: relative;
      animation: fadeInUp 1s ease;
    }

    .profile-img {
      width: 180px;
      height: 180px;
      border-radius: 50%;
      margin: 2rem auto;
      display: block;
      object-fit: cover;
```

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```
    border: 5px solid white;
    box-shadow: 0 10px 30px rgba(0,0,0,0.2);
    position: relative;
    animation: fadeIn 1.5s ease, float 6s ease-in-out infinite;
  }

  nav {
    background: rgba(255,255,255,0.95);
    color: var(--dark);
    display: flex;
    justify-content: center;
    gap: 2rem;
    padding: 1.2rem;
    position: sticky;
    top: 0;
    z-index: 100;
    backdrop-filter: blur(10px);
    box-shadow: 0 2px 20px rgba(0,0,0,0.1);
  }

  nav a {
    color: var(--dark);
    text-decoration: none;
    font-weight: 600;
    font-size: 1rem;
    padding: 0.5rem 1rem;
    border-radius: 50px;
    transition: all 0.3s ease;
    position: relative;
  }

  nav a:hover {
    color: var(--primary);
  }

  nav a::after {
    content: '';
    position: absolute;
    bottom: 0;
    left: 50%;
    transform: translateX(-50%);
    width: 0;
    height: 3px;
    background: var(--gradient);
    transition: width 0.3s ease;
  }
```

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```css
nav a:hover::after {
  width: 70%;
}

section {
  padding: 6rem 2rem;
  max-width: 1200px;
  margin: auto;
}

h2 {
  font-size: 2.5rem;
  margin-bottom: 2.5rem;
  position: relative;
  display: inline-block;
  color: var(--dark);
}

h2::after {
  content: '';
  position: absolute;
  bottom: -10px;
  left: 0;
  width: 60px;
  height: 4px;
  background: var(--gradient);
  border-radius: 2px;
}

.skills {
  position: relative;
}

.skills-grid {
  display: grid;
  grid-template-columns: repeat(auto-fill, minmax(200px, 1fr));
  gap: 1.5rem;
  margin-top: 2rem;
}

.skill-card {
  background: white;
  border-radius: 12px;
  padding: 1.5rem;
  box-shadow: 0 5px 15px rgba(0,0,0,0.05);
  transition: all 0.3s ease;
  text-align: center;
```

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```
  border: 1px solid rgba(0,0,0,0.05);
}

.skill-card:hover {
  transform: translateY(-5px);
  box-shadow: 0 10px 25px rgba(0,0,0,0.1);
}

.skill-card i {
  font-size: 2.5rem;
  margin-bottom: 1rem;
  color: var(--primary);
}

.projects-grid {
  display: grid;
  grid-template-columns: repeat(auto-fill, minmax(350px, 1fr));
  gap: 2rem;
  margin-top: 2rem;
}

.project-card {
  background: white;
  border-radius: 12px;
  overflow: hidden;
  box-shadow: 0 5px 15px rgba(0,0,0,0.05);
  transition: all 0.3s ease;
  border: 1px solid rgba(0,0,0,0.05);
}

.project-card:hover {
  transform: translateY(-5px);
  box-shadow: 0 15px 30px rgba(0,0,0,0.1);
}

.project-img {
  height: 200px;
  width: 100%;
  object-fit: cover;
}

.project-content {
  padding: 1.5rem;
}

.project-content h3 {
  margin-bottom: 0.5rem;
```

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```
    color: var(--dark);
  }

  .project-content p {
    color: #666;
    margin-bottom: 1.5rem;
  }

  .project-links {
    display: flex;
    gap: 1rem;
  }

  .project-links a {
    padding: 0.5rem 1rem;
    border-radius: 50px;
    text-decoration: none;
    font-weight: 600;
    font-size: 0.9rem;
    transition: all 0.3s ease;
  }

  .project-links a:first-child {
    background: var(--gradient);
    color: white;
  }

  .project-links a:last-child {
    border: 1px solid var(--primary);
    color: var(--primary);
  }

  .project-links a:hover {
    transform: translateY(-2px);
    box-shadow: 0 5px 10px rgba(0,0,0,0.1);
  }

  .contact-container {
    display: grid;
    grid-template-columns: 1fr 1fr;
    gap: 3rem;
    align-items: center;
  }

