```
MainActivity.java
package com.example.exp9;
import android.graphics.Color;
import android.graphics.drawable.ColorDrawable;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    // Force a theme with an action bar at runtime (no styles.xml or Manifest
changes needed)
setTheme(androidx.appcompat.R.style.Theme AppCompat Light DarkActionBar);
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    // Make the action bar a bit darker
    if (getSupportActionBar() != null) {
       getSupportActionBar().setBackgroundDrawable(new
ColorDrawable(Color.DKGRAY));
    }
  @Override
  public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu resource (res/menu/menu.xml)
    getMenuInflater().inflate(R.menu.menu, menu);
    return true;
  }
  @Override
  public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    int id = item.getItemId();
    if (id == R.id.item1) {
       Toast.makeText(this, "Item 1 Selected", Toast.LENGTH_SHORT).show();
    } else if (id == R.id.item2) {
       Toast.makeText(this, "Item 2 Selected", Toast.LENGTH SHORT).show();
    } else if (id == R.id.item3) {
       Toast.makeText(this, "Item 3 Selected", Toast.LENGTH_SHORT).show();
    }
    return super.onOptionsItemSelected(item);
```

```
}
activity_main.xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
  android:id="@+id/main layout"
  android:layout width="match parent"
  android:layout height="match parent">
  <TextView
    android:id="@+id/text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Hello World!"
    android:layout centerInParent="true"/>
</RelativeLayout>
menu.xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
  <item
    android:id="@+id/item1"
    android:title="Item 1" />
  <item
    android:id="@+id/item2"
    android:title="Item 2" />
  <item
    android:id="@+id/item3"
    android:title="Item 3" />
</menu>
```

