



Mobile Application Development

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Name: Priyansh Nandan

Registration Number: 230953450

Section: CCE-D2

Roll Number: 50

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Lab 1- Basics of Android Mobile Application Development

Question 1:

Create an Android application to show the demo of displaying text with justifying elements, changing text colors, fonts etc.

Layout Design



XML for activity_main

```
<TextView  
    android:id="@+id/textView5"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="@string/BoldRed"  
    android:textColor="@color/red"  
    android:textSize="32sp"  
    android:textStyle="bold"  
    app:layout_constraintBottom_toTopOf="@+id/tv4"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/tv1" />
```

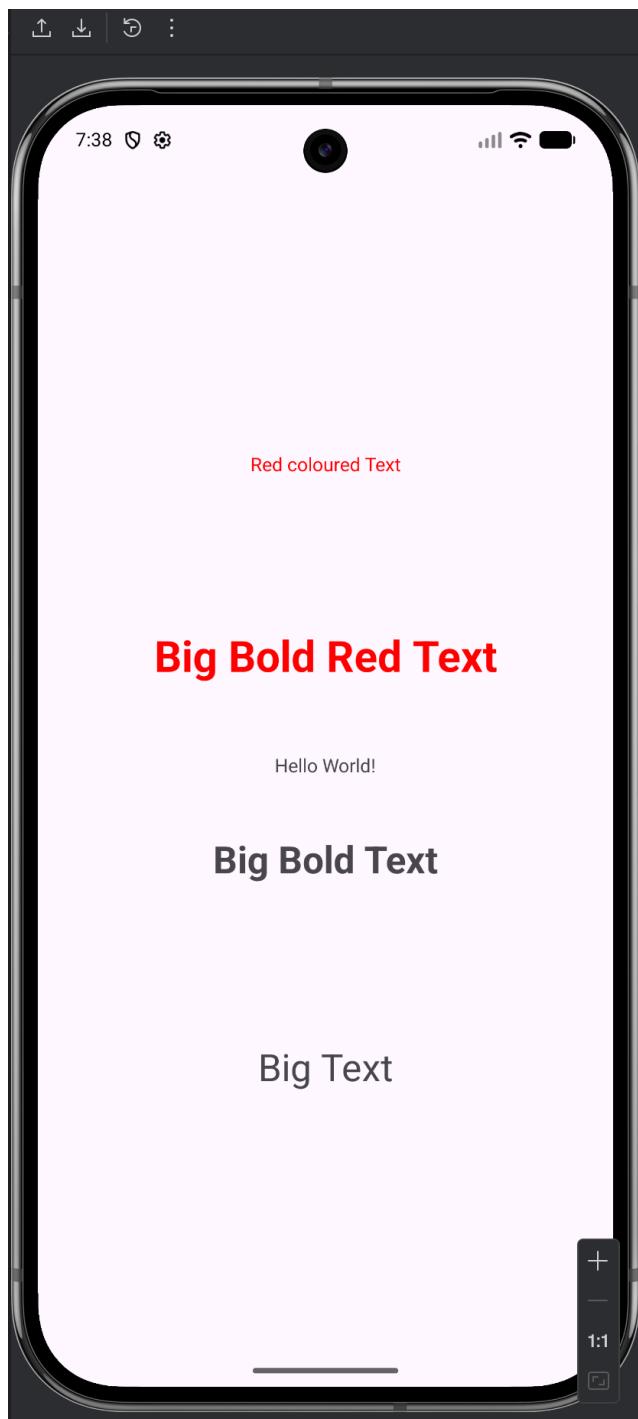
XML for colors

```
<?xml version="1.0" encoding="utf-8"?>  
<resources>  
    <color name="black">#FF000000</color>  
    <color name="white">#FFFFFF</color>  
    <color name="red">#FF0000</color>  
</resources>
```

XML for strings

```
<resources>  
    <string name="app_name">Question1</string>  
    <string name="RedColored">Red coloured Text</string>  
    <string name="BigText">Big Text</string>  
    <string name="BoldText">Big Bold Text</string>  
    <string name="BoldRed">Big Bold Red Text</string>  
</resources>
```

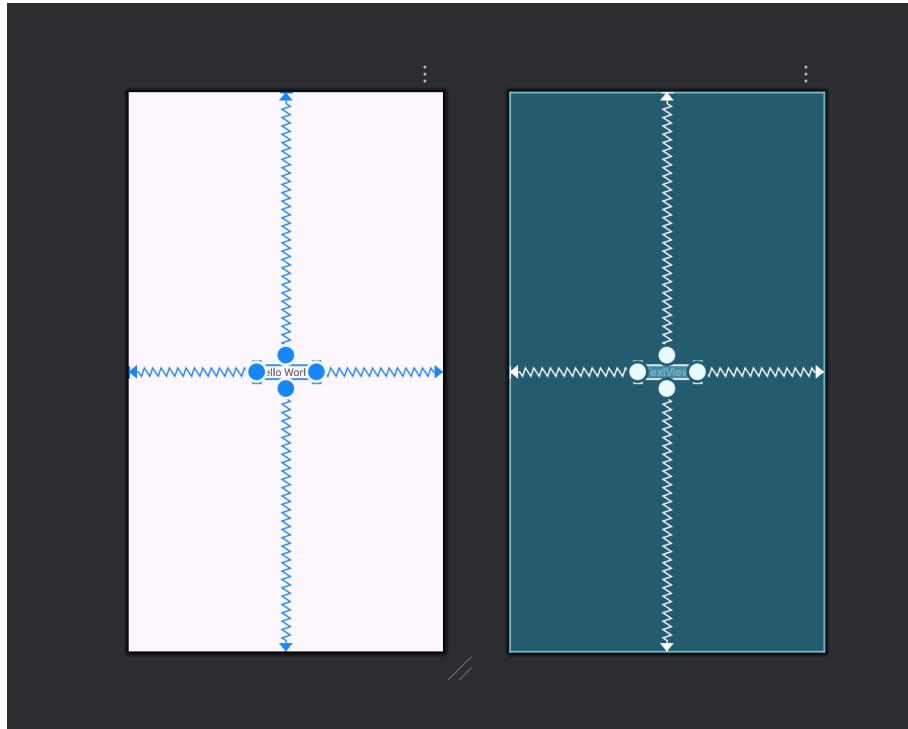
Output:



Question 2:

Find the “hello word” text in the XML document and modify the text.

Layout Design



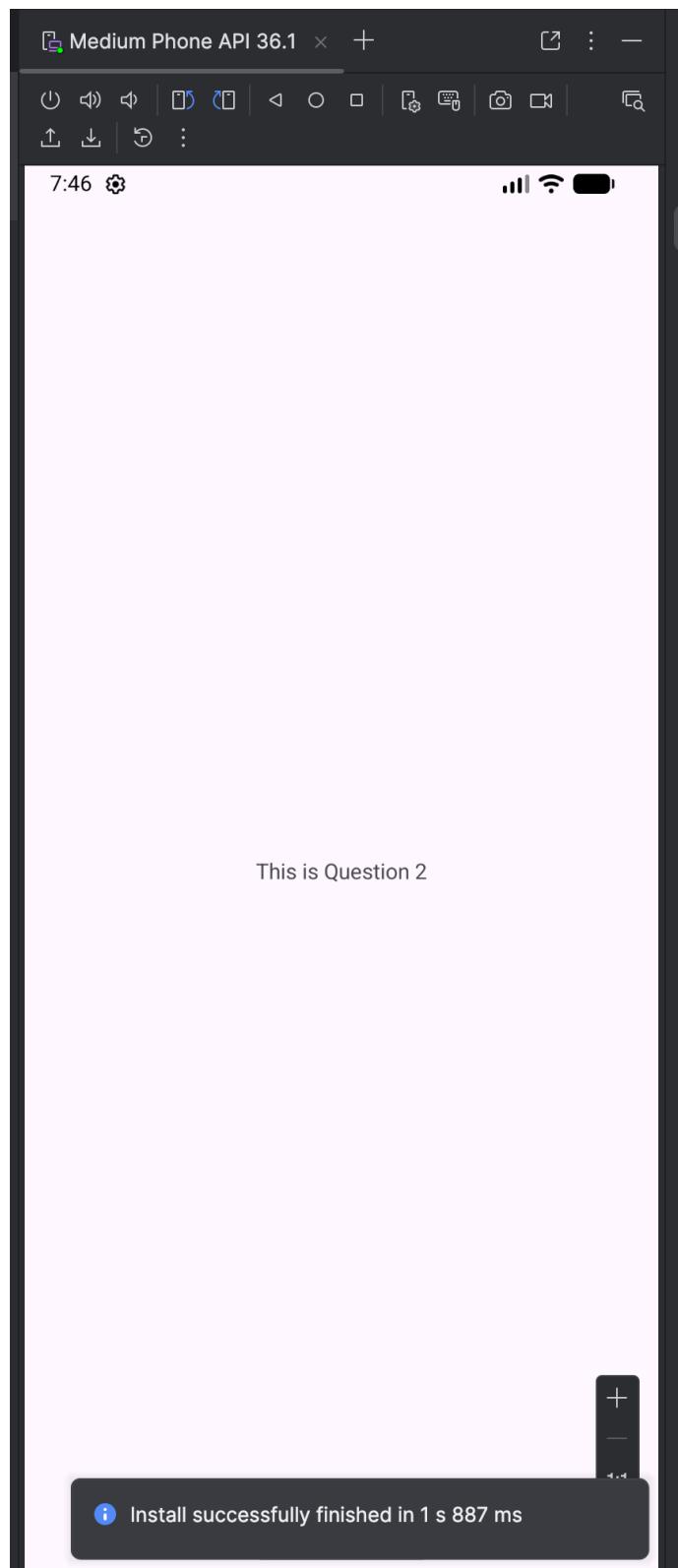
XML for activity_main

```
<?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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/q2"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

Output:

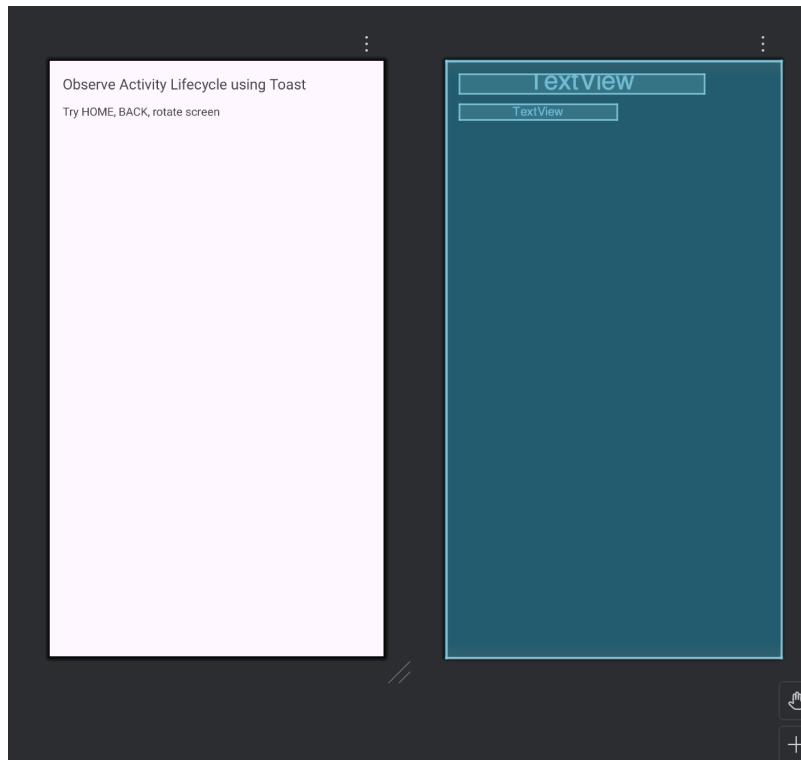


Lab 2- Introduction to Activities and Layouts in Android

Question 1:

Create an app that illustrates that the activity lifecycle method being triggered by various action.
Understand when onCreate(), onStart(), onResume event occur.

Layout Design:



XML for Activity:

```
<?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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Observe Activity Lifecycle using Toast"
        android:textSize="18sp"/>
```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Try HOME, BACK, rotate screen"
    android:layout_marginTop="12dp"/>

</LinearLayout>

```

Java Code:

```

package com.example.question1;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    String TAG = "LifecycleDemo";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Toast.makeText(this, "onCreate()", Toast.LENGTH_SHORT).show();
        Log.d(TAG, "onCreate");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Toast.makeText(this, "onStart()", Toast.LENGTH_SHORT).show();
        Log.d(TAG, "onStart");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Toast.makeText(this, "onResume()", Toast.LENGTH_SHORT).show();
        Log.d(TAG, "onResume");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Toast.makeText(this, "onPause()", Toast.LENGTH_SHORT).show();
        Log.d(TAG, "onPause");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Toast.makeText(this, "onStop()", Toast.LENGTH_SHORT).show();
    }
}

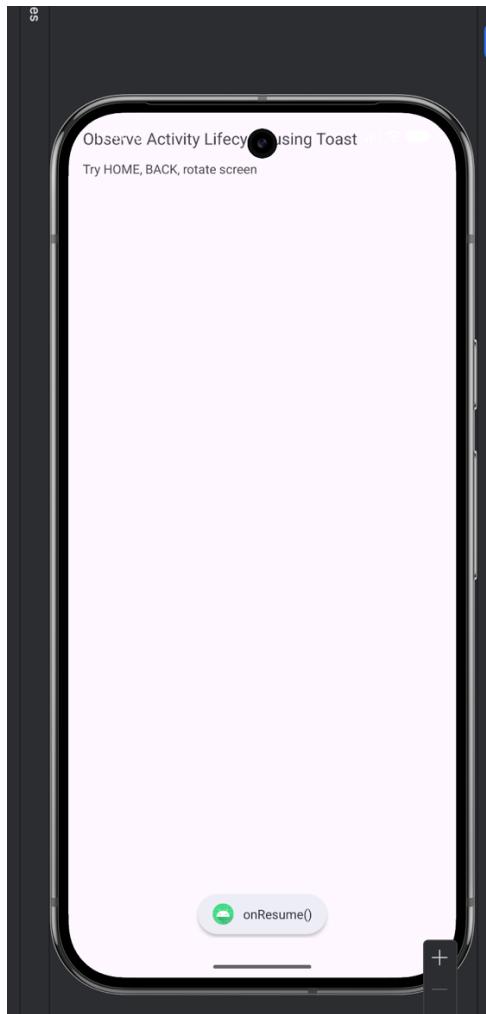
```

```
        Log.d(TAG, "onStop");
    }

@Override
protected void onRestart() {
    super.onRestart();
    Toast.makeText(this, "onRestart()", Toast.LENGTH_SHORT).show();
    Log.d(TAG, "onRestart");
}

@Override
protected void onDestroy() {
    super.onDestroy();
    Toast.makeText(this, "onDestroy()", Toast.LENGTH_SHORT).show();
    Log.d(TAG, "onDestroy");
}
}
```