  .contact-info {
    display: flex;
    flex-direction: column;
```

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```
    gap: 1.5rem;
  }

  .contact-item {
    display: flex;
    align-items: center;
    gap: 1rem;
  }

  .contact-item i {
    width: 50px;
    height: 50px;
    background: var(--gradient);
    color: white;
    border-radius: 50%;
    display: flex;
    align-items: center;
    justify-content: center;
    font-size: 1.2rem;
  }

  .contact-form {
    background: white;
    padding: 2rem;
    border-radius: 12px;
    box-shadow: 0 5px 15px rgba(0,0,0,0.05);
  }

  .form-group {
    margin-bottom: 1.5rem;
  }

  .form-group label {
    display: block;
    margin-bottom: 0.5rem;
    font-weight: 600;
    color: var(--dark);
  }

  .form-control {
    width: 100%;
    padding: 0.8rem 1rem;
    border: 1px solid #ddd;
    border-radius: 8px;
    font-family: inherit;
    font-size: 1rem;
    transition: all 0.3s ease;
```

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```
}

.form-control:focus {
  outline: none;
  border-color: var(--primary);
  box-shadow: 0 0 0 3px rgba(108, 92, 231, 0.2);
}

textarea.form-control {
  min-height: 150px;
  resize: vertical;
}

.btn {
  padding: 0.8rem 2rem;
  border: none;
  background: var(--gradient);
  color: white;
  cursor: pointer;
  border-radius: 50px;
  font-weight: 600;
  font-size: 1rem;
  transition: all 0.3s ease;
  display: inline-block;
  text-decoration: none;
}

.btn:hover {
  transform: translateY(-3px);
  box-shadow: 0 10px 20px rgba(0,0,0,0.1);
}

.btn-outline {
  background: transparent;
  border: 2px solid var(--primary);
  color: var(--primary);
}

footer {
  background: var(--dark);
  color: white;
  text-align: center;
  padding: 3rem 1rem;
}

.social-links {
  display: flex;
```

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```
    justify-content: center;
    gap: 1.5rem;
    margin: 1.5rem 0;
  }

  .social-links a {
    width: 50px;
    height: 50px;
    background: rgba(255,255,255,0.1);
    color: white;
    border-radius: 50%;
    display: flex;
    align-items: center;
    justify-content: center;
    font-size: 1.2rem;
    transition: all 0.3s ease;
  }

  .social-links a:hover {
    background: var(--gradient);
    transform: translateY(-5px);
  }

  .copyright {
    opacity: 0.7;
    font-size: 0.9rem;
  }

  /* Animations */
  @keyframes fadeIn {
    from { opacity: 0; }
    to { opacity: 1; }
  }

  @keyframes fadeInUp {
    from {
      opacity: 0;
      transform: translateY(20px);
    }
    to {
      opacity: 1;
      transform: translateY(0);
    }
  }

  @keyframes fadeInDown {
    from {
```

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```
        opacity: 0;
        transform: translateY(-20px);
      }
      to {
        opacity: 1;
        transform: translateY(0);
      }
    }

    @keyframes float {
      0% { transform: translateY(0px); }
      50% { transform: translateY(-15px); }
      100% { transform: translateY(0px); }
    }

    /* Responsive */
    @media (max-width: 768px) {
      header h1 { font-size: 2.5rem; }
      nav { gap: 1rem; }
      .contact-container {
        grid-template-columns: 1fr;
      }
      .projects-grid {
        grid-template-columns: 1fr;
      }
    }

    @media (max-width: 480px) {
      header h1 { font-size: 2rem; }
      header p { font-size: 1rem; }
      nav {
        flex-wrap: wrap;
        gap: 0.5rem;
      }
      nav a {
        font-size: 0.9rem;
        padding: 0.3rem 0.8rem;
      }
      section {
        padding: 4rem 1.5rem;
      }
    }
  </style>
</head>
<body>