MainActivity.java

package com.example.exp8;

```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity_main);
     final RadioGroup radioGroup = findViewById(R.id.radioGroup);
     final TextView resultText = findViewByld(R.id.resultText);
     Button submitBtn = findViewById(R.id.submitBtn);
     submitBtn.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
          int selectedId = radioGroup.getCheckedRadioButtonId();
          if (selectedId != -1) {
            RadioButton selectedRadio = findViewById(selectedId);
            String result = "Your Fav lab is " + selectedRadio.getText();
            resultText.setText(result);
       }
    });
  }
}
activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  android:layout width="match parent"
  android:layout height="match parent"
  android:orientation="vertical"
  android:padding="16dp">
  <!-- Question Text -->
```

```
<TextView
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="What is your fav Lab?"
  android:textSize="18sp" />
<!-- Radio Buttons Group -->
<RadioGroup
  android:id="@+id/radioGroup"
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:layout_marginTop="16dp">
  <RadioButton
    android:id="@+id/radioML"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="ML" />
  <RadioButton
    android:id="@+id/radioLPS"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="LPS" />
  <RadioButton
    android:id="@+id/radioAAD"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="AAD" />
  <RadioButton
    android:id="@+id/radioBDT"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="BDT" />
</RadioGroup>
<!-- Submit Button -->
<Button
  android:id="@+id/submitBtn"
  android:layout width="wrap content"
  android:layout height="wrap content"
```

```
android:text="Submit"
    android:layout_marginTop="16dp" />
  <!-- Result Text -->
  <TextView
    android:id="@+id/resultText"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text=""
    android:textSize="16sp"
    android:layout marginTop="16dp" />
</LinearLayout>
activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.fragment.app.FragmentContainerView</p>
  xmlns:android="http://schemas.android.com/apk/res/android"
  android:id="@+id/fragment container"
  android:name="com.example.exp7.FirstFragment"
  android:layout width="match parent"
  android:layout_height="match_parent"/>
MainActivity.java
package com.example.exp7;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    // Load FirstFragment only on first creation.
    if (savedInstanceState == null) {
       getSupportFragmentManager().beginTransaction()
            .replace(R.id.fragment_container, new FirstFragment())
            .commit();
```

```
}
colors.xml
<resources>
  <color name="firstFragmentBg">#FFC0CB</color> <!-- Light Pink -->
  <color name="secondFragmentBg">#ADD8E6</color> <!-- Light Blue -->
</resources>
FirstFragment.java
package com.example.exp7;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
public class FirstFragment extends Fragment {
  public FirstFragment() {
    // Required empty public constructor
  }
  @Override
  public View on Create View (Layout Inflater inflater, View Group container,
                  Bundle savedInstanceState) {
    View view = inflater.inflate(R.layout.first_fragment, container, false);
     Button btn = view.findViewById(R.id.btnFirst);
    btn.setOnClickListener(v ->
          requireActivity().getSupportFragmentManager().beginTransaction()
               .replace(R.id.fragment_container, new SecondFragment())
               .addToBackStack(null)
              .commit()
    );
    return view;
```

```
}
first_fragment.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:background="@color/firstFragmentBg">
  <TextView
    android:id="@+id/textViewFirst"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="This is the First Fragment"
    android:textSize="20sp"/>
  <Button
    android:id="@+id/btnFirst"
    android:layout width="wrap content"
    android:layout_height="wrap_content"
    android:text="Go to Second Fragment"/>
</LinearLayout>
package com.example.exp7;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
public class SecondFragment extends Fragment {
  public SecondFragment() {
    // Required empty public constructor
  }
```

```
@Override
  public View on Create View (Layout Inflater inflater, View Group container,
                  Bundle savedInstanceState) {
    View view = inflater.inflate(R.layout.second_fragment, container, false);
     Button btn = view.findViewById(R.id.btnSecond);
    btn.setOnClickListener(v ->
          requireActivity().getSupportFragmentManager().beginTransaction()
               .replace(R.id.fragment_container, new FirstFragment())
               .addToBackStack(null)
              .commit()
    );
    return view;
}
<?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:background="@color/secondFragmentBg">
  <TextView
    android:id="@+id/textViewSecond"
    android:layout_width="wrap_content"
    android:layout height="wrap content"
    android:text="This is the Second Fragment"
    android:textSize="20sp"/>
  <Button
    android:id="@+id/btnSecond"
    android:layout_width="wrap_content"
    android:layout height="wrap content"
     android:text="Go to First Fragment"/>
</LinearLayout>
```

```
<uses-permission android:name="android.permission.SEND SMS"/>
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  android:layout width="match parent"
  android:layout height="match parent"
  android:orientation="vertical"
  android:padding="20dp">
  <EditText
    android:id="@+id/phone"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:hint="Phone Number"/>
  <EditText
    android:id="@+id/msg"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:hint="Message"/>
  <Button
    android:id="@+id/send"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Send SMS"/>
</LinearLayout>
package com.example.exp6;
import android. Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
```

```
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
public class MainActivity extends AppCompatActivity {
  EditText phone, msg;
  Button send:
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    phone = findViewById(R.id.phone);
    msg = findViewById(R.id.msg);
    send = findViewById(R.id.send);
    ActivityCompat.requestPermissions(this, new
String[]{Manifest.permission.SEND_SMS}, 1);
    send.setOnClickListener(v -> {
       SmsManager.getDefault().sendTextMessage(phone.getText().toString(), null,
msg.getText().toString(), null, null);
       Toast.makeText(MainActivity.this, "SMS Sent",
Toast.LENGTH_SHORT).show();
    });
  }
}
EXP5
AM.xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
  xmlns:tools="http://schemas.android.com/tools">
  <application
    android:allowBackup="true"
    android:dataExtractionRules="@xml/data extraction rules"
    android:fullBackupContent="@xml/backup rules"
```

```
android:label="@string/app_name"
    android:roundlcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.Exp5"
    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>
     <!-- Add your second activity declaration below -->
     <activity android:name=".SecondActivity" />
  </application>
</manifest>
MainActivity.java
package com.example.exp5;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  EditText etName, etPassword;
  Button btnSubmit:
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    etName = findViewById(R.id.etName);
    etPassword = findViewById(R.id.etPassword);
    btnSubmit = findViewById(R.id.btnSubmit);
```