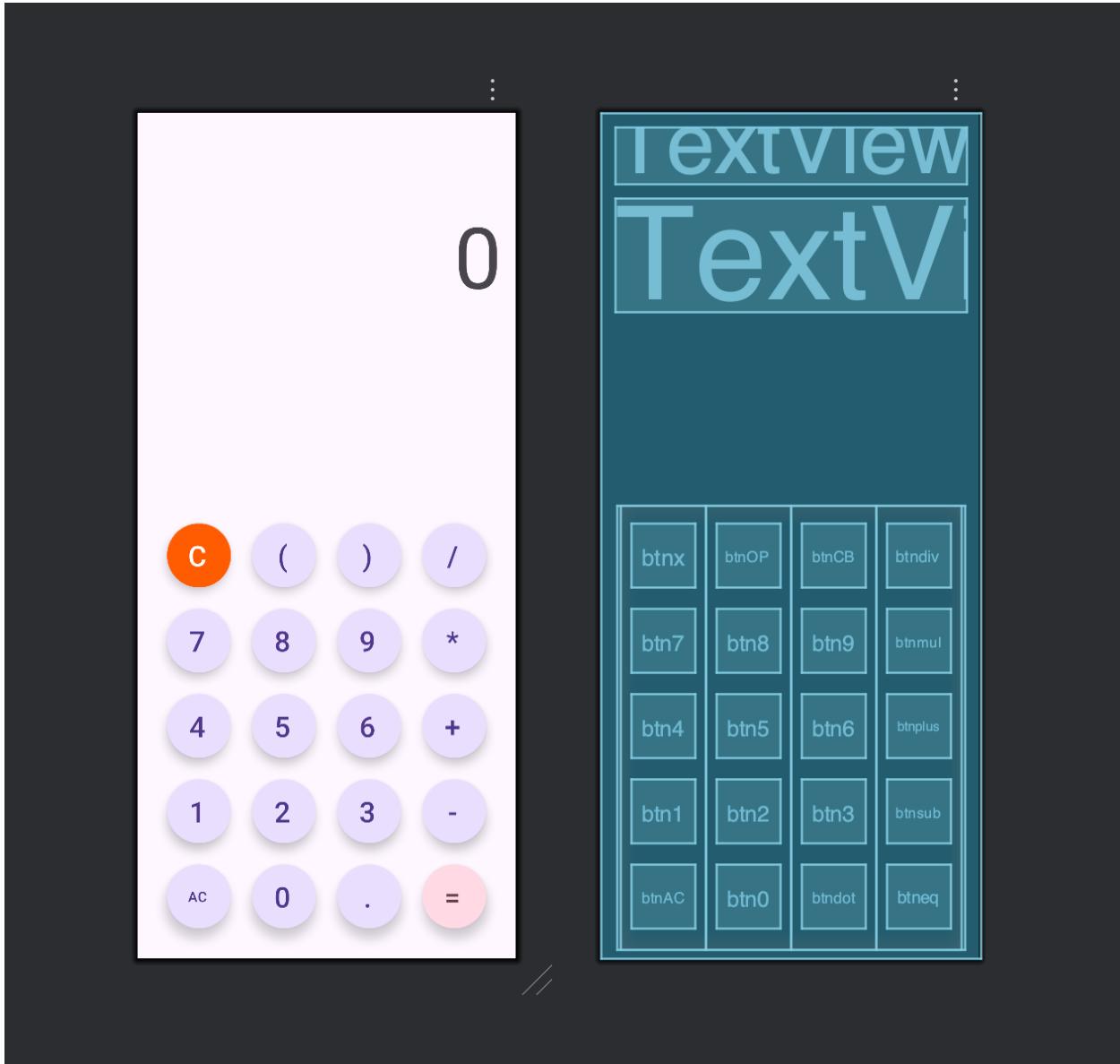
Output:



Question 2:

Create a Calculator app that does the function of multiplication, addition, division, subtraction but displays the result in the format of:-Num1 operator num2 = result. Back button on the next activity should get back to the calculator activity again.

Layout Design



XML for activity_main

```
<?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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/calc"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="16dp"
        android:layout_marginTop="168dp"
        android:textSize="48sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.692"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/res"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="16dp"
        android:text="@string/txt0"
        android:textAlignment="viewEnd"
        android:textSize="96sp"
        app:layout_constraintTop_toBottomOf="@+id/calc"
        tools:layout_editor_absoluteX="23dp" />

    <LinearLayout
        android:layout_width="392dp"
        android:layout_height="499dp"
        android:layout_margin="12dp"
        android:gravity="center"
        android:orientation="horizontal"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent">

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

                <com.google.android.material.button.MaterialButton
                    android:id="@+id/btnx"
                    style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary" />
            
```

```
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:backgroundTint="#FF5C00"
        android:text="@string/btnC"
        android:textAlignment="center"
        android:textColor="#FFFFFF"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id(btn7"
        style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btn7"
            android:textSize="32sp"
            app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id	btn4"
        style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btn4"
            android:textSize="32sp"
            app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id	btn1"
        style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btn1"
            android:textSize="32sp"
            app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id	btnAC"
        style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btnAC"
            android:textSize="16sp"
            app:cornerRadius="36dp" />

</LinearLayout>
```

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

    <com.google.android.material.button.MaterialButton
        android:id="@+id/btnOP"

    style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btnOB"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id/btn8"

    style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btn8"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id/btn5"

    style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btn5"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id/btn2"

    style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btn2"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id/btn0"

    style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
```

```
        android:text="@string/btn0"
        android:textSize="32sp"
        app:cornerRadius="36dp" />
    </LinearLayout>

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

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btnCB"
            style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btnCB"
            android:textSize="32dp"
            app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btn9"
            style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btn9"
            android:textSize="32sp"
            app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btn6"
            style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btn6"
            android:textSize="32sp"
            app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btn3"
            style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="@string/btn3"
            android:textSize="32sp"
            app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btndot"
            style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
            android:layout_width="72dp"
            android:layout_height="72dp"
            android:layout_margin="12dp"
            android:text="."
            android:textSize="32sp"
            app:cornerRadius="36dp" />
    
```

```
style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btndot"
        android:textSize="32sp"
        app:cornerRadius="36dp" />
    </LinearLayout>

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

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btndiv"

style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btndiv"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btnmul"

style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btnmul"
        android:textSize="32dp"
        app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btnplus"

style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btnplus"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/btnsub"

style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Primary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btnsub"
```

```
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    <com.google.android.material.button.MaterialButton
        android:id="@+id/btneq"

style="@style/Widget.Material3.ExtendedFloatingActionButton.Icon.Tertiary"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:layout_margin="12dp"
        android:text="@string/btneq"
        android:textSize="32sp"
        app:cornerRadius="36dp" />

    </LinearLayout>

</LinearLayout>

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

XML for strings

Java Source code

```
package com.example.calculator;  
  
import android.os.Bundle;  
import android.view.ContextThemeWrapper;
```

```
import android.view.View;
import android.widget.TextView;

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

import com.google.android.material.button.MaterialButton;
import org.mozilla.javascript.Context;
import org.mozilla.javascript.Scriptable;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener{
    TextView res,cal;
    MaterialButton[] numbers=new MaterialButton[10];
    int[] buttonids =
{R.id.btn0,R.id.btn1,R.id.btn2,R.id.btn3,R.id.btn4,R.id.btn5,
R.id.btn6,R.id.btn7,R.id.btn8,R.id.btn9};

    MaterialButton add,sub,mul,div;
    MaterialButton c,ac,eq,ob,cb,dot;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });
        res = findViewById(R.id.res);
        cal= findViewById(R.id.calc);

        for(int i=0;i<10;i++){
            assign_id(numbers[i],buttonids[i]);
        }
        assign_id(mul,R.id.btnmul);
        assign_id(div,R.id.btndiv);
        assign_id(add,R.id.btnplus);
        assign_id(sub,R.id.btnsub);

        assign_id(c,R.id.btnx);
        assign_id(ac,R.id.btnAC);
        assign_id(dot,R.id.bnndot);
        assign_id(ob,R.id.bnOP);
        assign_id(cb,R.id.bnCB);
        assign_id(eq,R.id.bnEQ);
    }
    void assign_id(MaterialButton btn, int id) {
```

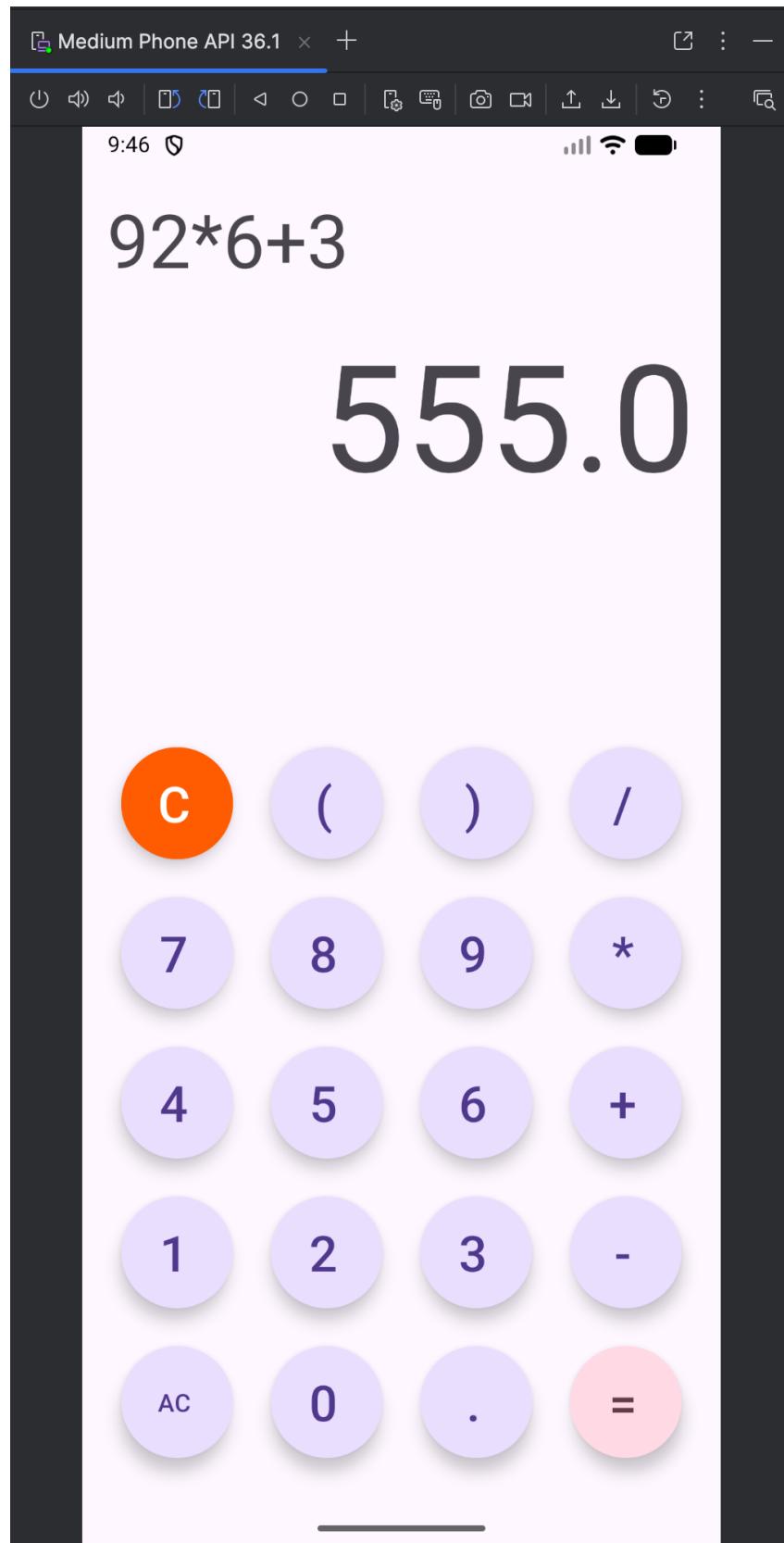
```
        btn=findViewById(id);
        btn.setOnClickListener(this);
    }

@Override
public void onClick(View v) {
    MaterialButton button = (MaterialButton) v;
    String btntext=button.getText().toString();
    String expression=cal.getText().toString();
    if(btntext.equals("AC")){
        res.setText("0");
        cal.setText("");
        return;
    }
    if(btntext.equals("=")){
        res.setText(res.getText());
    }
    if(btntext.equals("C")){
        expression=expression.substring(0,expression.length()-1);
    }else {
        if(!btntext.equals(".")){
            expression=expression+btntext;
        }
    }
}

cal.setText(expression);
String finalResult=getResult(expression);
if(!finalResult.equals("Err")){
    res.setText(finalResult);
}
}

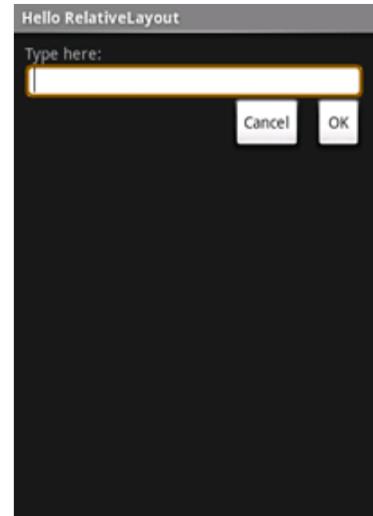
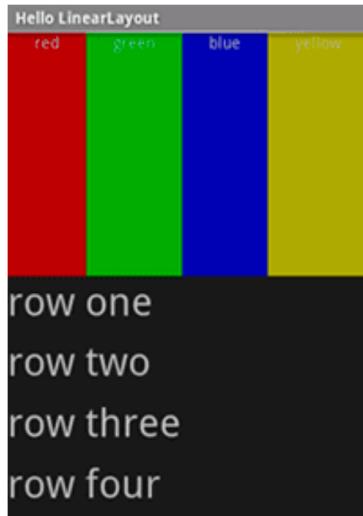
String getResult(String expression){
try{
    Context context=Context.enter();
    context.setOptimizationLevel(-1);
    Scriptable scriptable=context.initStandardObjects();
    String
result=context.evaluateString(scriptable,expression,"Javascript",1,null).toString();
    return result;
}catch(Exception e){
    return "Err";
}
}
}
```