  <header>
```

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```
    <img src="https://images.unsplash.com/photo-1507003211169-
0a1dd7228f2d?ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&fi
t=crop&w=774&q=80" alt="Vanshika" class="profile-img" />
    <h1>VANSHIKA SHARMA</h1>
    <p>Web Developer | JavaScript Enthusiast | Problem Solver</p>
  </header>

  <nav>
    <a href="#about">About</a>
    <a href="#skills">Skills</a>
    <a href="#projects">Projects</a>
    <a href="#contact">Contact</a>
  </nav>

  <section id="about">
    <h2>About Me</h2>
    <div class="about-content">
      <p>Hello! I'm VANSHIKA, a passionate full-stack developer specializing
in modern web technologies. I create beautiful, functional, and user-centric
digital experiences with clean, efficient code.</p>
      <p>With 0 years of experience in web development, I've worked with
startups and established companies to build scalable web applications that
solve real-world problems.</p>
      <p>When I'm not coding, you can find me contributing to open-source
projects, learning new technologies, or sharing knowledge with the developer
community.</p>
    </div>
  </section>

  <section id="skills" class="skills">
    <h2>Skills</h2>
    <div class="skills-grid">
      <div class="skill-card">
        <i class="fab fa-html5"></i>
        <h3>HTML5</h3>
        <p>Semantic markup, accessibility, SEO optimization</p>
      </div>
      <div class="skill-card">
        <i class="fab fa-css3-alt"></i>
        <h3>CSS3</h3>
        <p>Flexbox, Grid, animations, responsive design</p>
      </div>
      <div class="skill-card">
        <i class="fab fa-js"></i>
        <h3>JavaScript</h3>
        <p>ES6+, modern frameworks, functional programming</p>
```

```
      </div>
      <div class="skill-card">
        <i class="fab fa-react"></i>
        <h3>React.js</h3>
        <p>Hooks, Context API, Redux, performance optimization</p>
      </div>
      <div class="skill-card">
        <i class="fab fa-node-js"></i>
        <h3>Node.js</h3>
        <p>Express, REST APIs, authentication, MongoDB</p>
      </div>
      <div class="skill-card">
        <i class="fab fa-git-alt"></i>
        <h3>Git & GitHub</h3>
        <p>Version control, collaboration, CI/CD pipelines</p>
      </div>
    </div>
  </section>

  <section id="projects" class="projects">
    <h2>Projects</h2>
    <div class="projects-grid">
      <div class="project-card">
        <img src="https://images.unsplash.com/photo-1551288049-
bebda4e38f71?ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&fi
t=crop&w=1170&q=80" alt="Project 1" class="project-img">
        <div class="project-content">
          <h3>E-commerce Dashboard</h3>
          <p>A comprehensive admin dashboard for e-commerce businesses with
analytics, inventory management, and customer insights.</p>
          <div class="project-links">
            <a href="#" class="btn">Live Demo</a>
            <a href="#" class="btn btn-outline">View Code</a>
          </div>
        </div>
      </div>
      <div class="project-card">
        <img src="https://images.unsplash.com/photo-1467232004584-
a241de8bcf5d?ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&fi
t=crop&w=1169&q=80" alt="Project 2" class="project-img">
        <div class="project-content">
          <h3>Task Management App</h3>
          <p>A collaborative task management application with real-time
updates, drag-and-drop interface, and team features.</p>
          <div class="project-links">
```

```
            <a href="#" class="btn">Live Demo</a>
            <a href="#" class="btn btn-outline">View Code</a>
          </div>
        </div>
      </div>
      <div class="project-card">
        <img src="https://images.unsplash.com/photo-1551434678-
e076c223a692?ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D&auto=format&fi
t=crop&w=1170&q=80" alt="Project 3" class="project-img">
        <div class="project-content">
          <h3>Health Tracker</h3>
          <p>A fitness and nutrition tracking application with data
visualization, goal setting, and progress monitoring.</p>
          <div class="project-links">
            <a href="#" class="btn">Live Demo</a>
            <a href="#" class="btn btn-outline">View Code</a>
          </div>
        </div>
      </div>
    </div>
  </section>

  <section id="contact">
    <h2>Contact Me</h2>
    <div class="contact-container">
      <div class="contact-info">
        <h3>Let's Connect</h3>
        <p>I'm currently open to new opportunities and collaborations. Feel
free to reach out!</p>

        <div class="contact-item">
          <i class="fas fa-envelope"></i>
          <div>
            <h4>Email</h4>
            <p>vanshika@example.com</p>
          </div>
        </div>

        <div class="contact-item">
          <i class="fas fa-map-marker-alt"></i>
          <div>
            <h4>Location</h4>
            <p>Bangalore, India</p>
          </div>
        </div>
```

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```
        <div class="contact-item">
          <i class="fas fa-phone-alt"></i>
          <div>
            <h4>Phone</h4>
            <p>+91 9876543210</p>
          </div>
        </div>
      </div>

      <form class="contact-form" id="contactForm">
        <div class="form-group">
          <label for="name">Your Name</label>
          <input type="text" id="name" class="form-control" placeholder="John
Doe" required>
        </div>

        <div class="form-group">
          <label for="email">Your Email</label>
          <input type="email" id="email" class="form-control"
placeholder="john@example.com" required>
        </div>

        <div class="form-group">
          <label for="message">Your Message</label>
          <textarea id="message" class="form-control" placeholder="Hello
Vanshika, I'd like to talk about..." required></textarea>
        </div>

        <button type="submit" class="btn">Send Message</button>
        <p id="formMsg" style="margin-top: 1rem;"></p>
      </form>
    </div>
  </section>