android:icon="@mipmap/ic launcher"

```
btnSubmit.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
          String name = etName.getText().toString();
          String password = etPassword.getText().toString();
          Intent intent = new Intent(MainActivity.this, SecondActivity.class);
          intent.putExtra("name", name);
          intent.putExtra("password", password);
          startActivity(intent);
       }
    });
}
SecondActivity.java
package com.example.exp5;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class SecondActivity extends AppCompatActivity {
  TextView tvResult:
  @Override
  protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity_second);
     tvResult = findViewById(R.id.tvResult);
     String name = getIntent().getStringExtra("name");
     String password = getIntent().getStringExtra("password");
     tvResult.setText("Name: " + name + "\nPassword: " + password);
  }
}
```

```
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"
  android:padding="16dp"
  android:paddingTop="40dp">
  <TextView
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Name:" />
  <EditText
    android:id="@+id/etName"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:hint="Enter Name"
    android:background="@android:color/darker gray"
    android:padding="8dp"
    android:layout_marginBottom="16dp" />
  <TextView
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Password:" />
  <EditText
    android:id="@+id/etPassword"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:hint="Enter Password"
    android:inputType="textPassword"
    android:background="@android:color/darker gray"
    android:padding="8dp"
    android:layout marginBottom="16dp" />
  <Button
    android:id="@+id/btnSubmit"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Submit" />
</LinearLayout>
```

```
activitysecond.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:paddingTop="40dp">
  <TextView
    android:id="@+id/tvResult"
    android:layout_width="match_parent"
    android:layout height="wrap content"
    android:textSize="18sp" />
</LinearLayout>
strings.xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <string name="app name">MyApp</string>
</resources>
EXP4
<?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="16dp"
```

```
android:paddingTop="40dp">
<!-- Name -->
<TextView
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="Name:" />
<EditText
  android:id="@+id/etName"
  android:layout width="match parent"
  android:layout height="wrap content"
  android:hint="Enter Name"
  android:background="@android:color/darker gray"
  android:padding="8dp"
  android:layout marginBottom="8dp" />
<!-- Password -->
<TextView
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="Password:" />
<EditText
  android:id="@+id/etPassword"
  android:layout width="match parent"
  android:layout height="wrap content"
  android:hint="Enter Password"
  android:background="@android:color/darker_gray"
  android:padding="8dp"
  android:inputType="textPassword"
  android:layout marginBottom="8dp" />
<!-- Address -->
<TextView
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="Address:" />
<EditText
  android:id="@+id/etAddress"
  android:layout width="match parent"
  android:layout height="wrap content"
  android:hint="Enter Address"
  android:background="@android:color/darker gray"
  android:padding="8dp"
```

```
android:layout marginBottom="8dp" />
<!-- Gender -->
<TextView
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="Gender:" />
<RadioGroup
  android:id="@+id/rgGender"
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:orientation="horizontal"
  android:layout marginBottom="8dp">
  <RadioButton
    android:id="@+id/rbMale"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Male" />
  <RadioButton
    android:id="@+id/rbFemale"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Female" />
</RadioGroup>
<!-- Age -->
<TextView
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="Age:" />
<EditText
  android:id="@+id/etAge"
  android:layout width="match parent"
  android:layout height="wrap content"
  android:hint="Enter Age"
  android:background="@android:color/darker_gray"
  android:padding="8dp"
  android:inputType="number"
  android:layout marginBottom="8dp" />
<!-- Date of Birth -->
<TextView
  android:layout width="wrap content"
```

```
android:layout height="wrap content"
       android:text="DOB:" />
     <DatePicker
       android:id="@+id/datePickerDOB"
       android:layout_width="wrap_content"
       android:layout height="wrap content"
       android:calendarViewShown="true"
       android:layout marginBottom="8dp" />
     <!-- State -->
     <TextView
       android:layout_width="wrap_content"
       android:layout height="wrap content"
       android:text="State:"/>
     <Spinner
       android:id="@+id/spinnerState"
       android:layout width="match parent"
       android:layout_height="wrap_content"
       android:entries="@array/states"
       android:layout marginBottom="16dp" />
     <!-- Submit Button -->
    <Button
       android:id="@+id/btnSubmit"