Output:

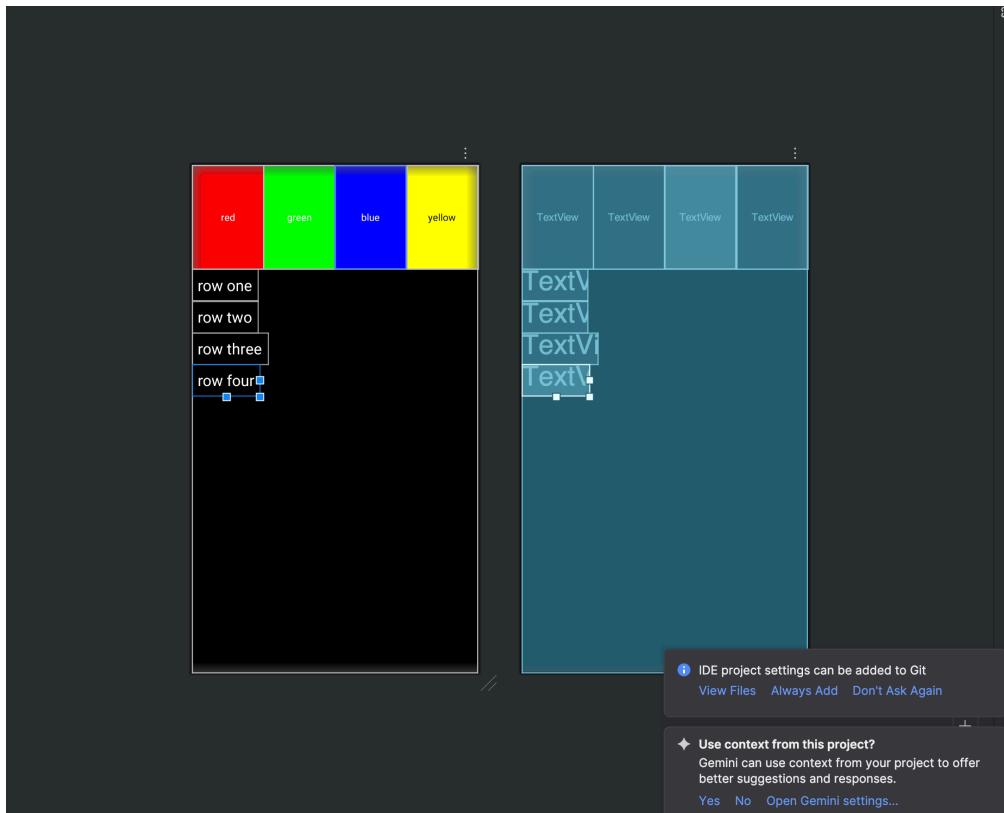


Question3:

Create the following scenario using linear and relative layout concept



Layout Design Linear



XML for Linear Layout Design

```
<?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:background="#000000">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="150dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:background="#FF0000"
            android:text="red"
            android:textColor="#FFFFFF"
            android:gravity="center"/>

        <TextView
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:background="#00FF00"
            android:text="green"
            android:textColor="#FFFFFF"
            android:gravity="center"/>

        <TextView
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:background="#0000FF"
            android:text="blue"
            android:textColor="#FFFFFF"
            android:gravity="center"/>

        <TextView
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:background="#FFFF00"
            android:text="yellow"
            android:textColor="#000000"
            android:gravity="center"/>
    </LinearLayout>

    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="row one"
        android:textSize="22sp"
        android:textColor="#FFFFFF"
```

```
        android:padding="8dp"/>

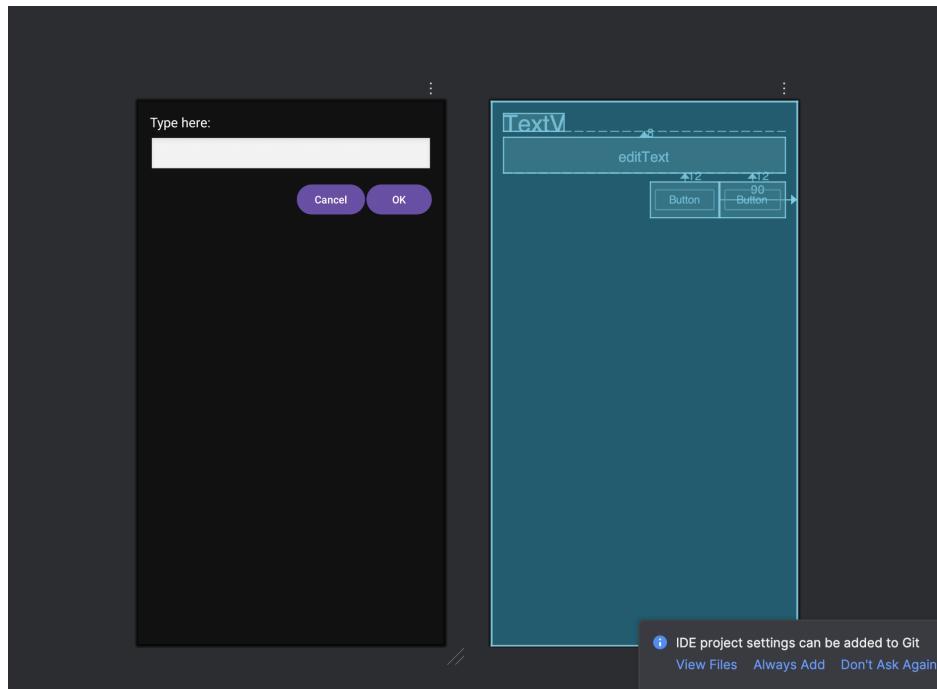
    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="row two"
        android:textSize="22sp"
        android:textColor="#FFFFFF"
        android:padding="8dp"/>

    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="row three"
        android:textSize="22sp"
        android:textColor="#FFFFFF"
        android:padding="8dp"/>

    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="row four"
        android:textSize="22sp"
        android:textColor="#FFFFFF"
        android:padding="8dp"/>

</LinearLayout>
```

Layout Design - Relative



XML for Relative Layout Design

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#111111"
    android:padding="16dp">

    <TextView
        android:id="@+id/tvLabel"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Type here:"
        android:textColor="#FFFFFF"
        android:textSize="18sp"/>

    <EditText
        android:id="@+id/editText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/tvLabel"
        android:layout_marginTop="8dp"
        android:background="@android:drawable/edit_text"/>

    <Button
        android:id="@+id btnCancel"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Cancel"
        android:layout_below="@id/editText"
        android:layout_alignParentEnd="true"
        android:layout_marginTop="12dp"
        android:layout_marginEnd="90dp"/>

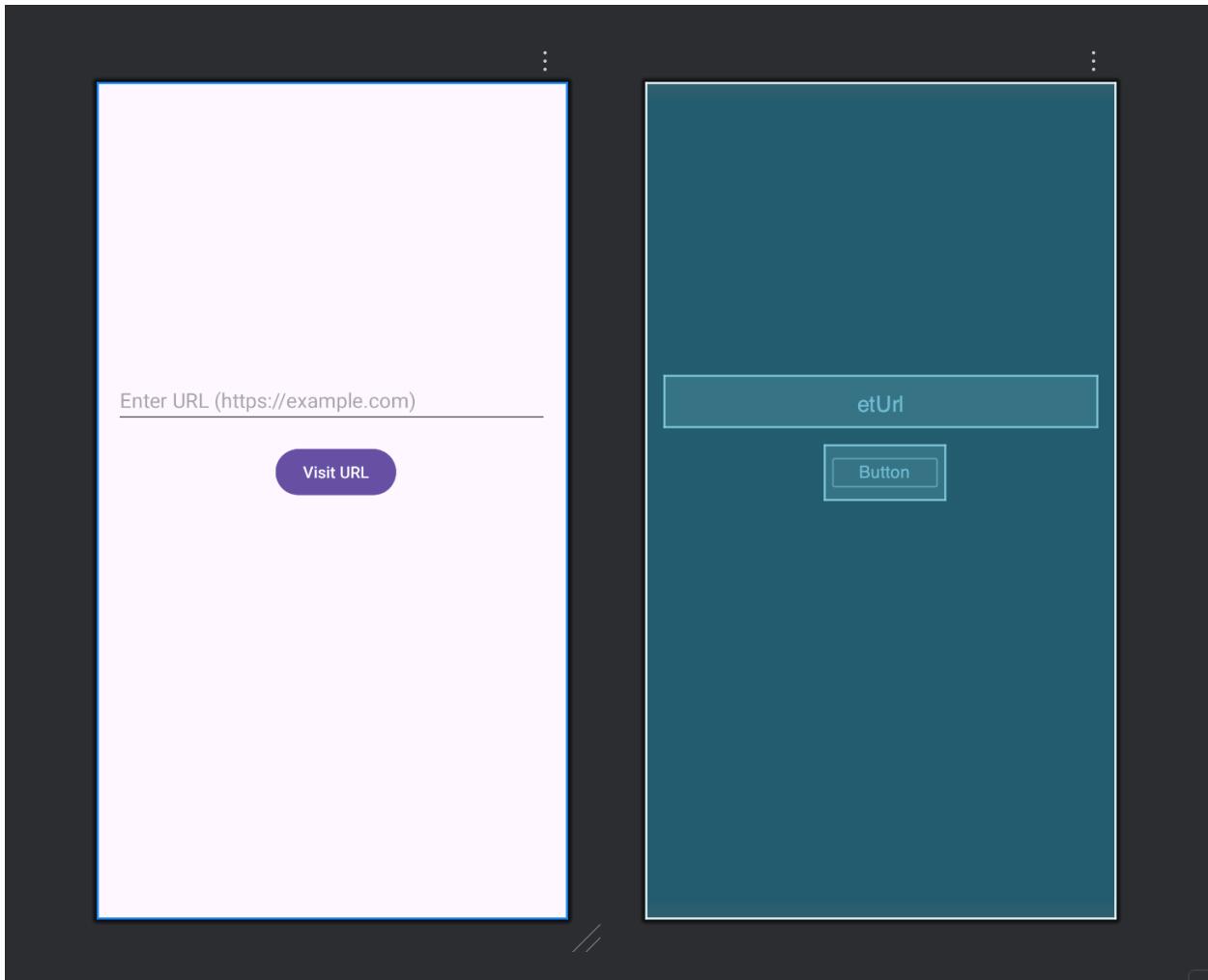
    <Button
        android:id="@+id	btnOk"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="OK"
        android:layout_below="@id/editText"
        android:layout_alignParentEnd="true"
        android:layout_marginTop="12dp"/>

</RelativeLayout>
```

Question4:

Create an app such that when the user click on the given URL typed by the user, it visits the corresponding page.

Layout Design:



XML for Design:

```
<?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">

    <EditText
```

```

        android:id="@+id/etUrl"
        android:layout_marginTop="240dp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter URL (https://example.com)"
        android:inputType="textUri" />

    <Button
        android:id="@+id	btnVisit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="140dp"
        android:layout_marginTop="16dp"
        android:text="Visit URL" />

</LinearLayout>

```

Java Code:

```

package com.priyansh.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    EditText etUrl;
    Button btnVisit;

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

        etUrl = findViewById(R.id.etUrl);
        btnVisit = findViewById(R.id.btnVisit);

        btnVisit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                String url = etUrl.getText().toString().trim();