  <footer>
    <div class="social-links">
      <a href="https://github.com/yourusername" target="_blank"><i class="fab
fa-github"></i></a>
      <a href="https://linkedin.com/in/yourusername" target="_blank"><i
class="fab fa-linkedin-in"></i></a>
      <a href="https://twitter.com/yourusername" target="_blank"><i class="fab
fa-twitter"></i></a>
      <a href="mailto:youremail@example.com"><i class="fas fa-
envelope"></i></a>
    </div>
    <p class="copyright">&copy; 2023 Vanshika. All rights reserved.</p>
  </footer>
```

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```
  <script>
    document.getElementById('contactForm').addEventListener('submit', function
(e) {
      e.preventDefault();
      const name = document.getElementById('name').value.trim();
      const email = document.getElementById('email').value.trim();
      const message = document.getElementById('message').value.trim();
      const formMsg = document.getElementById('formMsg');

      if (!name || !email || !message) {
        formMsg.textContent = "Please fill out all fields.";
        formMsg.style.color = "#ff4757";
        return;
      }

      formMsg.textContent = "Message sent successfully! I'll get back to you
soon.";
      formMsg.style.color = "#2ed573";
      this.reset();

      // In a real implementation, you would send the form data to a server
here
      // Example using fetch API:
      /*
      fetch('/send-message', {
        method: 'POST',
        headers: {
          'Content-Type': 'application/json',
        },
        body: JSON.stringify({ name, email, message }),
      })
      .then(response => response.json())
      .then(data => {
        formMsg.textContent = "Message sent successfully!";
        formMsg.style.color = "green";
        this.reset();
      })
      .catch((error) => {
        formMsg.textContent = "Error sending message. Please try again.";
        formMsg.style.color = "red";
      });
      */
    });

    // Animation on scroll
    const animateOnScroll = () => {
```

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```
      const elements = document.querySelectorAll('.skill-card, .project-card,
.contact-item');

      elements.forEach(element => {
        const elementPosition = element.getBoundingClientRect().top;
        const screenPosition = window.innerHeight / 1.3;

        if (elementPosition < screenPosition) {
          element.style.opacity = '1';
          element.style.transform = 'translateY(0)';
        }
      });
    };

    // Set initial state for animated elements
    document.querySelectorAll('.skill-card, .project-card, .contact-
item').forEach(el => {
      el.style.opacity = '0';
      el.style.transform = 'translateY(20px)';
      el.style.transition = 'all 0.6s ease';
    });