       android:layout_width="wrap_content"
       android:layout height="wrap content"
       android:text="Submit"
       android:layout marginBottom="16dp" />
    <!-- Output TextView -->
     <TextView
       android:id="@+id/tvOutput"
       android:layout width="match parent"
       android:layout height="wrap content"
       android:padding="8dp" />
  </LinearLayout>
</ScrollView>
package com.example.exp4;
import android.os.Bundle;
import android.view.View;
```

```
import android.widget.*;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  EditText etName, etPassword, etAddress, etAge;
  RadioGroup rgGender;
  DatePicker datePickerDOB;
  Spinner spinnerState;
  Button btnSubmit;
  TextView tvOutput;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    // Initialize views
    etName = findViewById(R.id.etName);
    etPassword = findViewById(R.id.etPassword);
    etAddress = findViewById(R.id.etAddress);
    etAge = findViewById(R.id.etAge);
    rgGender = findViewById(R.id.rgGender);
    datePickerDOB = findViewByld(R.id.datePickerDOB);
    spinnerState = findViewById(R.id.spinnerState);
    btnSubmit = findViewById(R.id.btnSubmit);
    tvOutput = findViewById(R.id.tvOutput);
    // Set listener on the Submit button
    btnSubmit.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
         String name = etName.getText().toString();
         String password = etPassword.getText().toString();
         String address = etAddress.getText().toString();
         String age = etAge.getText().toString();
         // Get selected gender text
         int selectedGenderId = rgGender.getCheckedRadioButtonId();
         String gender = "";
         if (selectedGenderId != -1) {
            RadioButton rb = findViewByld(selectedGenderld);
            gender = rb.getText().toString();
```

```
}
         // Get Date of Birth from DatePicker (month is 0-indexed)
          int day = datePickerDOB.getDayOfMonth();
          int month = datePickerDOB.getMonth() + 1;
          int year = datePickerDOB.getYear();
          String dob = day + "/" + month + "/" + year;
          // Get selected state
          String state = spinnerState.getSelectedItem().toString();
         // Build output string
          String output = "Name: " + name + "\n" +
               "Password: " + password + "\n" +
               "Address: " + address + "\n" +
               "Gender: " + gender + "\n" +
               "Age: " + age + "\n" +
               "DOB: " + dob + "\n" +
               "State: " + state:
         tvOutput.setText(output);
    });
  }
}
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <string name="app_name">MyApp</string>
  <string-array name="states">
     <item>California</item>
     <item>New York</item>
     <item>Texas</item>
     <item>Florida</item>
  </string-array>
</resources>
```

```
EXP3
package com.example.exp3;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity main);
    final EditText editTextName = findViewById(R.id.editTextName);
    final TextView textViewOutput = findViewByld(R.id.textViewOutput);
     Button btnSubmit = findViewByld(R.id.btnSubmit);
     btnSubmit.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
          String name = editTextName.getText().toString();
         textViewOutput.setText("Hello " + name+"!");
    });
  }
}
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  android:layout width="match parent"
  android:layout height="match parent"
  android:gravity="center"
  android:orientation="vertical">
  <!-- Row for Name label and EditText -->
  <LinearLayout
     android:layout_width="wrap_content"
```

android:layout height="wrap content"

android:orientation="horizontal">

```
<TextView
       android:layout_width="wrap_content"
       android:layout height="wrap content"
       android:text="Name:" />
    <EditText
       android:id="@+id/editTextName"
       android:layout_width="wrap_content"
       android:layout height="wrap content"
       android:background="@android:color/darker gray"
       android:hint="Enter name"
       android:layout marginStart="8dp" />
  </LinearLayout>
  <!-- Submit button -->
  <Button
    android:id="@+id/btnSubmit"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Submit"
    android:layout marginTop="16dp" />
  <!-- Output TextView -->
  <TextView
    android:id="@+id/textViewOutput"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout marginTop="24dp" />
</LinearLayout>
EXP2
```

package com.example.exp2;

import android.app.Activity; import android.os.Bundle;

```
public class MainActivity extends Activity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    // Link to the layout defined in activity main.xml
    setContentView(R.layout.activity_main);
  }
}
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  android:layout_width="match_parent"
  android:layout_height="match_parent">
  <TextView
    android:layout_width="wrap_content"
    android:layout height="wrap content"
    android:text="Hello, World!"
    android:layout gravity="center" />
</FrameLayout>
```