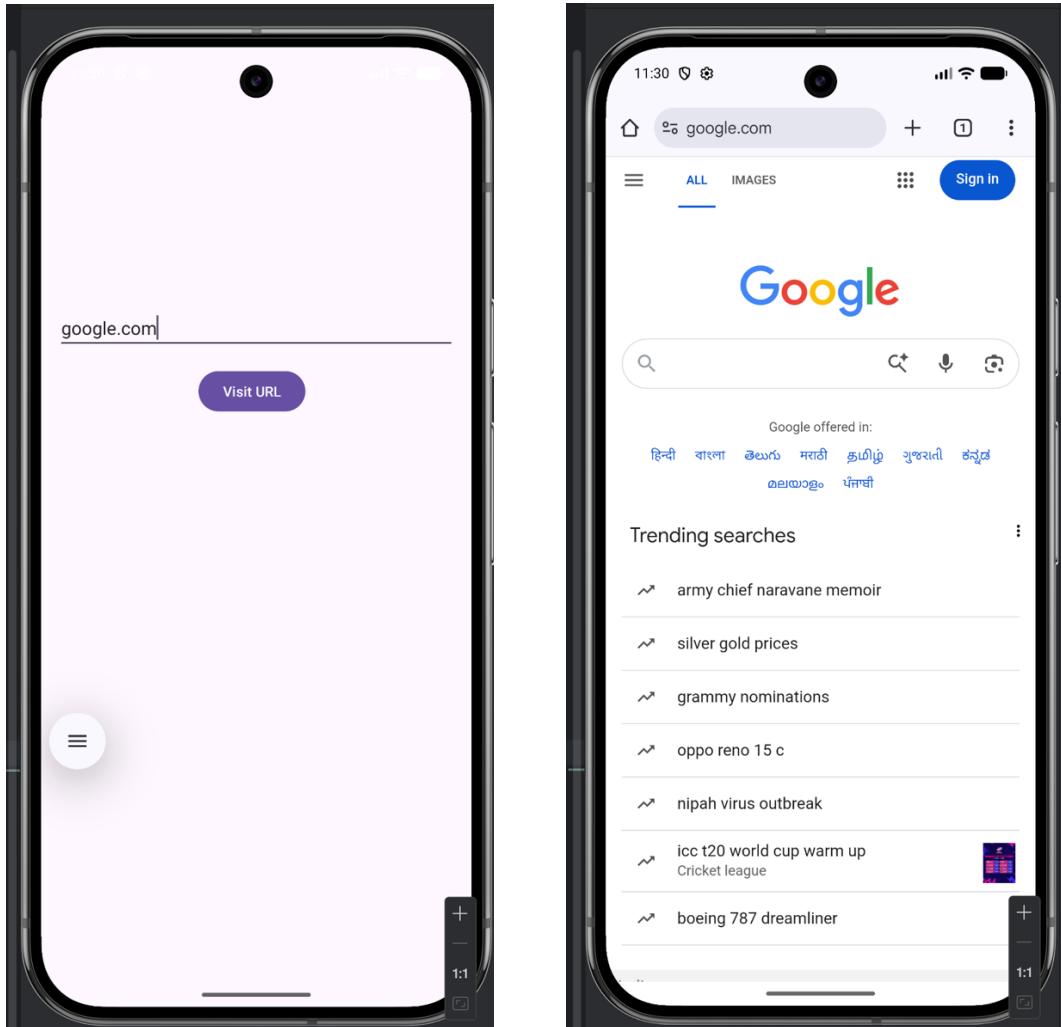
                if (url.isEmpty()) {
                    Toast.makeText(MainActivity.this,
                            "Please enter a URL", Toast.LENGTH_SHORT).show();
                    return;
                }
            }
        });
    }
}

```

```
        if (!url.startsWith("http://") &&
    url.startsWith("https://")) {
        url = "https://" + url;
    }

    Intent intent = new Intent(Intent.ACTION_VIEW);
    intent.setData(Uri.parse(url));
    startActivity(intent);
}
)
}
}
```

Output:



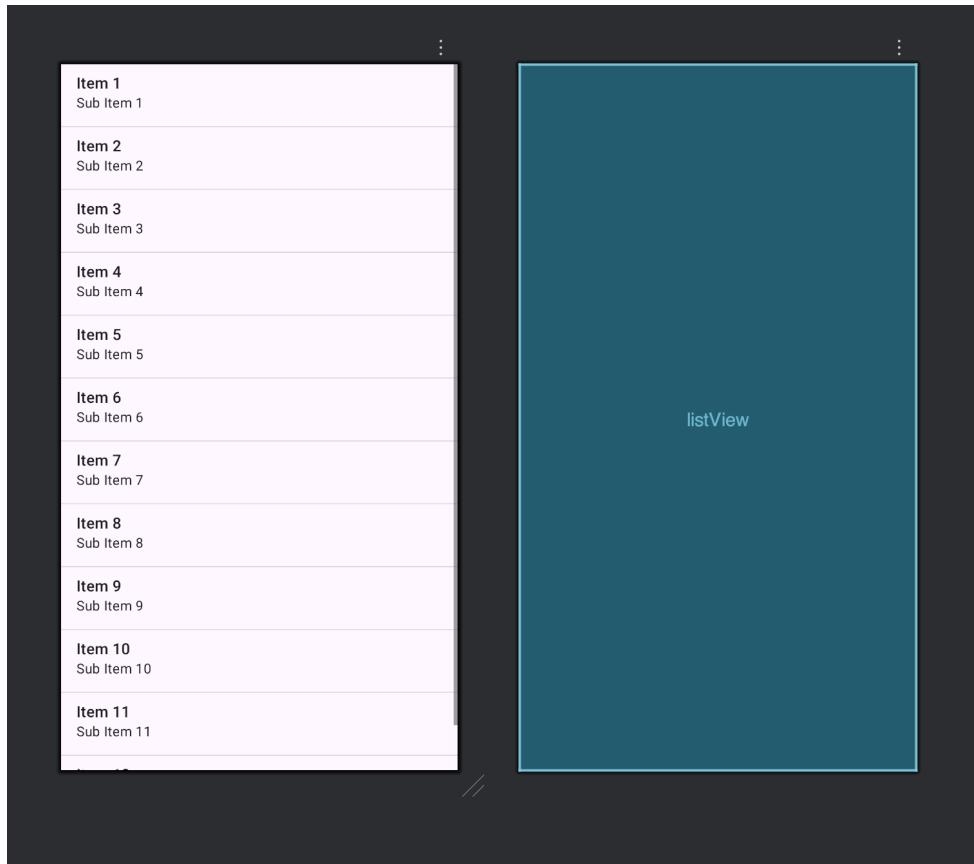
Lab 3- Activities and Layouts Continued

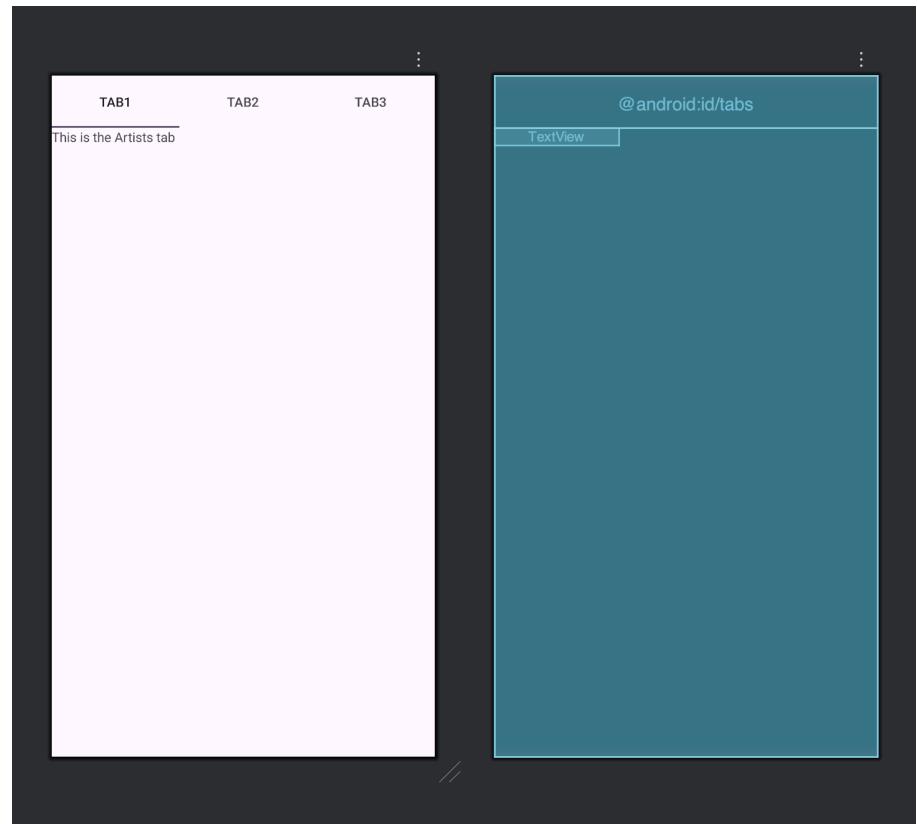
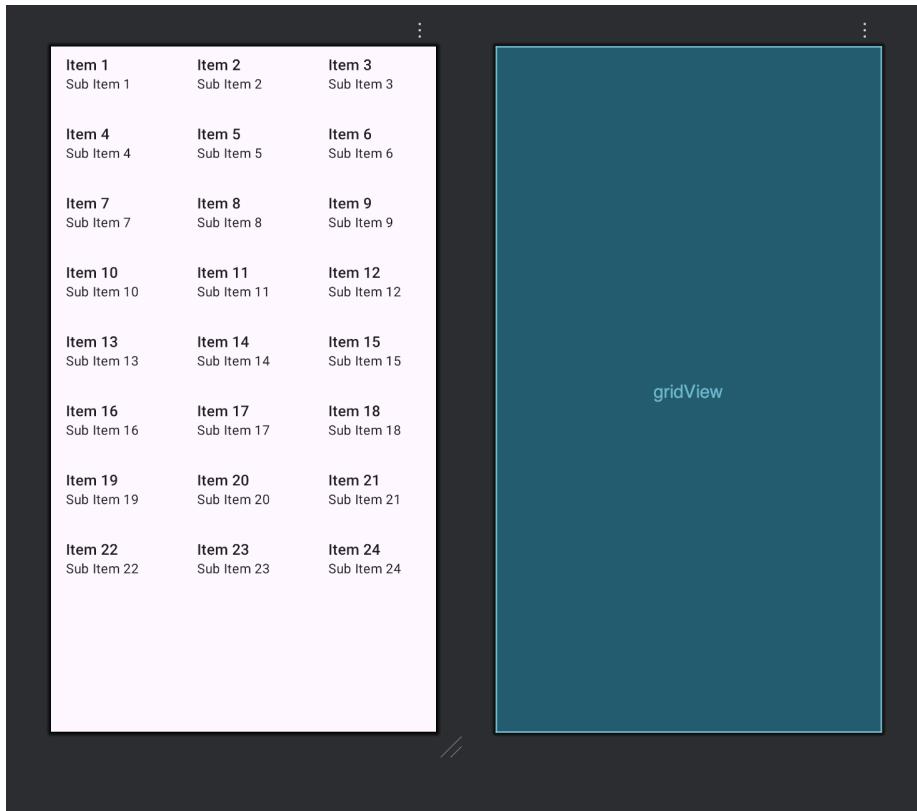
Question1:

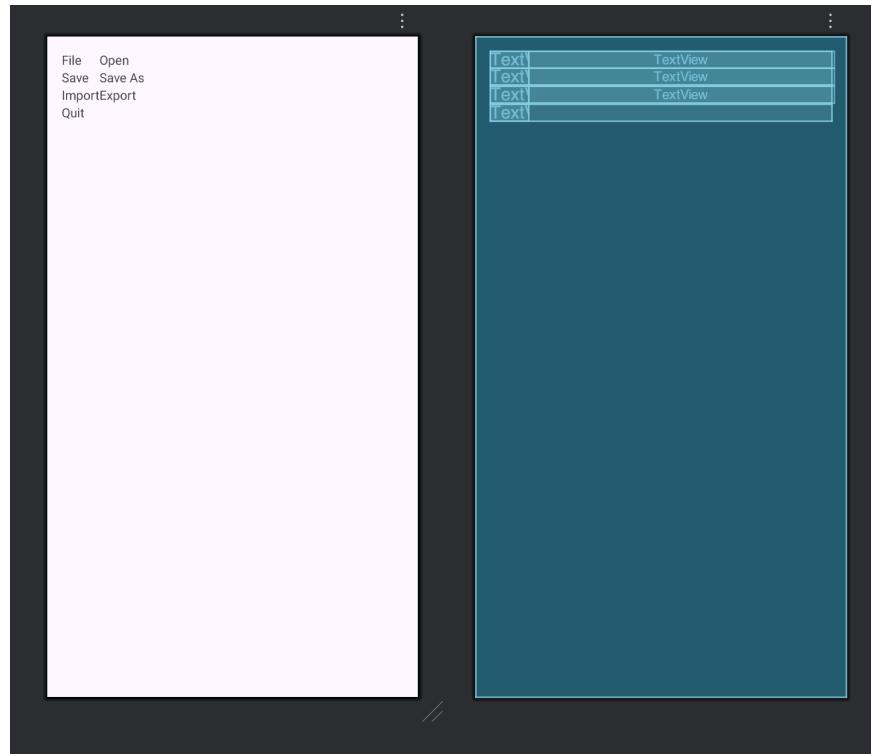
Using given scenario develop an application to perform following layout operations

- List view
- Grid view
- Tab layout
- Table layout

Layout Designs:







XML Code:

Linear Layout

```
<ListView xmlns:android="http://schemas.android.com/apk/res/android"  
        android:id="@+id/listView"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"/>
```

Grid Layout

```
<GridView xmlns:android="http://schemas.android.com/apk/res/android"  
        android:id="@+id/gridView"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
        android:numColumns="3"  
        android:verticalSpacing="10dp"  
        android:horizontalSpacing="10dp"  
        android:gravity="center"/>
```

Tab Layout

```
<TabHost xmlns:android="http://schemas.android.com/apk/res/android"  
        android:id="@+id/tabhost"  
        android:layout_width="match_parent"  
        android:layout_height="match_parent">
```

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

    <TabWidget
        android:id="@+id/tabs"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"/>

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

        <TextView
            android:id="@+id/tab1"
            android:text="This is the Artists tab"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"/>

        <TextView
            android:id="@+id/tab2"
            android:text="This is the Albums tab"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"/>

        <TextView
            android:id="@+id/tab3"
            android:text="This is the Songs tab"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"/>
    </FrameLayout>

</LinearLayout>
</TabHost>
```