    window.addEventListener('scroll', animateOnScroll);
    window.addEventListener('load', animateOnScroll);
  </script>
</body>
</html>
```

RESULT:

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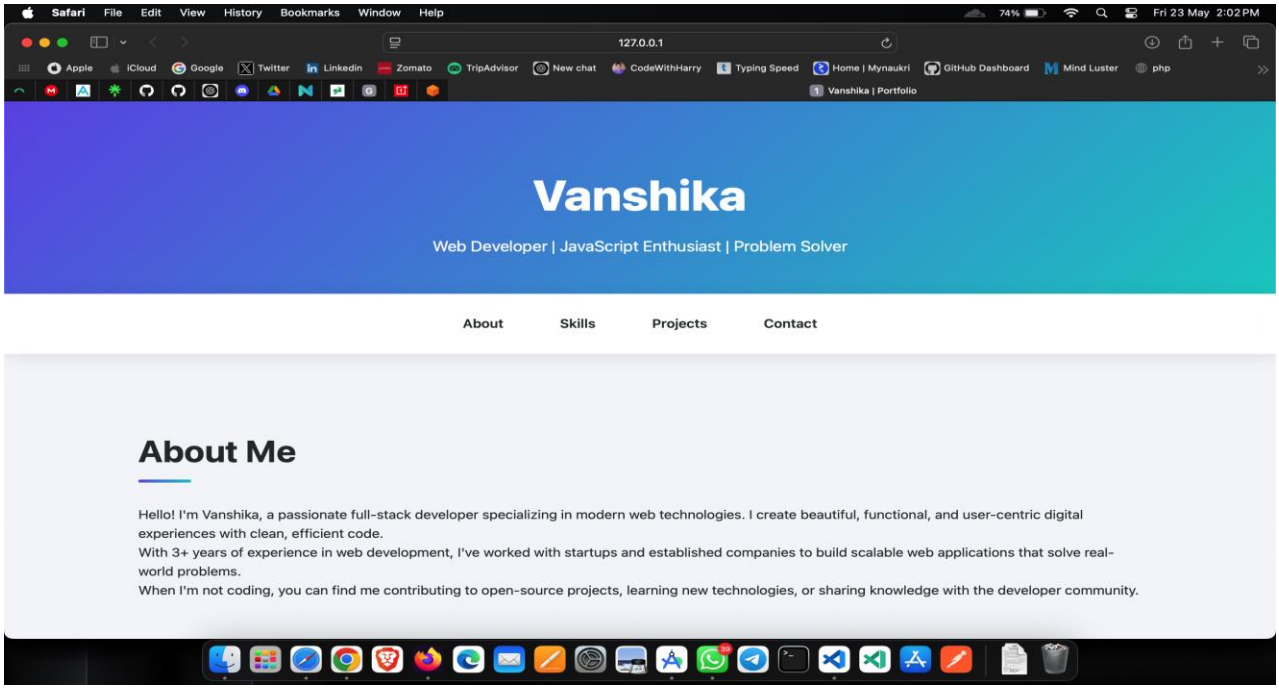

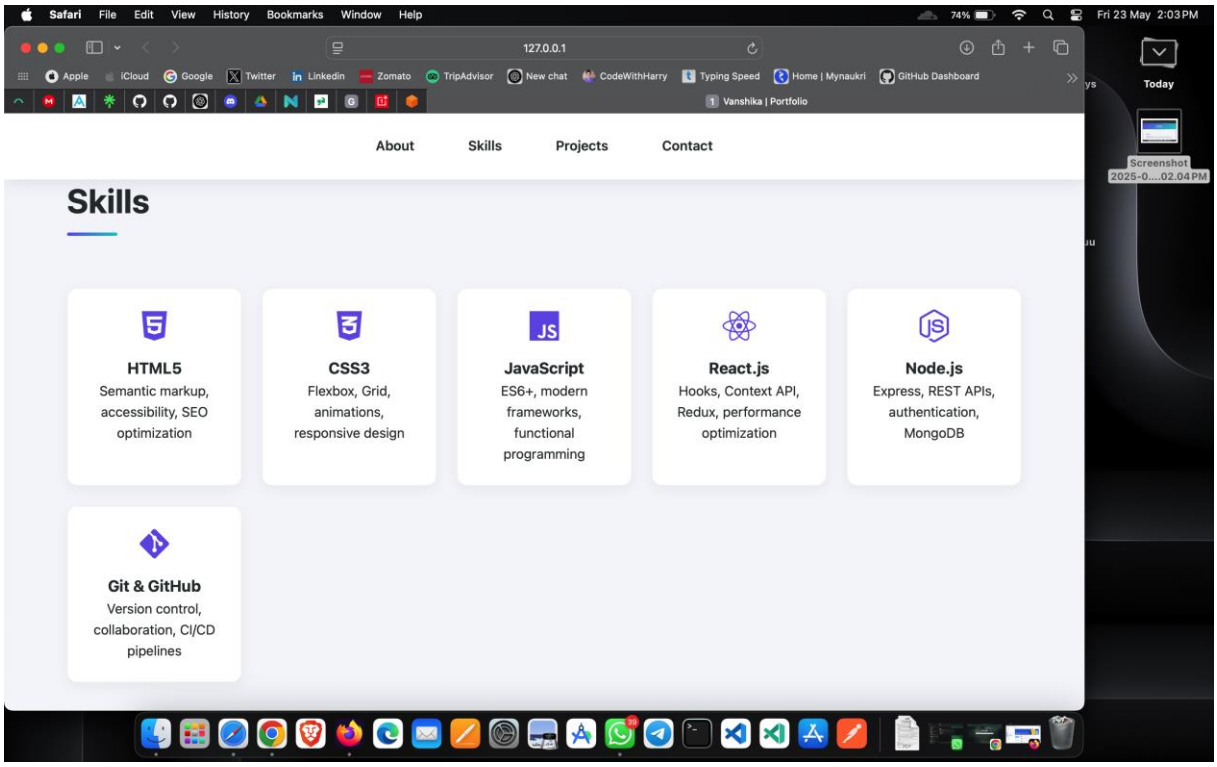

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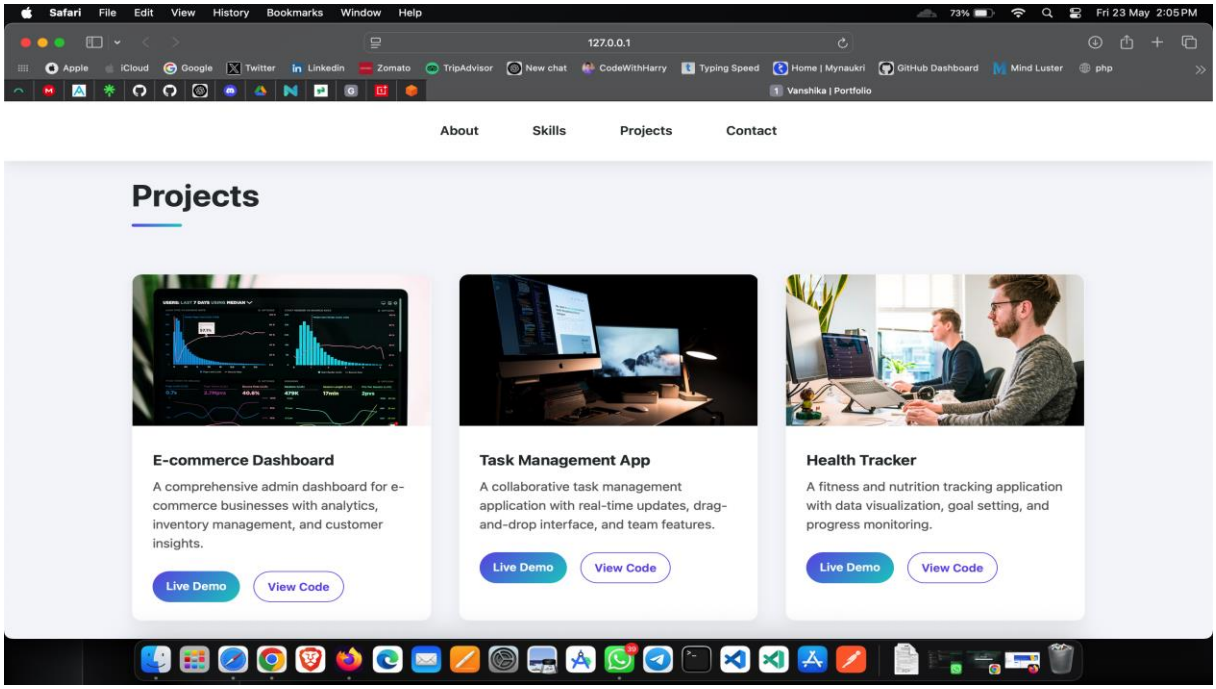

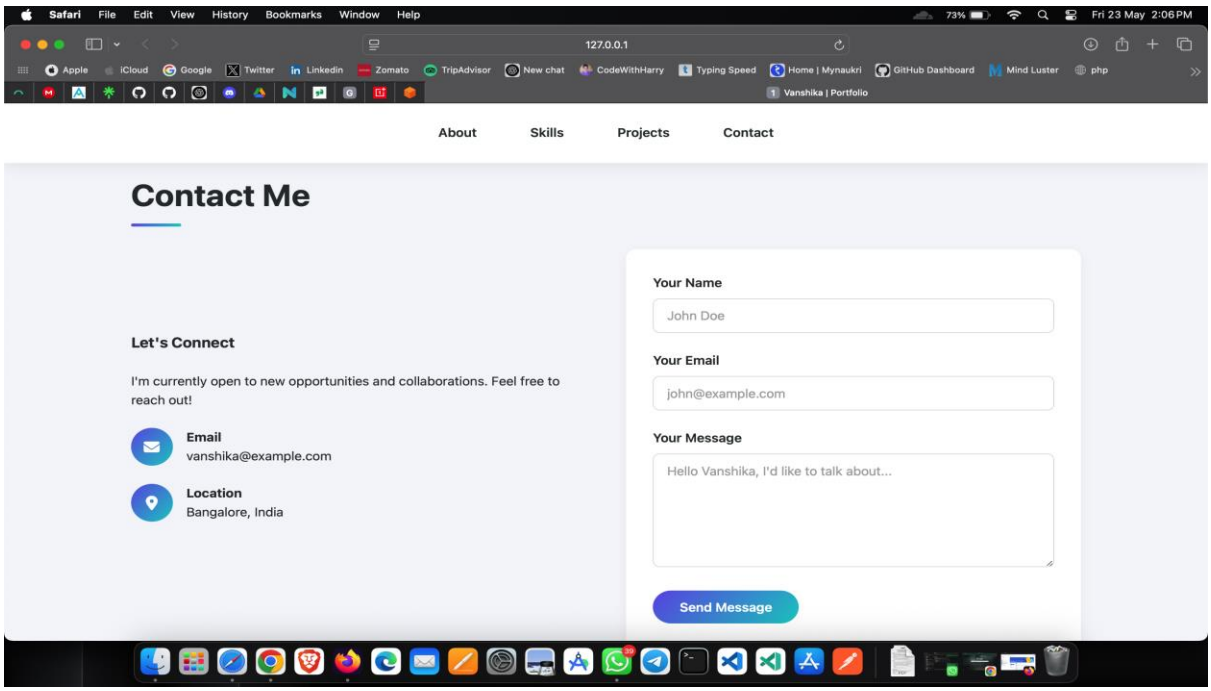

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Date:	Title
Exp. No: 07	Make an Alumni portal.

AIM-

Make an Alumni portal.

PROCEDURE-

- To create a basic Android Alumni Portal without a database, first set up an Android Studio project in Java.
- Design activity_main.xml with a FrameLayout for displaying content and navigation buttons (e.g., a BottomNavigationView).
- Then, create separate Fragment classes (e.g., ProfileFragment, EventsFragment, DirectoryFragment), each with its own XML layout containing hardcoded, mock data. In MainActivity, use FragmentManager to handle button clicks or navigation selections, replacing the FrameLayout content with the appropriate fragment, and ensure the ProfileFragment loads by default.

CODE-

DashBoardActivity.java

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```
package com.example.portal;
import android.content.Intent;
import android.os.Bundle;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class DashboardActivity extends AppCompatActivity {
    private TextView tvWelcome;
    private Button btnLogout;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        if (!SharedPrefManager.getInstance(this).isLoggedIn()) {
            startActivity(new Intent(this, MainActivity.class));
            finish();
            return;
        }
        setContentView(R.layout.activity_dashboard);
        tvWelcome = findViewById(R.id.tvWelcome);
        btnLogout = findViewById(R.id.btnLogout);
        String name = SharedPrefManager.getInstance(this).getName();
        tvWelcome.setText("Welcome, " + name + "!");
        btnLogout.setOnClickListener(v -> {
            SharedPrefManager.getInstance(this).logout();
            startActivity(new Intent(this, MainActivity.class));
            finish();
        });
    }
}
```

MainActivity.java

```
package com.example.portal;
import android.content.Intent;
import android.os.Bundle;
import android.text.TextUtils;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
// If already logged in, skip to Dashboard
        if (SharedPrefManager.getInstance(this).isLoggedIn()) {
            startActivity(new Intent(this, DashboardActivity.class));
            finish();
            return;
        }
        setContentView(R.layout.activity_main);
// Declare as local variables inside onCreate
        EditText etEmail = findViewById(R.id.etEmail);
        EditText etPassword = findViewById(R.id.etPassword);
        Button btnLogin = findViewById(R.id.btnLogin);
        Button btnRegister = findViewById(R.id.btnRegister);
        btnLogin.setOnClickListener(v -> {
```

```
            String email = etEmail.getText().toString().trim();
            String password = etPassword.getText().toString().trim();
            if (TextUtils.isEmpty(email) || TextUtils.isEmpty(password)) {
                Toast.makeText(this, "Please enter email and password",
                        Toast.LENGTH_SHORT).show();
                return;
            }
            if (SharedPrefManager.getInstance(this).login(email, password))
{
                startActivity(new Intent(this, DashboardActivity.class));
                finish();
            } else {
                Toast.makeText(this, "Invalid email or password",
                        Toast.LENGTH_SHORT).show();
            }
        });
        btnRegister.setOnClickListener(v -> {
            Intent intent = new Intent(MainActivity.this,
                    RegisterActivity.class);
            startActivity(intent);
        });
    }
}
```