Table Layout

```
<TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:stretchColumns="1"
    android:padding="16dp">

    <TableRow>
        <TextView android:text="File"/>
        <TextView android:text="Open"/>
    </TableRow>

    <TableRow>
        <TextView android:text="Save"/>
        <TextView android:text="Save As"/>
    </TableRow>
</TableLayout>
```

```

<TableRow>
    <TextView android:text="Import"/>
    <TextView android:text="Export"/>
</TableRow>

<TableRow>
    <TextView android:text="Quit"/>
</TableRow>

</TableLayout>

```

Java Codes:

Linear

```

package com.priyansh.question1;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    String[] countries = {
        "American Samoa",
        "El Salvador",
        "Saint Helena",
        "Saint Lucia",
        "Samoa",
        "San Marino"
    };

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

        ListView listView = findViewById(R.id.listView);
        ArrayAdapter<String> adapter =
            new ArrayAdapter<>(this,
                android.R.layout.simple_list_item_1,
                countries);

        listView.setAdapter(adapter);
    }
}

```

Grid

```

package com.priyansh.question1;

import android.os.Bundle;

```

```
import android.widget.ArrayAdapter;
import androidx.appcompat.app.AppCompatActivity;
public class GridView extends AppCompatActivity {
    String[] items = {
        "One", "Two", "Three",
        "Four", "Five", "Six",
        "Seven", "Eight", "Nine"
    };
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_grid_view);

        android.widget.GridView gridView = findViewById(R.id.gridView);
        ArrayAdapter<String> adapter =
            new ArrayAdapter<>(this,
                android.R.layout.simple_list_item_1,
                items);

        gridView.setAdapter(adapter);
    }
}
```

Tab

```
package com.priyansh.question1;

import android.os.Bundle;
import android.widget.TabHost;
import androidx.appcompat.app.AppCompatActivity;

public class TabLayout extends AppCompatActivity {

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

        TabHost tabHost = findViewById(android.R.id.tabhost);
        tabHost.setup();

        TabHost.TabSpec spec;

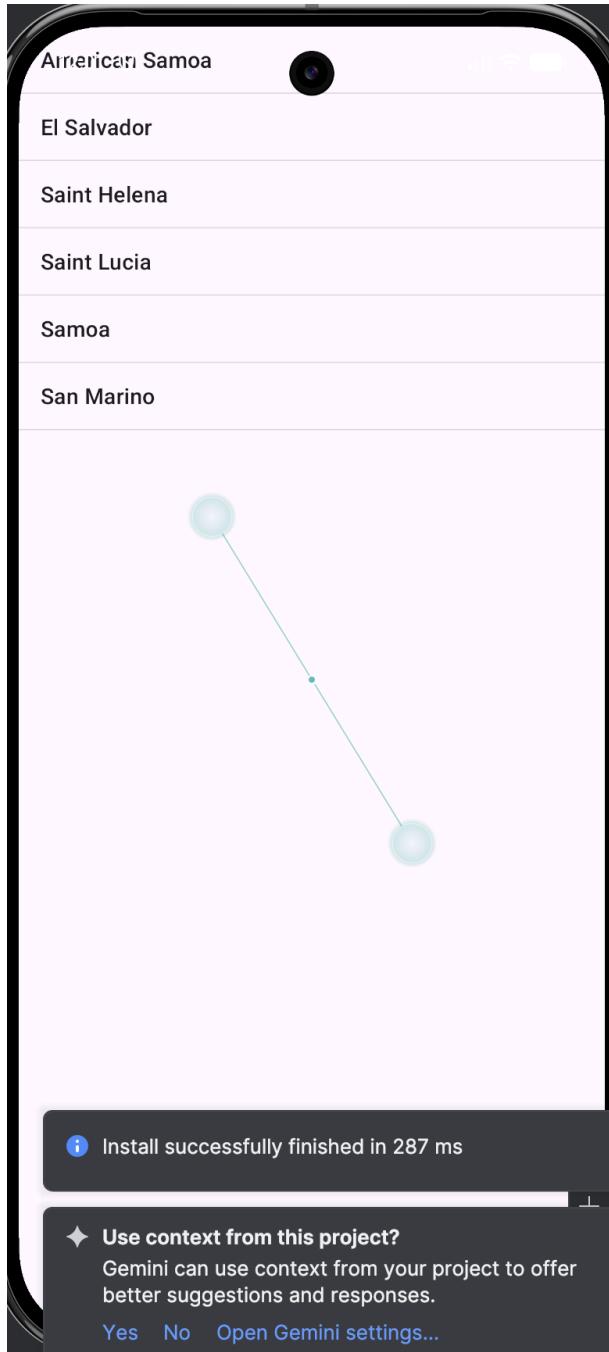
        spec = tabHost.newTabSpec("Artists");
        spec.setContent(R.id.tab1);
        spec.setIndicator("Artists");
        tabHost.addTab(spec);

        spec = tabHost.newTabSpec("Albums");
        spec.setContent(R.id.tab2);
        spec.setIndicator("Albums");
    }
}
```

```
        tabHost.addTab(spec);

        spec = tabHost.newTabSpec("Songs");
        spec.setContent(R.id.tab3);
        spec.setIndicator("Songs");
        tabHost.addTab(spec);
    }
}
```

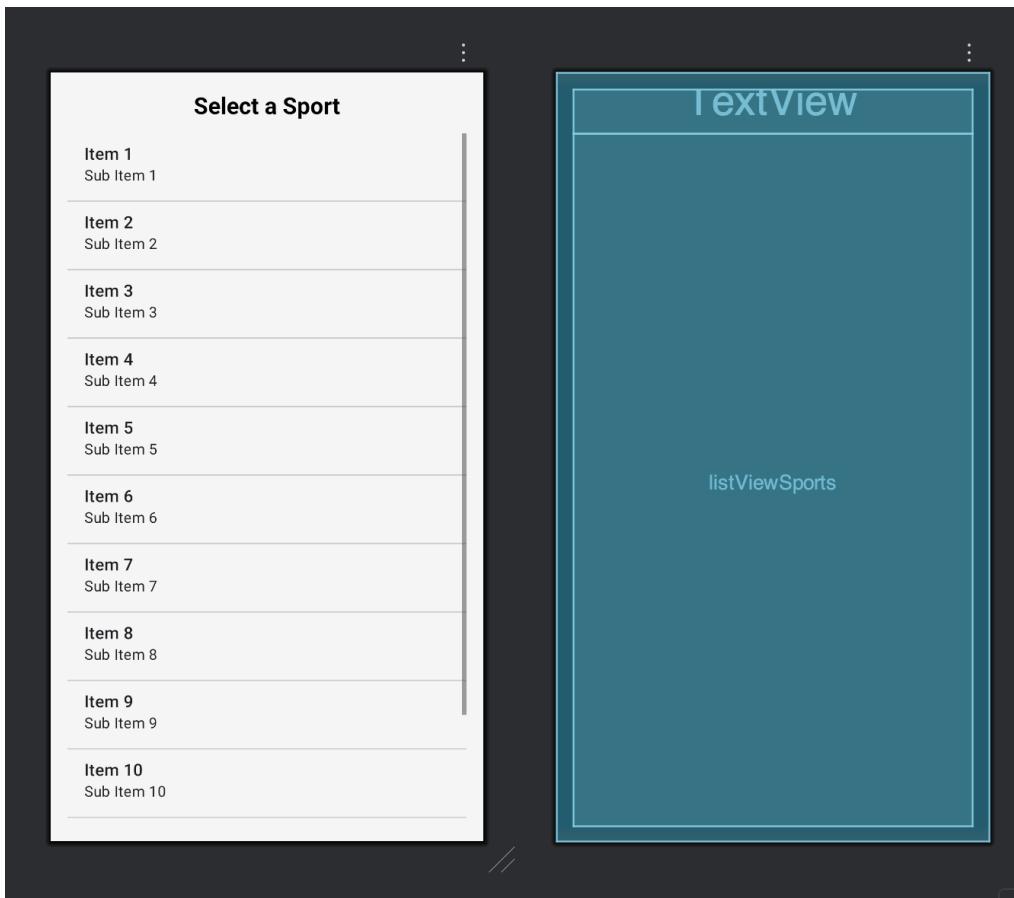
Output Example:



Question 2:

Write a program to list different sports, and when a sport is selected, display a message showing the selected sport.

Layout Design:



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:background="#F5F5F5">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Select a Sport"
        android:textSize="22sp"
        android:textStyle="bold">
```

```
        android:textColor="#000000"
        android:gravity="center"
        android:paddingBottom="12dp"/>

    <ListView
        android:id="@+id/listViewSports"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:divider="#CCCCCC"
        android:dividerHeight="1dp"/>
</LinearLayout>
```

Java:

```
package com.priyansh.question2;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    ListView listView;
    String[] sports = {
        "Cricket",
        "Football",
        "Basketball",
        "Tennis",
        "Hockey",
        "Badminton"
    };

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

        listView = findViewById(R.id.listViewSports);

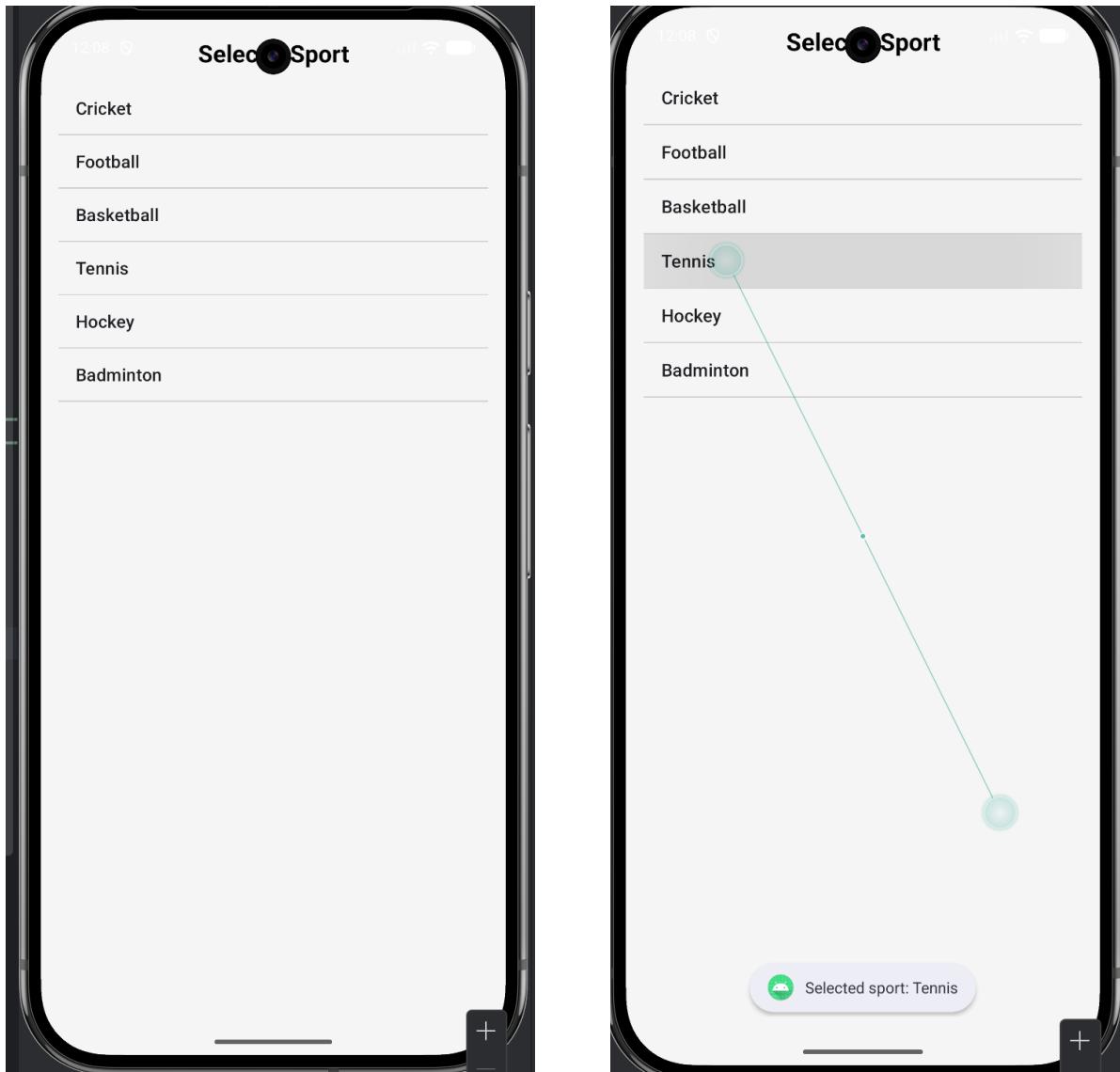
        ArrayAdapter<String> adapter =
            new ArrayAdapter<>(this,
                android.R.layout.simple_list_item_1,
                sports);

        listView.setAdapter(adapter);

        listView.setOnItemClickListener(new AdapterView.OnItemClickListener()
    {
        @Override
        public void onItemClick(AdapterView<?> parent,
            View view,
```

```
        int position,  
        long id) {  
  
    String selectedSport = sports[position];  
    Toast.makeText(MainActivity.this,  
        "Selected sport: " + selectedSport,  
        Toast.LENGTH_SHORT).show();  
}  
});  
}  
}
```

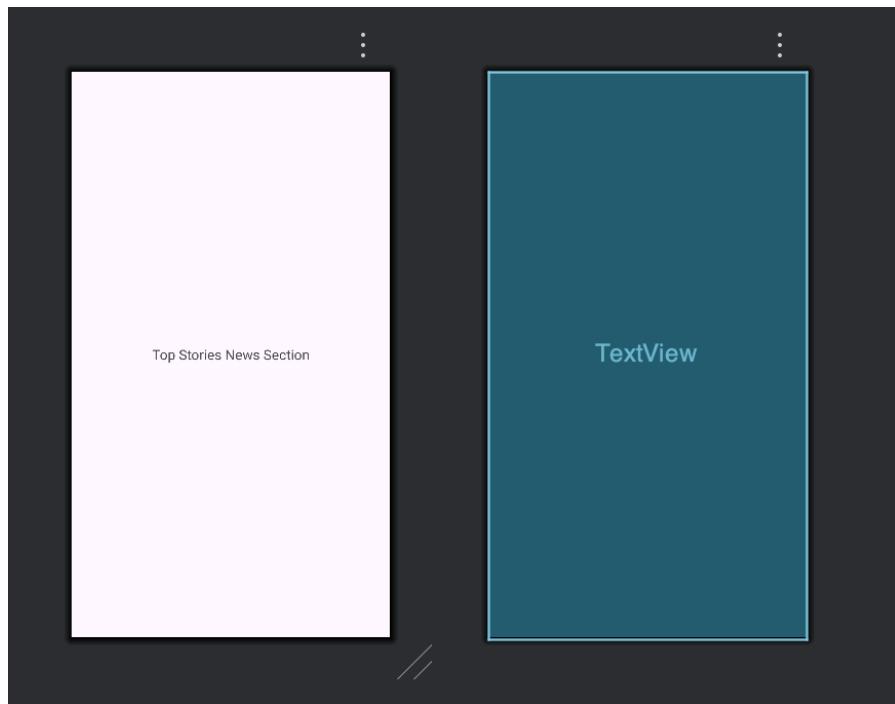
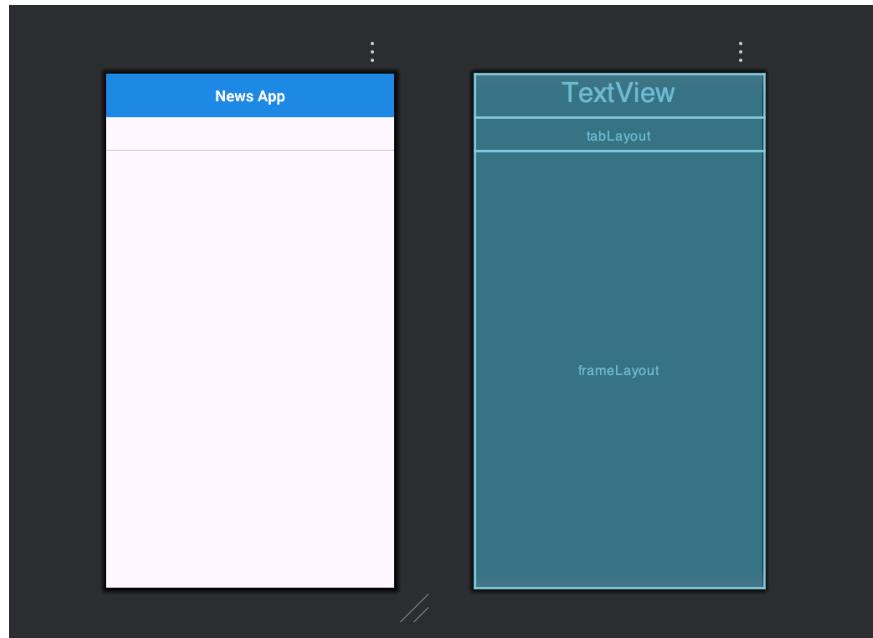
Output:

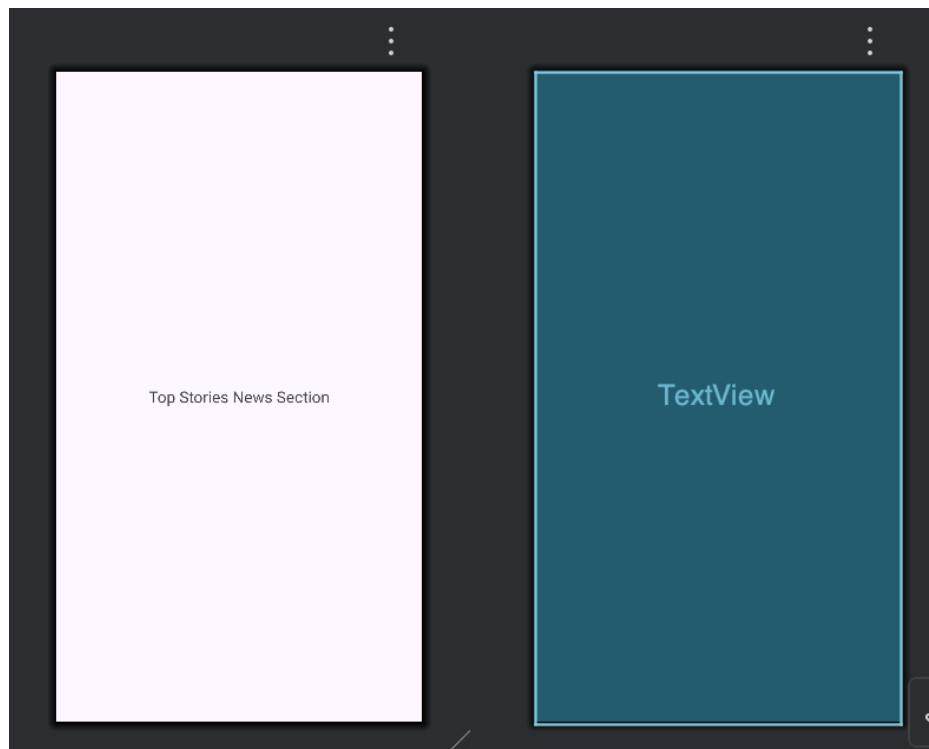
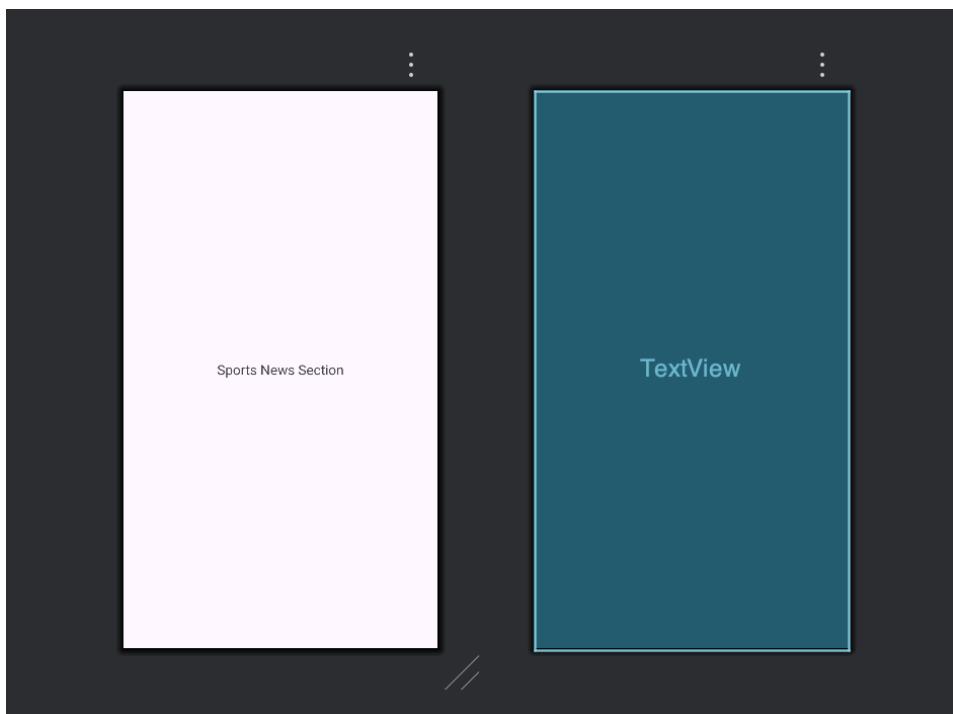


Question 3:

Design an news application and Implement the navigation between the sections like Top Stories, Sports, and Entertainment using tab layout

Layout Designs:





XML for Designs

activity_main.xml

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="News App"
        android:textSize="22sp"
        android:textStyle="bold"
        android:padding="16dp"
        android:gravity="center"
        android:background="#1E88E5"
        android:textColor="#FFFFFF"/>

    <com.google.android.material.tabs.TabLayout
        android:id="@+id/tabLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:tabIndicatorColor="#1E88E5"
        app:tabSelectedTextColor="#1E88E5"
        app:tabTextColor="#666666"
        app:tabMode="fixed"
        app:tabGravity="fill"/>

    <!-- Content Area -->
    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:padding="16dp"/>

</LinearLayout>
```

top_stories.xml

```
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:text="Top Stories News Section"
    android:textSize="18sp"
    android:gravity="center"/>
```

sports.xml

```
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
    android:text="Sports News Section"
    android:textSize="18sp"
    android:gravity="center"/>
```

entertainment.xml

```
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:text="Top Stories News Section"
    android:textSize="18sp"
    android:gravity="center"/>
```

Java Code:

```
package com.priyansh.question3;

import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.widget.FrameLayout;

import androidx.appcompat.app.AppCompatActivity;

import com.google.android.material.tabs.TabLayout;

public class MainActivity extends AppCompatActivity {

    TabLayout tabLayout;
    FrameLayout frameLayout;

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

        tabLayout = findViewById(R.id.tabLayout);
        frameLayout = findViewById(R.id.frameLayout);

        tabLayout.addTab(tabLayout.newTab().setText("Top Stories"));
        tabLayout.addTab(tabLayout.newTab().setText("Sports"));
        tabLayout.addTab(tabLayout.newTab().setText("Entertainment"));

        loadLayout(R.layout.top_stories);

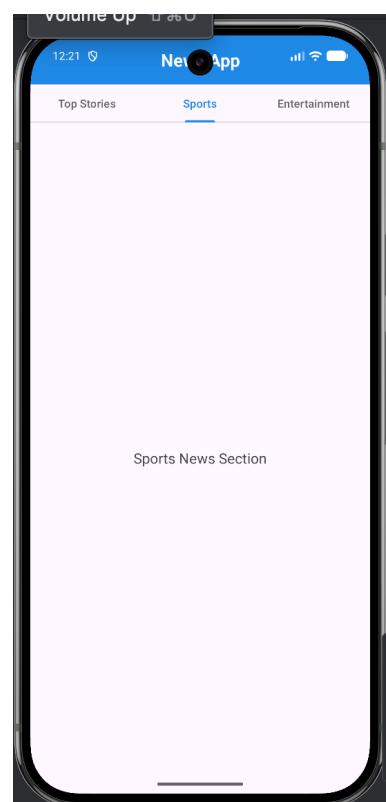
        tabLayout.addOnTabSelectedListener(new
        TabLayout.OnTabSelectedListener() {
            @Override
            public void onTabSelected(TabLayout.Tab tab) {
                switch (tab.getPosition()) {
                    case 0:
                        loadLayout(R.layout.top_stories);
                        break;
                }
            }
        });
    }
}
```

```
        case 1:
            loadLayout(R.layout.sports);
            break;
        case 2:
            loadLayout(R.layout.entertainment);
            break;
    }
}

@Override public void onTabUnselected(TabLayout.Tab tab) { }
@Override public void onTabReselected(TabLayout.Tab tab) { }
);

private void loadLayout(int layoutId) {
    frameLayout.removeAllViews();
    View view = LayoutInflater.from(this).inflate(layoutId, frameLayout,
false);
    frameLayout.addView(view);
}
}
```

Output:

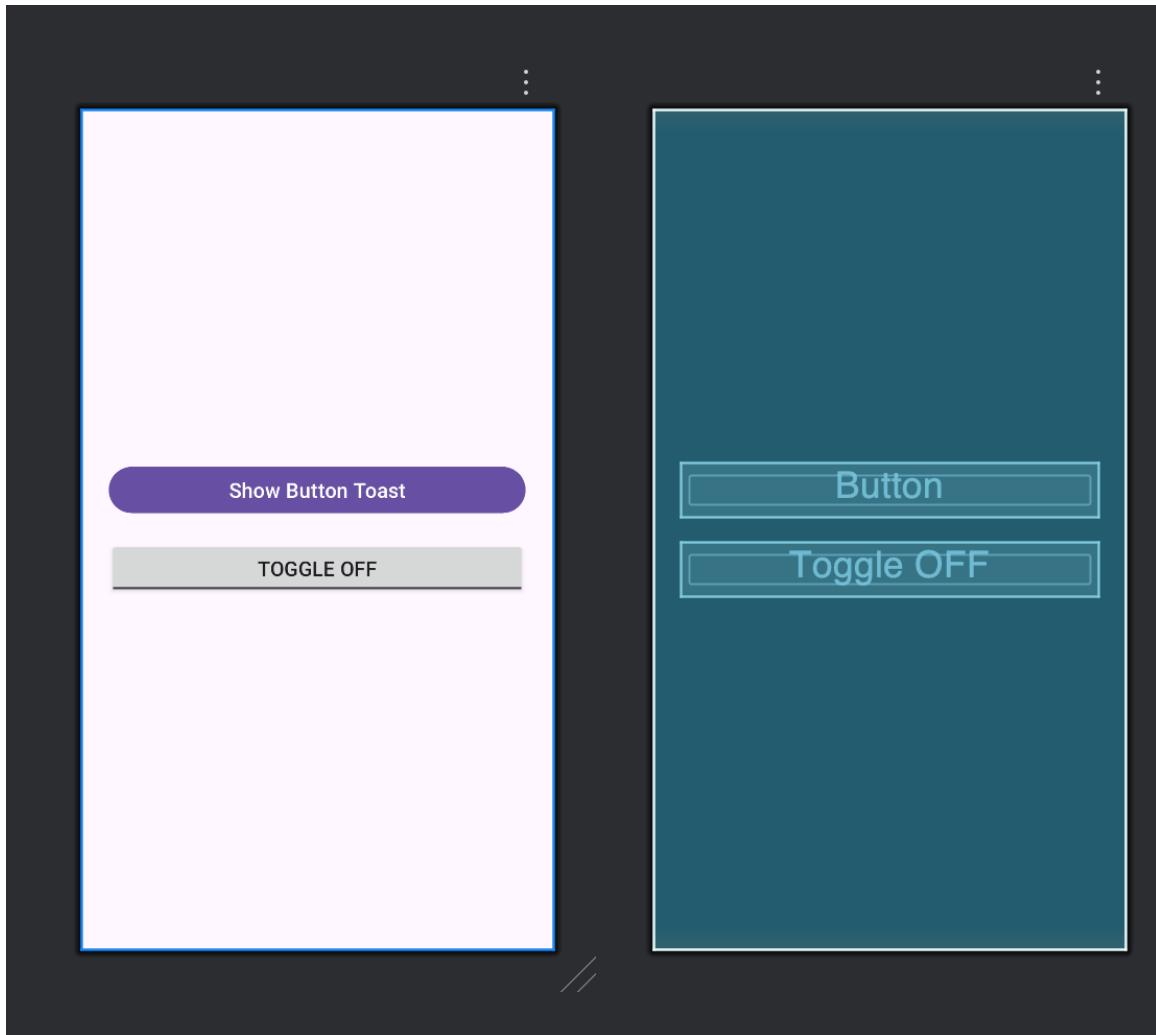


Lab 4- Input Controls in Android

Question 1:

Develop a “Test app” that includes a layout with a button and a ToggleButton. When each button is clicked a custom Toast message should be displayed with different images as their content.