RegisterActivity.java

```
package com.example.portal;
import android.os.Bundle;
import android.text.TextUtils;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class RegisterActivity extends AppCompatActivity {
    private EditText etName, etEmail, etPassword;
    private Button btnSubmit;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_register);
        etName = findViewById(R.id.etName);
        etEmail = findViewById(R.id.etEmail);
        etPassword = findViewById(R.id.etPassword);
        btnSubmit = findViewById(R.id.btnSubmit);
        btnSubmit.setOnClickListener(v -> {
            String name = etName.getText().toString().trim();
            String email = etEmail.getText().toString().trim();
            String password = etPassword.getText().toString().trim();
            if (TextUtils.isEmpty(name) || TextUtils.isEmpty(email) ||
                    TextUtils.isEmpty(password)) {
                Toast.makeText(this, "Please fill all fields",
                        Toast.LENGTH_SHORT).show();
                return;
            }
            SharedPrefManager.getInstance(this).saveUser(name, email,
```

```
                    password);
            Toast.makeText(this, "Registered successfully",
                    Toast.LENGTH_SHORT).show();
            finish(); // Go back to login screen
        });
    }
}
```

SharedPrefManager.java

```
package com.example.portal;
import android.content.Context;
import android.content.SharedPreferences;
public class SharedPrefManager {

    private static final String SHARED_PREF_NAME = "alumni_pref";
    private static final String KEY_NAME = "key_name";
    private static final String KEY_EMAIL = "key_email";
    private static final String KEY_PASSWORD = "key_password";
    private static SharedPrefManager mInstance;
    private final SharedPreferences sharedPreferences;
    private final SharedPreferences.Editor editor;
    private SharedPrefManager(Context context) {
        sharedPreferences = context.getSharedPreferences(SHARED_PREF_NAME,
                Context.MODE_PRIVATE);
        editor = sharedPreferences.edit();
    }
    public static synchronized SharedPrefManager getInstance(Context
context)
    {
        if (mInstance == null) {
            mInstance = new SharedPrefManager(context);
        }
        return mInstance;
    }
    public void saveUser(String name, String email, String password) {
        editor.putString(KEY_NAME, name);
        editor.putString(KEY_EMAIL, email);
        editor.putString(KEY_PASSWORD, password);
        editor.apply();
    }
    public boolean login(String email, String password) {
        String storedEmail = sharedPreferences.getString(KEY_EMAIL, null);
        String storedPassword = sharedPreferences.getString(KEY_PASSWORD,
                null);
        return email.equals(storedEmail) &&
password.equals(storedPassword);
    }
    public String getName() {
        return sharedPreferences.getString(KEY_NAME, null);
    }
    public boolean isLoggedIn() {
        return sharedPreferences.getString(KEY_EMAIL, null) != null;
    }
    public void logout() {
        editor.clear();
        editor.apply();
```

```
    }
}
```

activity_dashboard.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"
    android:padding="24dp">
    <TextView
        android:id="@+id/tvWelcome"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/welcome_message"
        android:textSize="20sp" />
    <Button
        android:id="@+id/btnLogout"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/btn_logout"
        android:layout_marginTop="24dp" />
</LinearLayout>
```

Activity_main.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:gravity="center"
    android:orientation="vertical"
    android:padding="24dp">
    <EditText
        android:id="@+id/etEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/hint_email"
        android:inputType="textEmailAddress"
        android:minHeight="48dp"
        android:padding="12dp" />
    <EditText
        android:id="@+id/etPassword"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/hint_password"
        android:inputType="textPassword"
        android:minHeight="48dp"
        android:padding="12dp"

        android:layout_marginTop="16dp" />
    <Button
        android:id="@+id/btnLogin"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```
        android:text="@string/btn_login"
        android:minHeight="48dp"
        android:layout_marginTop="24dp" />
    <Button
        android:id="@+id/btnRegister"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/btn_register"
        android:minHeight="48dp"
        android:layout_marginTop="12dp" />
</LinearLayout>
```

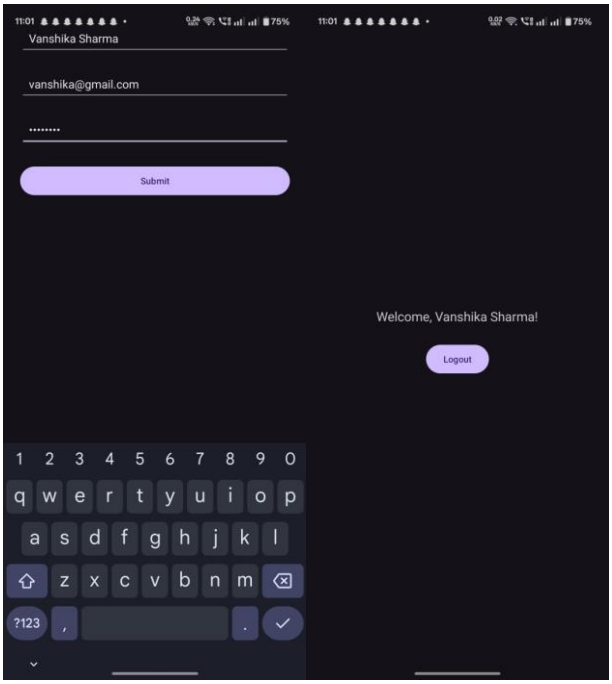
Activity-register.xml

```
<?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
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:padding="24dp"
        android:gravity="center_horizontal">
        <EditText
            android:id="@+id/etName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="@string/hint_name"
            android:minHeight="48dp"
            android:padding="12dp"
            android:inputType="textPersonName" />
        <EditText
            android:id="@+id/etEmail"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="@string/hint_email"
            android:inputType="textEmailAddress"
            android:minHeight="48dp"
            android:padding="12dp"
            android:layout_marginTop="16dp" />
        <EditText
            android:id="@+id/etPassword"
            android:layout_width="match_parent"

            android:layout_height="wrap_content"
            android:hint="@string/hint_password"
            android:inputType="textPassword"
            android:minHeight="48dp"
            android:padding="12dp"
            android:layout_marginTop="16dp" />
        <Button
            android:id="@+id/btnSubmit"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="@string/btn_submit"
```

```
            android:minHeight="48dp"
            android:layout_marginTop="24dp" />
    </LinearLayout>
</ScrollView>
```

RESULT-



VANSHIKA SHARMA
24/05/25
24MCA10039