Layout Design:



XML for 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:gravity="center"
        android:padding="24dp">

    <Button
        android:id="@+id	btnShow"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Show Button Toast"
        android:textSize="18sp"
        android:layout_marginBottom="20dp"/>

    <ToggleButton
        android:id="@+id/toggleBtn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textOn="Toggle ON"
        android:textOff="Toggle OFF"
        android:textSize="18sp"/>

</LinearLayout>

```

XML for custom_toast.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="12dp"
    android:background="#CC000000"
    android:gravity="center">

    <ImageView
        android:id="@+id/toastImage"
        android:layout_width="40dp"
        android:layout_height="40dp"
        android:layout_marginEnd="10dp"/>

    <TextView
        android:id="@+id/toastText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textColor="#FFFFFF"
        android:textSize="16sp"/>

</LinearLayout>

```

Java Code:

```

public class MainActivity extends AppCompatActivity {

    Button btnShow;
    ToggleButton toggleBtn;

```

```

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

    btnShow = findViewById(R.id.btnShow);
    toggleBtn = findViewById(R.id.toggleBtn);

    btnShow.setOnClickListener(v ->
        showCustomToast("Button Clicked!", R.drawable.button_img)
    );

    toggleBtn.setOnClickListener(v -> {
        if (toggleBtn.isChecked()) {
            showCustomToast("Toggle is ON", R.drawable.toggle_on);
        } else {
            showCustomToast("Toggle is OFF", R.drawable.toggle_off);
        }
    });
}

private void showCustomToast(String message, int imageRes) {
    LayoutInflater inflater = getLayoutInflater();
    View toastView = inflater.inflate(R.layout.custom_toast, null);

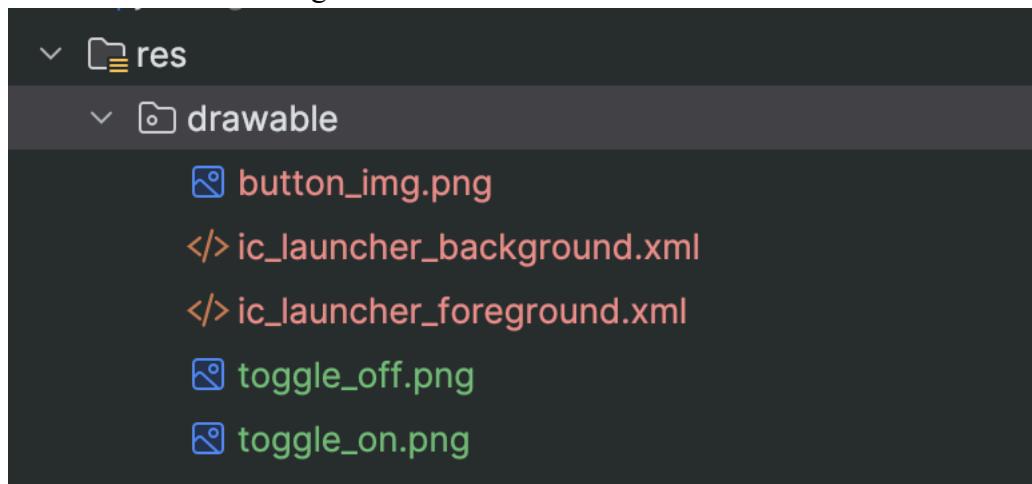
    ImageView image = toastView.findViewById(R.id.toastImage);
    TextView text = toastView.findViewById(R.id.toastText);

    image.setImageResource(imageRes);
    text.setText(message);

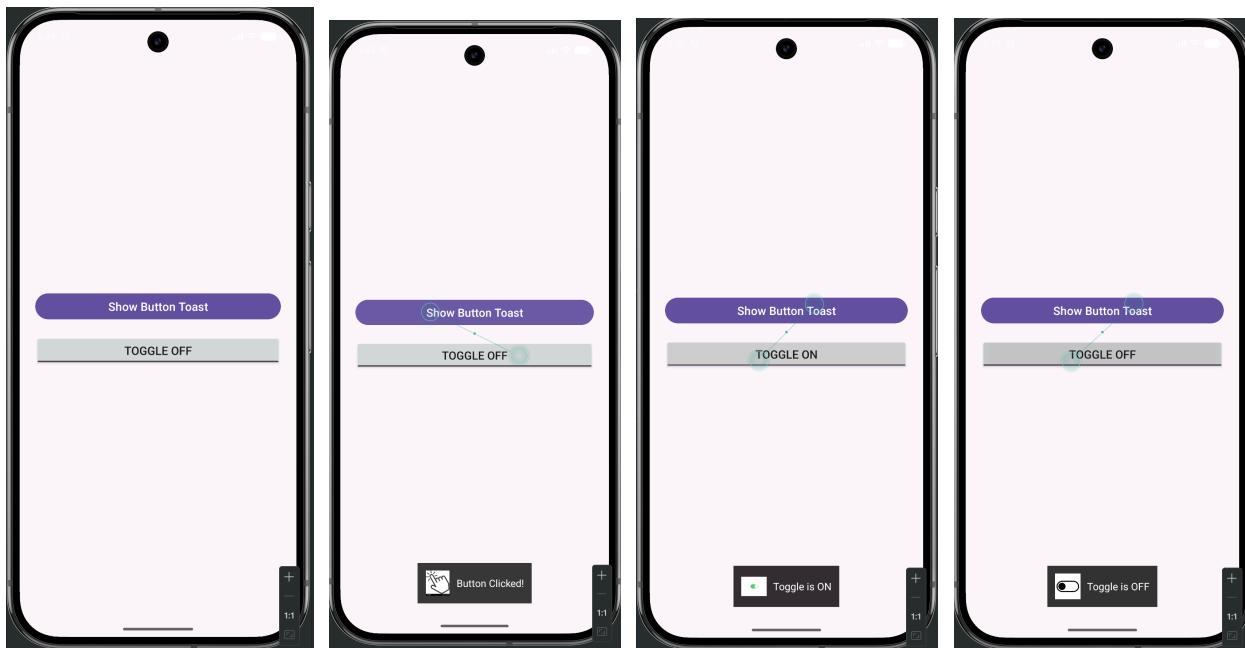
    Toast toast = new Toast(getApplicationContext());
    toast.setDuration(Toast.LENGTH_SHORT);
    toast.setView(toastView);
    toast.show();
}
}

```

Images are added to the drawable folder:



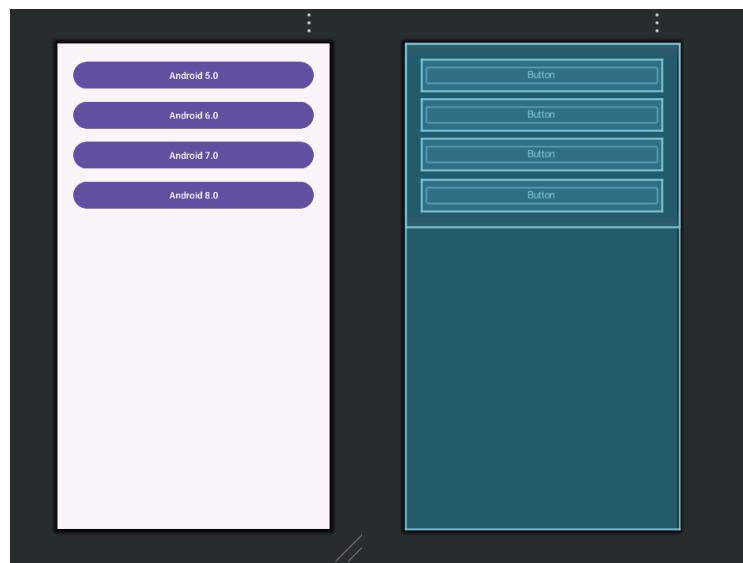
Output:



Question 2:

Create an app that contains a view with multiple buttons, each labeled with different Android versions. When a button is clicked, a Toast message should appear, displaying the corresponding Android version's name along with its associated icon.

Layout Design:



XML for activity_mail.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:gravity="center"
        android:padding="24dp">

        <Button
            android:id="@+id(btnLollipop"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Android 5.0"
            android:layout_marginBottom="12dp"/>

        <Button
            android:id="@+id	btnMarshmallow"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Android 6.0"
            android:layout_marginBottom="12dp"/>

        <Button
            android:id="@+id	btnNougat"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Android 7.0"
            android:layout_marginBottom="12dp"/>

        <Button
            android:id="@+id	btnOreo"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Android 8.0"/>

    </LinearLayout>
</ScrollView>
```

XML for custom_toast.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="12dp"
    android:gravity="center"
    android:background="#CC000000">
```

```

<ImageView
    android:id="@+id/toastIcon"
    android:layout_width="40dp"
    android:layout_height="40dp"
    android:layout_marginEnd="10dp"/>

<TextView
    android:id="@+id/toastText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textColor="#FFFFFF"
    android:textSize="16sp"/>
</LinearLayout>

```

Java Code:

```

public class MainActivity extends AppCompatActivity {

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

        Button lollipop = findViewById(R.id.btnLollipop);
        Button marshmallow = findViewById(R.id.btnMarshmallow);
        Button nougat = findViewById(R.id.btnNougat);
        Button oreo = findViewById(R.id.btnOreo);

        lollipop.setOnClickListener(v ->
            showCustomToast("Android Lollipop",
R.drawable.android_lollipop));

        marshmallow.setOnClickListener(v ->
            showCustomToast("Android Marshmallow",
R.drawable.android_marshmallow));

        nougat.setOnClickListener(v ->
            showCustomToast("Android Nougat",
R.drawable.android_nougat));

        oreo.setOnClickListener(v ->
            showCustomToast("Android Oreo", R.drawable.android_oreo));
    }

    private void showCustomToast(String text, int imageRes) {
        LayoutInflator inflater = getLayoutInflator();
        View view = inflater.inflate(R.layout.custom_toast, null);

        ImageView icon = view.findViewById(R.id.toastIcon);
        TextView message = view.findViewById(R.id.toastText);

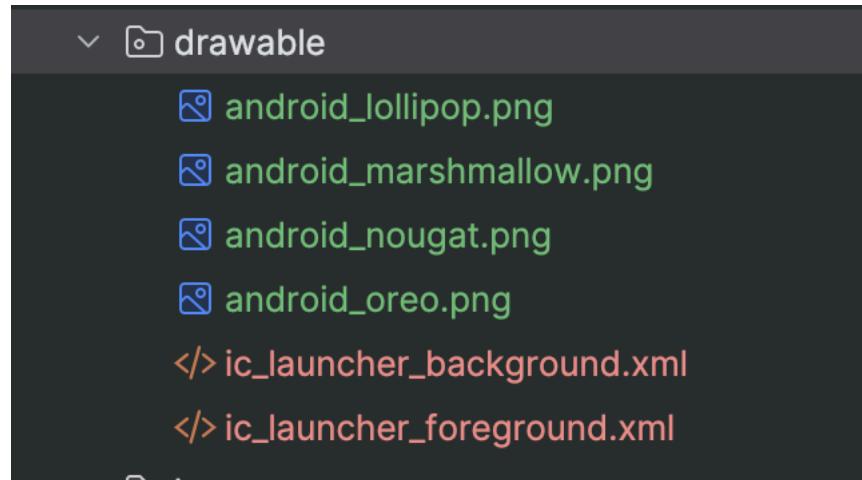
        icon.setImageResource(imageRes);
        message.setText(text);

        Toast toast = new Toast(getApplicationContext());

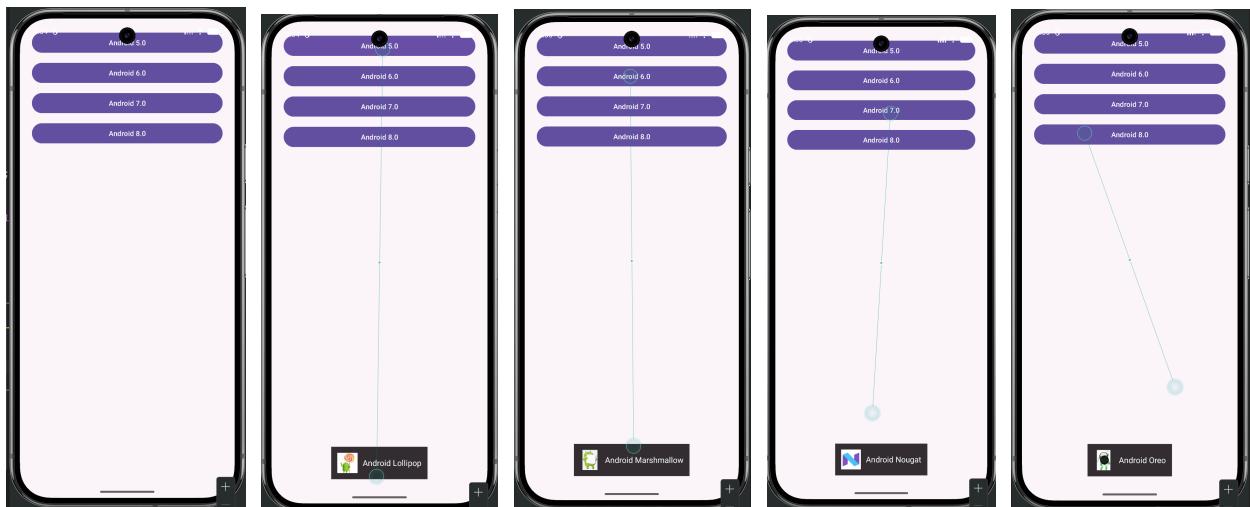
```

```
        toast.setDuration(Toast.LENGTH_SHORT);  
        toast.setView(view);  
        toast.show();  
    }  
}
```

Images are stored in drawable folder



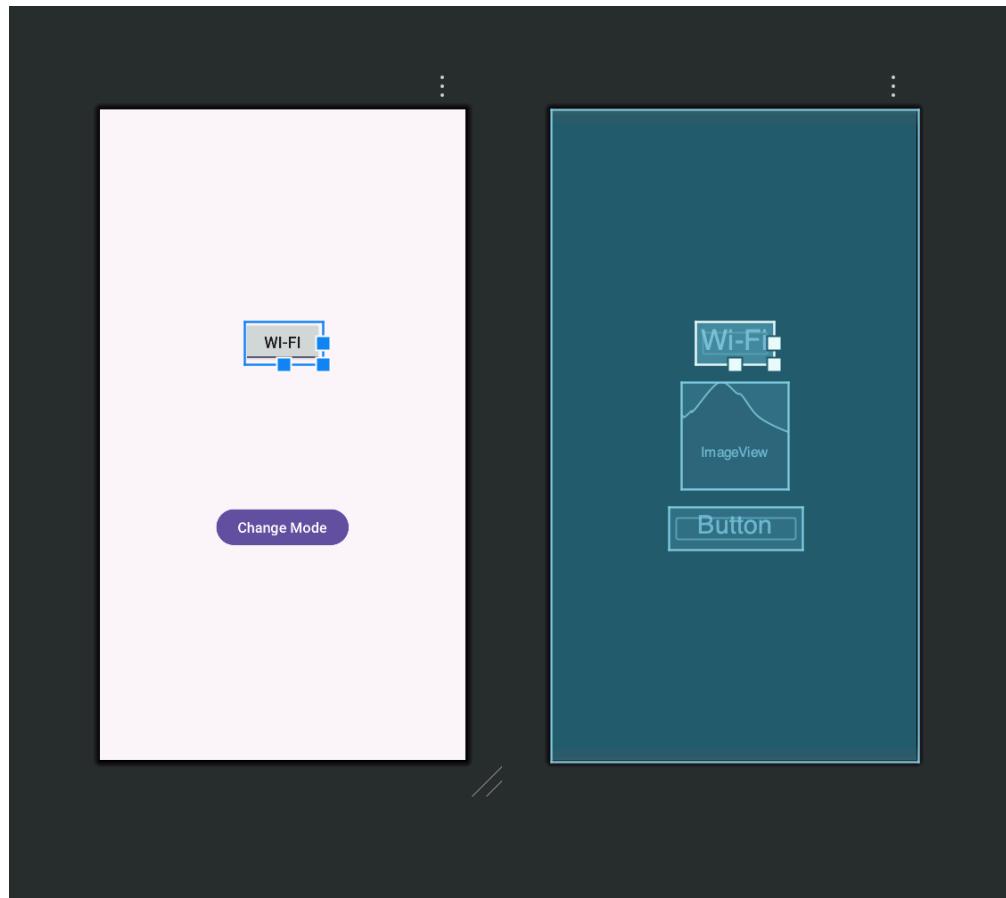
Output:



Question 3:

Develop a view with a ToggleButton labeled "Current Mode" that has two states: "Wi-Fi" and "Mobile Data." Based on the state of the toggle button, an image corresponding to the selected mode should appear, and a Toast message should display the current mode. Additionally, when the user clicks the "Change Mode" button, the app should switch to the corresponding mode and update the image accordingly.

Layout Design:



XML for 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:gravity="center"
    android:padding="24dp">

    <ToggleButton
        android:id="@+id/toggleMode"
        android:background="#FFFFFF"
        android:button="@drawable/toggle_button"
        android:track="@drawable/toggle_track" />
```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textOn="Wi-Fi"
        android:textOff="Mobile Data"
        android:checked="true"
        android:textSize="18sp"
        android:layout_marginBottom="20dp"/>

<ImageView
    android:id="@+id	modeImage"
    android:layout_width="120dp"
    android:layout_height="120dp"
    android:layout_marginBottom="20dp"
    android:contentDescription="Mode Image"/>

<Button
    android:id="@+id	btnChangeMode"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Change Mode"
    android:textSize="16sp"/>

</LinearLayout>

```

Java Code:

```

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    ToggleButton toggleMode;
    ImageView modeImage;
    Button btnChangeMode;

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

        toggleMode = findViewById(R.id.toggleMode);
        modeImage = findViewById(R.id.modeImage);
        btnChangeMode = findViewById(R.id.btnChangeMode);

        updateUI(toggleMode.isChecked());

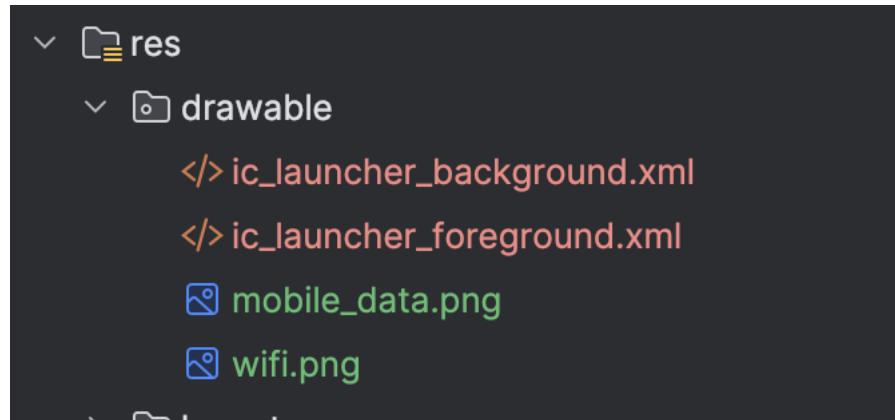
        toggleMode.setOnClickListener(v -> {
            updateUI(toggleMode.isChecked());
        });

        btnChangeMode.setOnClickListener(v -> {
            toggleMode.setChecked(!toggleMode.isChecked());
            updateUI(toggleMode.isChecked());
        });
    }
}

```

```
private void updateUI(boolean isWifi) {
    if (isWifi) {
        modeImage.setImageResource(R.drawable.wifi);
        Toast.makeText(this, "Current Mode: Wi-Fi",
Toast.LENGTH_SHORT).show();
    } else {
        modeImage.setImageResource(R.drawable.mobile_data);
        Toast.makeText(this, "Current Mode: Mobile Data",
Toast.LENGTH_SHORT).show();
    }
}
```

Images are stored in the drawable folder



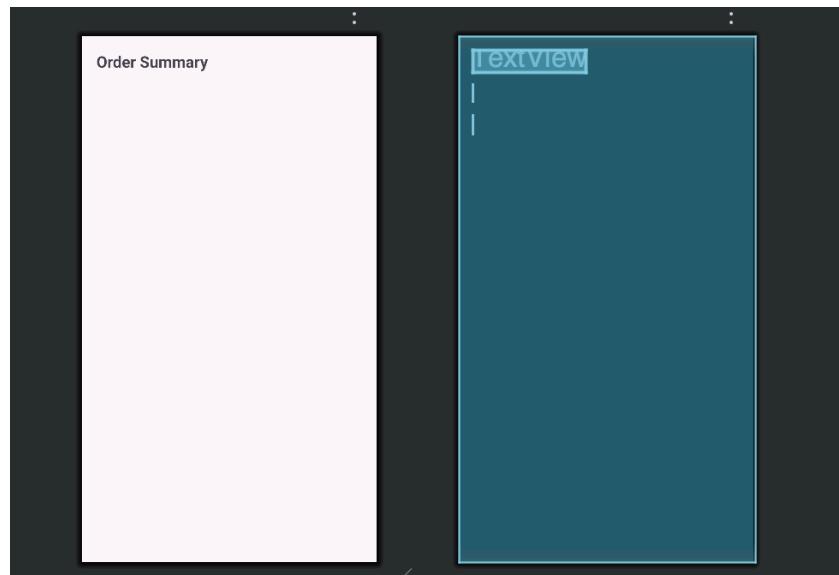
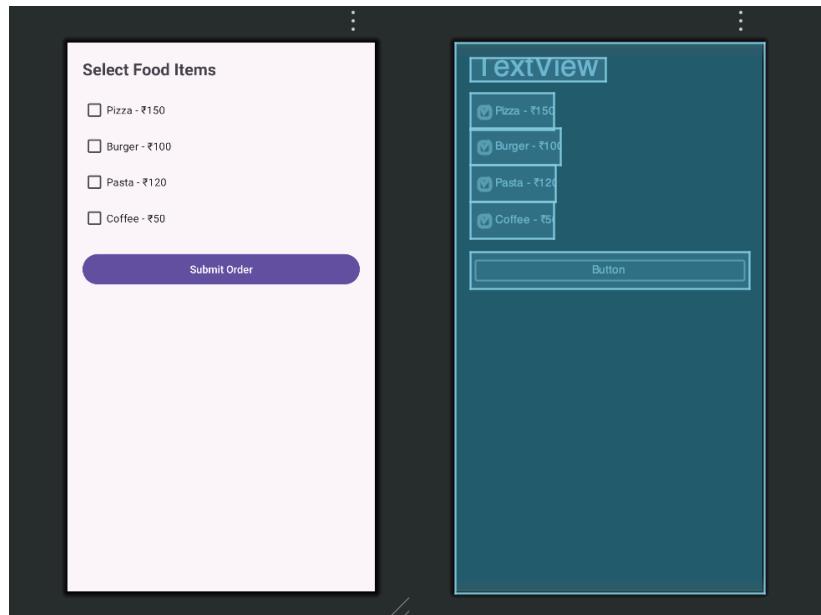
Output:



Question 4:

Create a “Food Ordering App” which lists food items with check boxes. Once the user checks/unchecks the item and click on the submit button display the items ordered along with cost of each item and total cost in a new activity. Once the user clicks on the submit button he/she should not be allowed to change the order i.e. he should not be allowed to change the state of the items checked.

Layout Design



XML for 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="20dp">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select Food Items"
        android:textSize="22sp"
        android:textStyle="bold"
        android:layout_marginBottom="16dp"/>

    <CheckBox
        android:id="@+id/cbPizza"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pizza - ₹150"/>

    <CheckBox
        android:id="@+id/cbBurger"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Burger - ₹100"/>

    <CheckBox
        android:id="@+id/cbPasta"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pasta - ₹120"/>

    <CheckBox
        android:id="@+id/cbCoffee"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Coffee - ₹50"/>

    <Button
        android:id="@+id	btnSubmit"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Submit Order"
        android:layout_marginTop="20dp"/>

</LinearLayout>
```

XML for activity_order_summary.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="20dp">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Order Summary"
        android:textSize="22sp"
        android:textStyle="bold"
        android:layout_marginBottom="16dp"/>

    <TextView
        android:id="@+id/tvOrderDetails"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="18sp"
        android:layout_marginBottom="20dp"/>

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

```

Java Code:

MainActivity.java

```

public class MainActivity extends AppCompatActivity {

    CheckBox cbPizza, cbBurger, cbPasta, cbCoffee;
    Button btnSubmit;

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

        cbPizza = findViewById(R.id.cbPizza);
        cbBurger = findViewById(R.id.cbBurger);
        cbPasta = findViewById(R.id.cbPasta);
        cbCoffee = findViewById(R.id.cbCoffee);
        btnSubmit = findViewById(R.id.btnSubmit);

        btnSubmit.setOnClickListener(v -> {
            StringBuilder orderDetails = new StringBuilder();
            int totalCost = 0;

            if (cbPizza.isChecked()) {
                orderDetails.append("Pizza - ₹150\n");
                totalCost += 150;
            }
        });
    }
}

```

```

        }

        if (cbBurger.isChecked()) {
            orderDetails.append("Burger - ₹100\n");
            totalCost += 100;
        }
        if (cbPasta.isChecked()) {
            orderDetails.append("Pasta - ₹120\n");
            totalCost += 120;
        }
        if (cbCoffee.isChecked()) {
            orderDetails.append("Coffee - ₹50\n");
            totalCost += 50;
        }

        Intent intent = new Intent(MainActivity.this,
activity_order_summary.class);
        intent.putExtra("order", orderDetails.toString());
        intent.putExtra("total", totalCost);
        startActivity(intent);

        disableInputs();
    });
}

private void disableInputs() {
    cbPizza.setEnabled(false);
    cbBurger.setEnabled(false);
    cbPasta.setEnabled(false);
    cbCoffee.setEnabled(false);
    btnSubmit.setEnabled(false);
}
}

```

activity_order_summary.java

```

public class activity_order_summary extends AppCompatActivity {

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

        TextView tvOrderDetails = findViewById(R.id.tvOrderDetails);
        TextView tvTotalCost = findViewById(R.id.tvTotalCost);

        String order = getIntent().getStringExtra("order");
        int total = getIntent().getIntExtra("total", 0);

        tvOrderDetails.setText(order.isEmpty() ? "No items selected" : order);
        tvTotalCost.setText("Total Cost: ₹" + total);
    }
}

```

Output:

