

AMP Journal

**Name: Mastan Iram
Mukhtar**

ROLL NO:471

Practical No : 1

Hello World Program

Activiy_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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        android:textSize="30dp"
        android:textColor="@color/black"
        android:background="@color/purple_200"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java:

```
package com.example.iram471;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

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LTE1 57

Iram 471

Hello World!



Practical No : 2

a)Defining Color Property:

Activiy_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"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="409dp"
        android:layout_height="729dp"
        android:orientation="vertical"
        app:layout_editor_absoluteX="1dp"
        app:layout_editor_absoluteY="1dp">

        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="56dp"
            android:text="TextView"
            android:background="@color/Red"></TextView>

        <TextView android:id="@+id/textView2"
            android:layout_width="match_parent"
            android:layout_height="52dp"
            android:text="TextView"
            android:background="@color/Grey"></TextView>

        <TextView android:id="@+id/textView3"
            android:layout_width="match_parent"
            android:layout_height="59dp"
            android:text="TextView"
            android:background="@color/Blue"></TextView>

        <TextView android:id="@+id/textView4"
            android:layout_width="match_parent"
            android:layout_height="51dp"
            android:text="TextView"
            android:background="@color/Cyan"></TextView>

    </LinearLayout>
</LinearLayout>
```

colors.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>

    <color name="Red">#FF0000</color>
    <color name="Blue">#0000FF</color>
    <color name="Pink">#FF00FF</color>
    <color name="Cyan">#00FFFF</color>
    <color name="Grey">#AABBFF</color>

</resources>
```

Iram 471

TextView

TextView

TextView

TextView



b)Defining Theme Property:

themes.xml:

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.Iram471"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
        <!-- Primary brand color. -->
        <item name="colorPrimary">@color/purple_500</item>
        <item name="colorPrimaryVariant">@color/purple_700</item>
        <item name="colorOnPrimary">@color/white</item>
        <!-- Secondary brand color. -->
        <item name="colorSecondary">@color/teal_200</item>
        <item name="colorSecondaryVariant">@color/teal_700</item>
        <item name="colorOnSecondary">@color/black</item>
        <!-- Status bar color. -->
        <item name="android:statusBarColor"
tools:targetApi="1">?attr/colorPrimaryVariant</item>
        <!-- Customize your theme here. -->

        <item name="android:background">#000000</item>
        <item name="android:textColor">#FFFFAA</item>

    </style>
</resources>
```

Iram 471

TextView

TextView

TextView

TextView



c)Defining String Property:

Activiy_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"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="409dp"
        android:layout_height="729dp"
        android:orientation="vertical"
        app:layout_editor_absoluteX="1dp"
        app:layout_editor_absoluteY="1dp">

        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="56dp"
            android:text="@string/Heading"
            android:textSize="24dp"
            android:background="@color/Red"></TextView>

        <TextView android:id="@+id/textView2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="@string/Description"
            android:textSize="24dp"
            android:background="@color/Grey"></TextView>

        <TextView android:id="@+id/textView3"
            android:layout_width="match_parent"
            android:layout_height="59dp"
            android:text="TextView"
            android:background="@color/Blue"></TextView>

        <TextView android:id="@+id/textView4"
            android:layout_width="match_parent"
            android:layout_height="51dp"
            android:text="TextView"
            android:background="@color/Cyan"></TextView>

    </LinearLayout>
</LinearLayout>
```

strings.xml:

```
<resources>
  <string name="app_name">Iram 471</string>

  <string name="Heading">Programming Resources</string>
  <string name="Description">

  Android is a mobile operating system developed by Google.
  It is based on a modified version of the Linux
  kernel and other open source software, and is
  designed primarily for touch screen mobile devices
  such as smart phones and tablets.
  </string>
</resources>
```

Iram 471

Programming Resources

Android is a mobile operating system developed by Google. It is based on a modified version of the Linux kernel and other open source software, and is designed primarily for touch screen mobile devices such as smart phones and tablets.

TextView

TextView



d)Adding images and dimensions:

**Add a new file dim.xml file and write the following code in
dimens.xml.**

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
<dimen name="textview_height">35dp</dimen>
<dimen name="textview_width">150dp</dimen>
<dimen name="font_size">26dp</dimen>
</resources>
```

Activiy_main.xml:

```
<LinearLayout android:layout_width="409dp"
    android:layout_height="729dp"
    android:orientation="vertical"
    tools:layout_editor_absoluteX="1dp"
    tools:layout_editor_absoluteY="1dp">

    <ImageView android:id="@+id/imageView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:srcCompat="@drawable/iram"></ImageView>

</LinearLayout>
```

MainActivity.java:

```
package com.example.iram471;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

Iram 471

Programming Resources

Android is a mobile operating system developed by Google. It is based on a modified version of the Linux kernel and other open source software, and is designed primarily for touch screen mobile devices such as smart phones and tablets.

TextView

TextView



Practical No : 3

Activity Life Cycle:

The various methods to be created are onStart(), onRestart(), onStop(), onResume(),onDestroy() and onPause() as shown in the figure.

MainActivity.kt:

```
package com.example.iram_471;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {
    String tag= "Android Lifecycle Demonstration";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(tag, "In the onCreate() event");
    }

    public void onStart()
    {
        super.onStart();
        Log.d(tag,"In the onStart() event");
    }

    public void onRestart()
    { super.onRestart();
        Log.d(tag,"In the onRestart() event");
    }

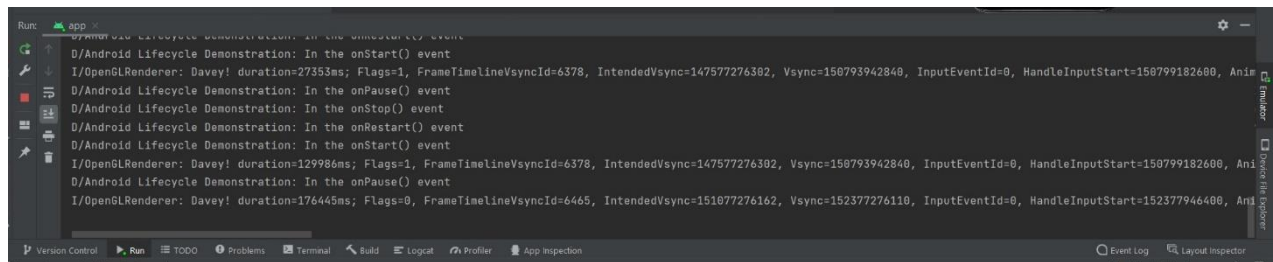
    public void onPause()
    {
        super.onPause();
        Log.d(tag,"In the onPause() event");
    }

    public void onStop()
    {
        super.onStop();
        Log.d(tag,"In the onStop() event");
    }

    public void onDestroy()
```

```
        {  
            super.onDestroy();  
            Log.d(tag, "In the onDestroy() event");  
        }  
    }  
}
```

Output:



Practical No : 4

Programs related to different layouts(linear, relative, table)

Linear Layout:

Linear Layout in Android

LinearLayout is a ViewGroup that is responsible for holding views in it. It is a layout that arranges its children i.e the various views and layouts linearly (one after another) in a single column(vertically) or a single row(horizontally).

Horizontal LinearLayout

In a horizontal LinearLayout, as the name suggests, the Views defined inside the Linear Layout will be arranged horizontally one after another, like in a row. By default, the orientation is set to horizontal. But its a good practice to explicitly specify the orientation of the linear layout by setting the attribute `android:orientation` with value horizontal in the LinearLayout tag.

Vertical Linear Layout

In a vertical LinearLayout, as the name suggests, the Views defined inside the Linear Layout are arranged vertically one after another, like in a column. And for this we need to mention the `android:orientation` attribute with value vertical within the LinearLayout tag.

Activiy_main.xml:

Horizontal:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <EditText android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="86dp"
        android:layout_weight="1"
        android:ems="10"
        android:hint="Enter The Text"
        android:inputType="textPersonName"
        android:text="Type Here"
        android:textColor="#FFEB3B"></EditText>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button"></Button>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView"></TextView>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView"></TextView>

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView"></TextView>

</LinearLayout>
```

iram 471

Type Here

BUT
TON

Text Text Text
View View View



Activiy_main.xml:

Vertical:

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

    <EditText android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="86dp"
        android:layout_weight="1"
        android:ems="10"
        android:hint="Enter The Text"
        android:inputType="textPersonName"
        android:text="Type Here"
        android:textColor="#FFEB3B"></EditText>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button"></Button>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView"></TextView>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView"></TextView>

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView"></TextView>

</LinearLayout>
```

iram 471

Type Here

BUTTON

TextView

TextView

TextView



Relative Layout:

Activiy_main.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"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Text Here"></EditText>

    <Spinner
        android:id="@+id/dates"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/name"
        android:layout_alignParentLeft="true"
        android:layout_toLeftOf="@+id/times"></Spinner>

    <Spinner
        android:id="@id/times"
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/name"
        android:layout_alignParentRight="true"></Spinner>

    <Button
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/times"
        android:layout_alignParentRight="true"
        android:text="Click Here"></Button>

</RelativeLayout>
```

iram 471

Enter Text Here

CLICK
HERE



Table Layout:

Activiy_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<TableLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <TableRow>
        <TextView
            android:layout_width="225dp"
            android:layout_height="56dp"
            android:padding="3dip"
            android:text="Row1, Col1" />

        <TextView
            android:layout_height="match_parent"
            android:gravity="right"
            android:padding="3dip"
            android:text="Row1, Col2" />
    </TableRow>

    <TableRow>
        <TextView
            android:layout_width="242dp"
            android:layout_height="64dp"
            android:padding="3dip"
            android:text="Row2, Col1" />

        <TextView
            android:layout_height="match_parent"
            android:gravity="right"
            android:padding="3dip"
            android:text="Row2, Col2" />
    </TableRow>
</TableLayout>
```

iram 471

Row1,Col1

Row1,Col2

Row2,Col1

Row2,Col2



Practical No : 5A

Login Example

Activiy_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
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/textview"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:text="Login Example"
        android:textSize="35dp"></TextView>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/editText"
        android:hint="Enter Name"
        android:focusable="true"
        android:textColorHighlight="#ff7eff15"
        android:layout_marginTop="46dp"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentEnd="true"></EditText>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:inputType="textPassword"
        android:ems="10"
        android:id="@+id/editText2"
        android:layout_below="@+id/editText"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_alignRight="@+id/editText"
        android:layout_alignEnd="@+id/editText"
        android:hint="Password"></EditText>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText2"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:text="Attempts Remaining"
```

```

        android:textSize="25dp"></TextView>

        <TextView
            android:id="@+id/textView3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignTop="@+id/textView2"
            android:layout_alignBottom="@+id/textView2"
            android:layout_alignParentEnd="true"
            android:layout_alignParentRight="true"
            android:layout_toEndOf="@+id/textview"
            android:layout_toRightOf="@+id/textview"
            android:text="Text"
            android:textSize="25dp"></TextView>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="login"
            android:id="@+id/button"
            android:layout_alignParentBottom="true"
            android:layout_toLeftOf="@+id/textview"
            android:layout_toStartOf="@+id/textview"></Button>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Cancel"
            android:id="@+id/button2"
            android:layout_alignParentBottom="true"
            android:layout_toRightOf="@+id/textview"
            android:layout_toEndOf="@+id/textview"></Button>

</RelativeLayout>

```

MainActivity.java:

```

package com.example.Iram_471;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;

import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    Button b1,b2;
    EditText ed1,ed2;

    TextView tx1;
    int counter = 3;

    @Override

```

```

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

    b1 = (Button)findViewById(R.id.button);
    ed1 = (EditText)findViewById(R.id.editText);
    ed2 = (EditText)findViewById(R.id.editText2);

    b2 = (Button)findViewById(R.id.button2);
    tx1 = (TextView)findViewById(R.id.textView3);

    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if(ed1.getText().toString().equals("TYIT") &&
                ed2.getText().toString().equals("TYIT")) {
                Toast.makeText(getApplicationContext(),
"Redirecting...",Toast.LENGTH_SHORT).show();
            }else{
                Toast.makeText(getApplicationContext(), "Login
Failed",Toast.LENGTH_SHORT).show();

                tx1.setVisibility(View.VISIBLE);
                tx1.setBackgroundColor(Color.RED);
                counter--;
                tx1.setText(Integer.toString(counter));

                if (counter == 0) {
                    b1.setEnabled(false);
                }
            }
        }
    });

    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            finish();
        }
    });
}
}

```

7:51

Iram_471

Login Example

Enter Name

TYIT

Password

....

Attempts Remaining

7:51

Iram_471

Login Example

Enter Name

TYIT

Password

....

Attempts Remaining

LOGIN

CANCEL

LOGIN

CANCEL

7:52

Iram_471

Login Example

TYIT

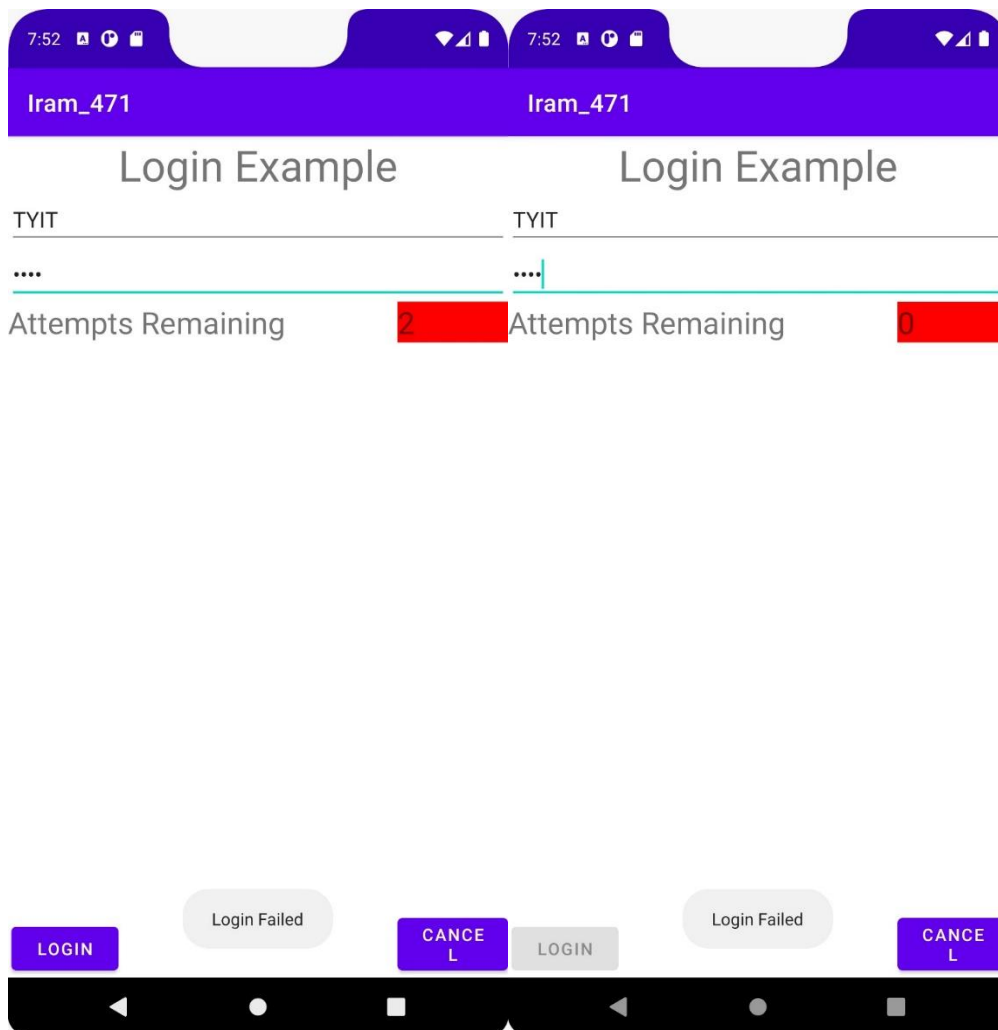
....

Attempts Remaining

LOGIN

Login Successful...

CANCEL



Practical No : 5B

Calculator

Activiy_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"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="horizontal"
android:stretchColumns="1"
tools:context=".MainActivity">

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

        <EditText
            android:id="@+id/et1"
            android:layout_width="match_parent"
            android:layout_height="70dp"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Input1" />

        <EditText
            android:id="@+id/et2"
            android:layout_width="match_parent"
            android:layout_height="64dp"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Input2" />

        <Button
            android:id="@+id/btnAdd"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Addition" />

        <Button
            android:id="@+id/btnSub"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Subtraction" />

        <Button
            android:id="@+id/btnMult"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Multiplication" />

        <Button
            android:id="@+id/btnDiv"
            android:layout_width="match_parent
```

```

        android:layout_height="wrap_content"
        android:text="Division" />

        <Button
            android:id="@+id/btnClear"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Clear" />

        <TextView
            android:id="@+id/tv1"
            android:layout_width="match_parent"
            android:layout_height="63dp"
            android:text="Output"
            android:textColor="@android:color/background_dark"
            android:textSize="18sp"
            android:textStyle="bold"
            app:fontFamily="casual" />
    </LinearLayout>
</LinearLayout>

```

MainActivity.java:

```

package com.example.iram 471;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.*;

import static android.view.View.*;

public class MainActivity extends AppCompatActivity {

    EditText t1,t2;
    Button b1,b2,b3,b4,b5;
    TextView tv1;
    int n1=0,n2=0;
    String s1,s2;

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

        t1 = (EditText) findViewById(R.id.et1);
        t2 = (EditText) findViewById(R.id.et2);
        b1 = (Button) findViewById(R.id.btnAdd);
        b2 = (Button) findViewById(R.id.btnSub);
        b3 = (Button) findViewById(R.id.btnMult);
        b4 = (Button) findViewById(R.id.btnDiv);
        b5 = (Button) findViewById(R.id.btnClear);
        tv1 = (TextView) findViewById(R.id.tv1);

        b1.setOnClickListener(new OnClickListener() { @Override
        public void onClick(View v) {

            try {
                String s1 = t1.getText().toString();

```

```

        String s2 = t2.getText().toString();
        n1 = Integer.parseInt(s1);
        n2 = Integer.parseInt(s1);
        int sum = n1 + n2;
        tv1.setText("Addition =" + sum);
    }
    catch (NumberFormatException e)
    {

    }
}
});

b2.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {

    try {
        String s1 = t1.getText().toString();
        String s2 = t2.getText().toString();
        n1 = Integer.parseInt(s1);
        n2 = Integer.parseInt(s1);
        int sub = n1 - n2;
        tv1.setText("Subtraction =" + sub);
    }
    catch (NumberFormatException e)
    {

    }
}
});

b3.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {

    try {
        String s1 = t1.getText().toString();
        String s2 = t2.getText().toString();
        n1 = Integer.parseInt(s1);
        n2 = Integer.parseInt(s1);
        int m = n1 * n2;
        tv1.setText("Multiplication =" + m);
    }
    catch (NumberFormatException e)
    {

    }
}
});

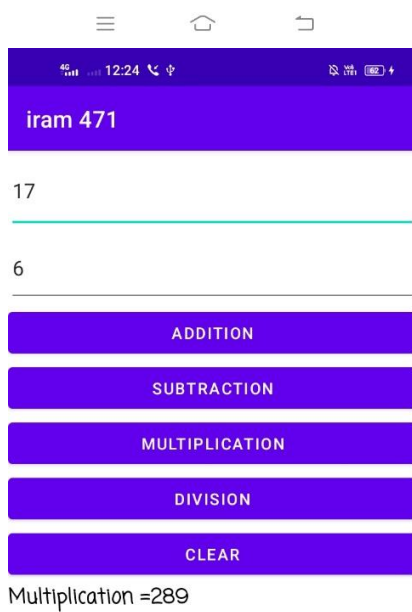
b4.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {

    try {
        String s1 = t1.getText().toString(); String s2 =
t2.getText().toString(); n1 = Integer.parseInt(s1);
        n2 = Integer.parseInt(s1);
        int d = n1 / n2; tv1.setText("Division =" + d);
    }
    catch (NumberFormatException e)
    {

```



```
        }  
    }  
});  
  
b5.setOnClickListener(new OnClickListener() { @Override  
    public void onClick(View v) {  
  
        t1.setText(" ");  
        t2.setText(" ");  
        tv1.setText(" ");  
    }  
});  
}  
}
```



Practical No : 6

Creation of Menu

Create a new project and go to,

- **Project > App -> src -> res(Right-click on res and select) -> New -> Android Resource File -> Filename(menus) and Resource Type Menu**
- **Now go to, menus.xml file and make the following changes to code file.**

menus.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/settings" android:title="Setting"></item>
    <item android:id="@+id/Search" android:title="Search"></item>
    <item android:id="@+id/CEmail" android:title="Compose Email"
android:enabled="false"></item>
    <item android:id="@+id/Feedback" android:title="Feedback"></item>
</menu>
```

MainActivity.java:

```
package com.example.iram471;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    MenuInflater mi;

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

    public boolean onCreateOptionsMenu(Menu menus)
    {
        mi = getMenuInflater();
```

```

        mi.inflate(R.menu.menus, menus);

        return true;
    }

    public boolean onOptionsItemSelected(MenuItem item)
    {

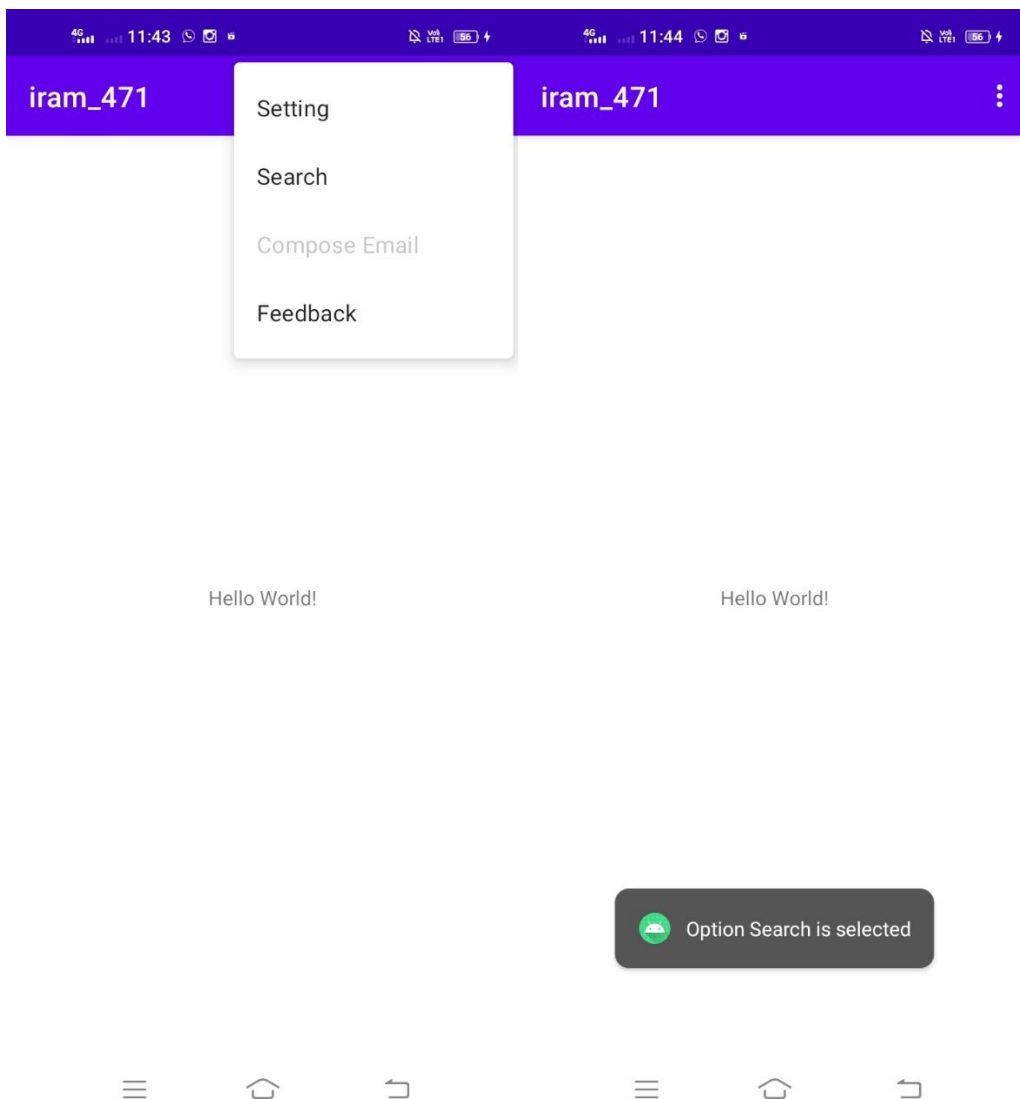
        switch(item.getItemId())
        {
            case R.id.settings:
                Toast.makeText(this, "Option Setting is
selected", Toast.LENGTH_SHORT).show();
                return true;
            case R.id.Search:
                Toast.makeText(this, "Option Search is
selected", Toast.LENGTH_SHORT).show();
                return true;
            case R.id.Feedback:
                Toast.makeText(this, "Option Feedback is
selected", Toast.LENGTH_SHORT).show();
                return true;

            case R.id.CEmail:

                Toast.makeText(this, "Option Compose Mail is
selected", Toast.LENGTH_SHORT).show();
                return true;

            default:
                Toast.makeText(this, "Default", Toast.LENGTH_SHORT).show();
                return super.onOptionsItemSelected(item);
        }
    }
}

```



Practical No : 7A

Intent Class

Activiy_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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">

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

        <TextView
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:gravity="center"
            android:text="Input your Name"></TextView>

        <TableLayout
            android:id="@+id/tableLayout1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:stretchColumns="1">
            <TableRow
                android:id="@+id/tableRow1"
                android:layout_width="match_parent"
                android:layout_height="wrap_content">

                <TextView
                    android:id="@+id/textView1"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:text="First Name"></TextView>

                <EditText
                    android:id="@+id/etFName"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:layout_marginLeft="5dp">
                    <requestFocus></requestFocus></EditText>
            </TableRow>

            <TableRow
                android:id="@+id/tableRow2"
                android:layout_width="match_parent"
                android:layout_height="wrap_content">
```

```

        <TextView
            android:id="@+id/textView2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Last Name"></TextView>

        <EditText
            android:id="@+id/etLName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginLeft="5dp"></EditText>
    </TableRow>
</TableLayout>
<Button
    android:id="@+id/btnSubmit"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:text="Submit"></Button>

</LinearLayout>
</RelativeLayout>

```

MainActivity.java:

```

package com.example.iram_471;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;

import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.QuickContactBadge;
import android.widget.TextView;
import android.widget.Toast;

import java.util.Random;

public class MainActivity extends AppCompatActivity {

    EditText etFName;
    EditText etLName;
    Button btnSubmit;

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

        etFName = (EditText) findViewById(R.id.etFName);
        etLName = (EditText) findViewById(R.id.etLName);

        btnSubmit = (Button) findViewById(R.id.btnSubmit);
        btnSubmit.setOnClickListener(new View.OnClickListener() {
            @Override

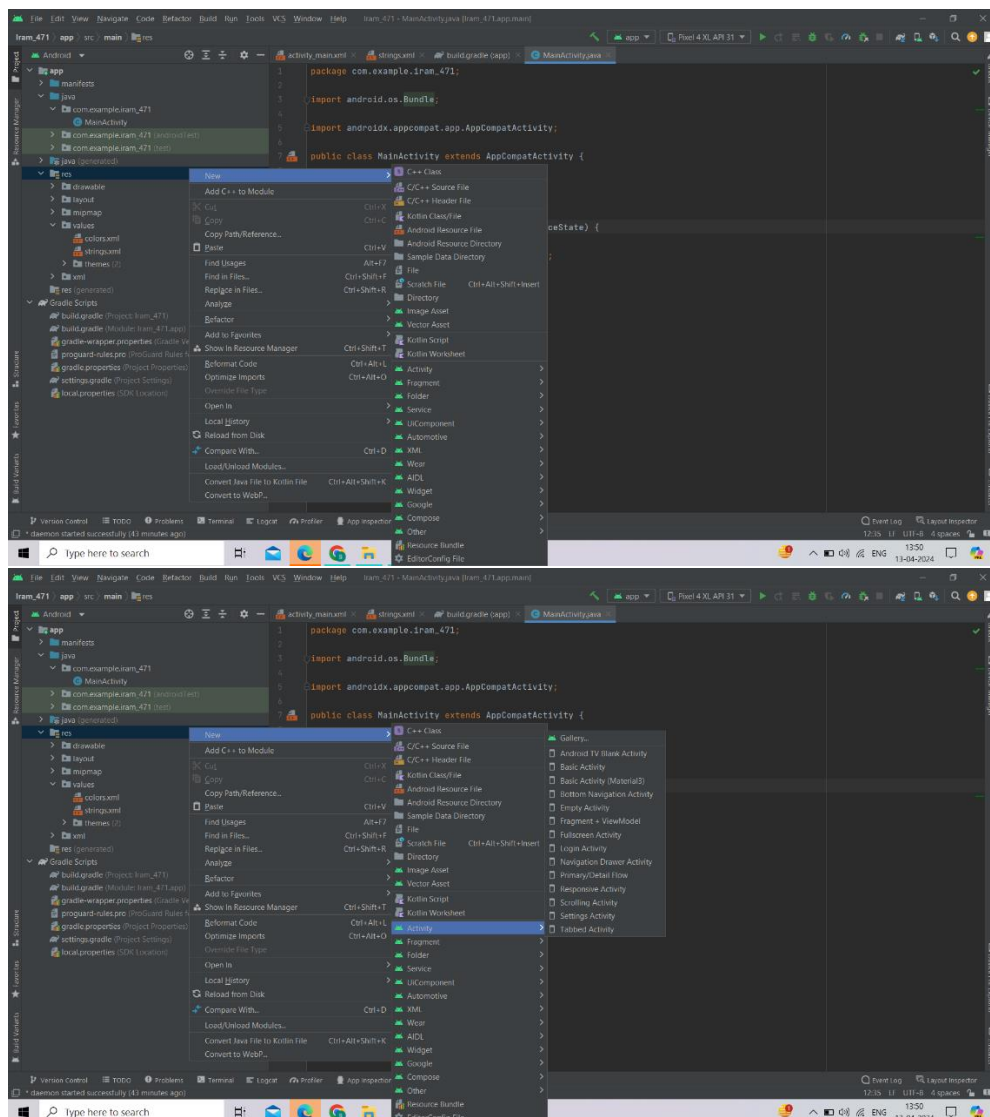
```

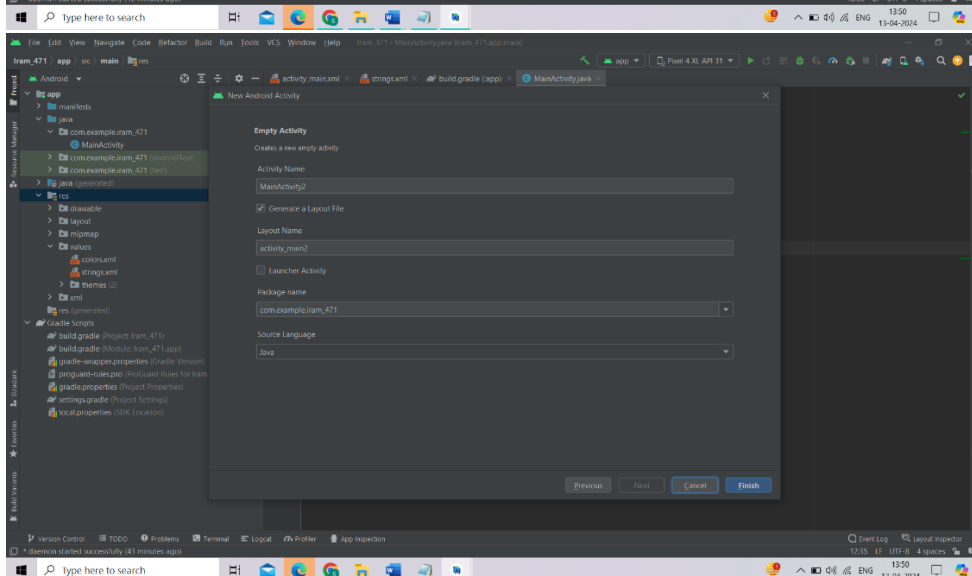
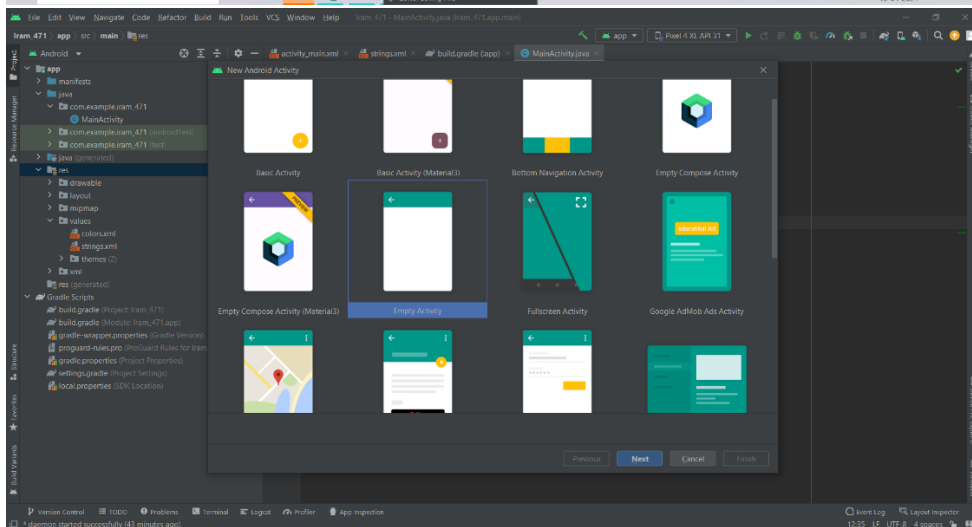
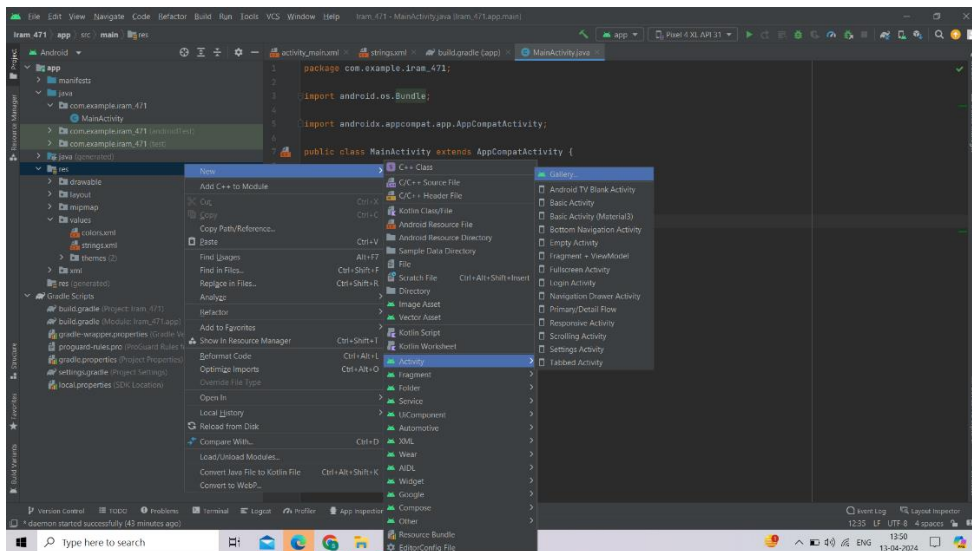
```

        public void onClick(View v) {
            Intent intent = new Intent(getApplicationContext(),
MainActivity2.class);
            intent.putExtra("fname",
etFName.getText().toString());
            intent.putExtra("lname",
etLName.getText().toString());
            startActivity(intent);
        }
    }
}

```

Now create an another activity as MainActivity.java:





Activiy_main2.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">

    <TextView
        android:id="@+id/tvView"
        android:layout_width="400dp"
        android:layout_height="85dp"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="20dp"
        android:text="Output"
        android:textColor="@android:color/holo_blue_dark"
        android:textSize="24sp"
        android:textStyle="bold"></TextView>

</LinearLayout>
```

MainActivity2.java:

```
package com.example.iram_471;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

    TextView tvView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        tvView = (TextView) findViewById(R.id.tvView);

        Intent intent = getIntent();

        String fName = intent.getStringExtra("fname");
        String lName = intent.getStringExtra("lname");

        tvView.setText("Your name is: " + fName + " " + lName);

    }
}
```

iram_471

iram_471

Input your Name

Your name is: Iram Mastan

First Name Iram

Last Name Mastan

SUBMIT

Practical No : 7B

Random Number Generator

Activiy_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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"
    android:id="@+id/rl">

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

        <Button
            android:id="@+id/button2"
            android:layout_width="match_parent"
            android:layout_height="62dp"
            android:text="Ganerate Random Number" />

        <TextView
            android:id="@+id/textView6"
            android:layout_width="match_parent"
            android:layout_height="45dp"
            android:text="Output"

            android:textAppearance="@style/TextAppearance.AppCompat.Display1" />
        </LinearLayout>
    </RelativeLayout>
```

MainActivity.java:

```
package com.example.iram471;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.database.sqlite.SQLiteDatabase;
import android.graphics.Color;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.util.Log;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.MotionEvent;
import android.view.View;
```

```
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.RelativeLayout;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button b1;
    TextView lbl;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1 = findViewById(R.id.button2);
        lbl = findViewById(R.id.textView6);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int r = (int) (Math.random() * 100);
                lbl.setText("Random Number =" + r);
            }
        });

    }

}
```

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IRAM 471

GANERATE RANDOM NUMBER

Random Number =85



Practical No : 8

Music Play

Activiy_main.xml:

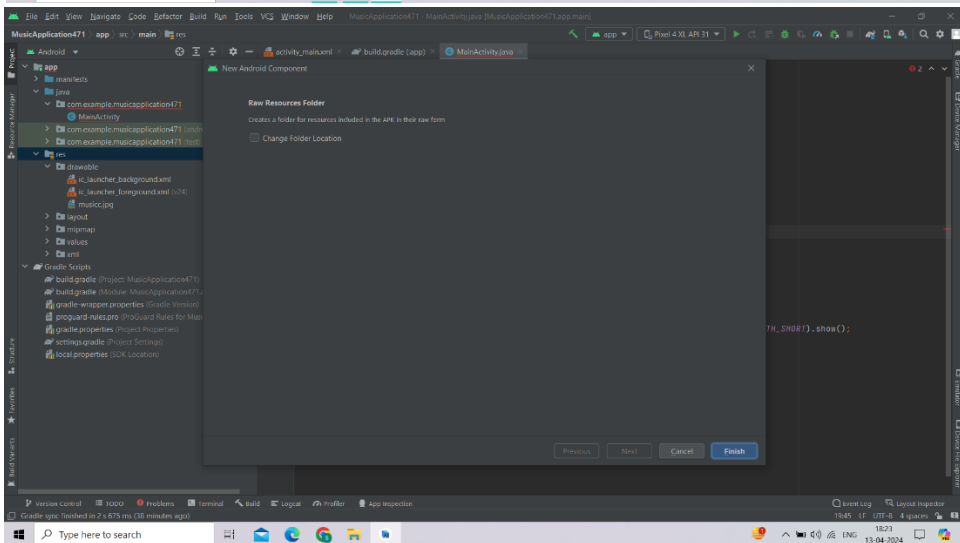
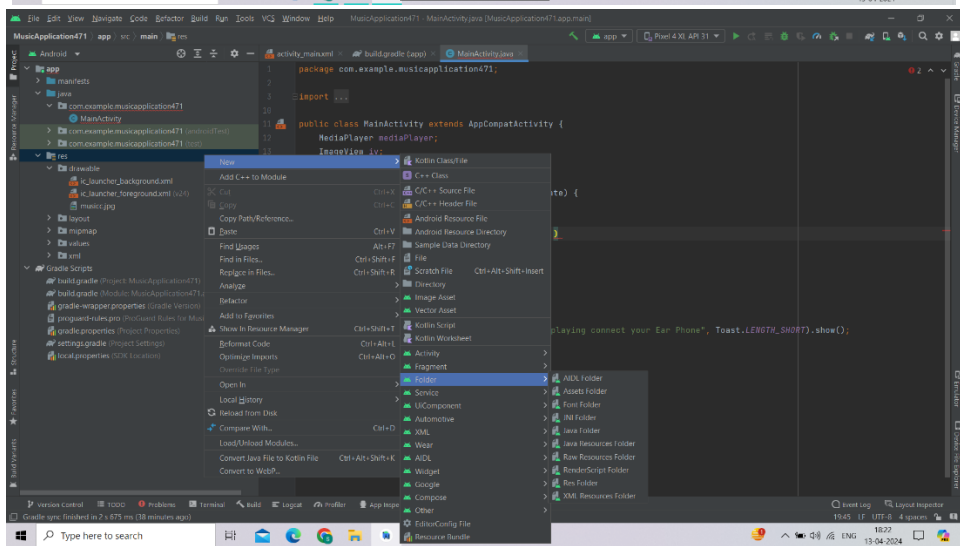
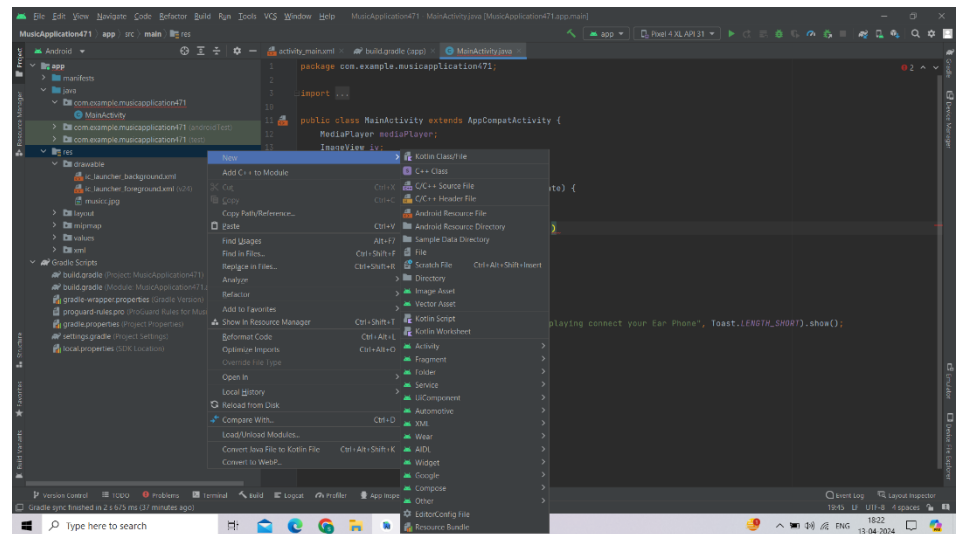
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="70dp"
        android:text="Play Music"
        android:textSize="24dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        tools:layout_editor_absoluteY="100dp"
        android:onClick="playAudio"/>

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        android:layout_marginBottom="390dp"
        android:text="Stop Music"
        android:textSize="24dp"
        android:onClick="onPause"/>

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="237dp"
        android:layout_height="241dp"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        android:layout_marginBottom="116dp"
        app:srcCompat="@drawable/musicc"
        android:visibility="invisible"/>

</RelativeLayout>
```



MainActivity.java:

```
package com.example.musicapplication471;

import androidx.appcompat.app.AppCompatActivity;

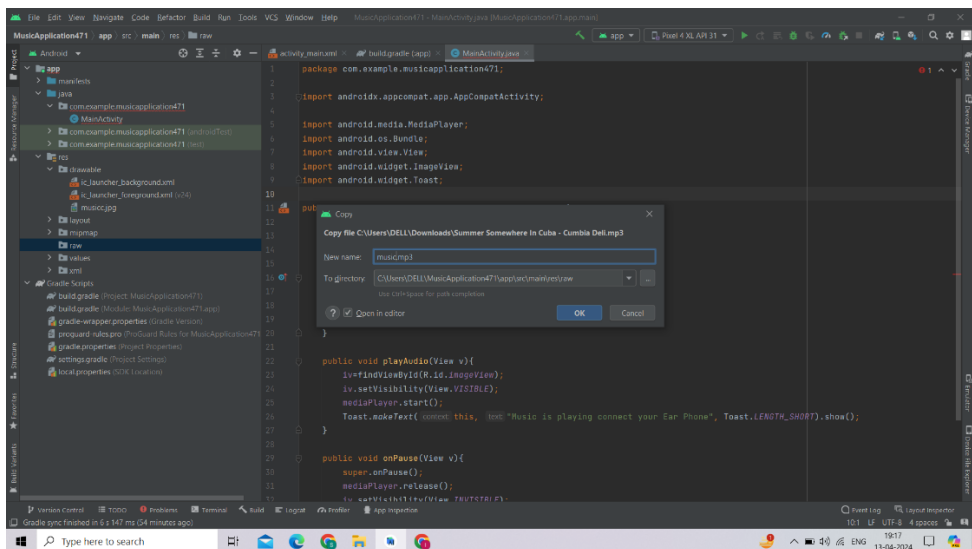
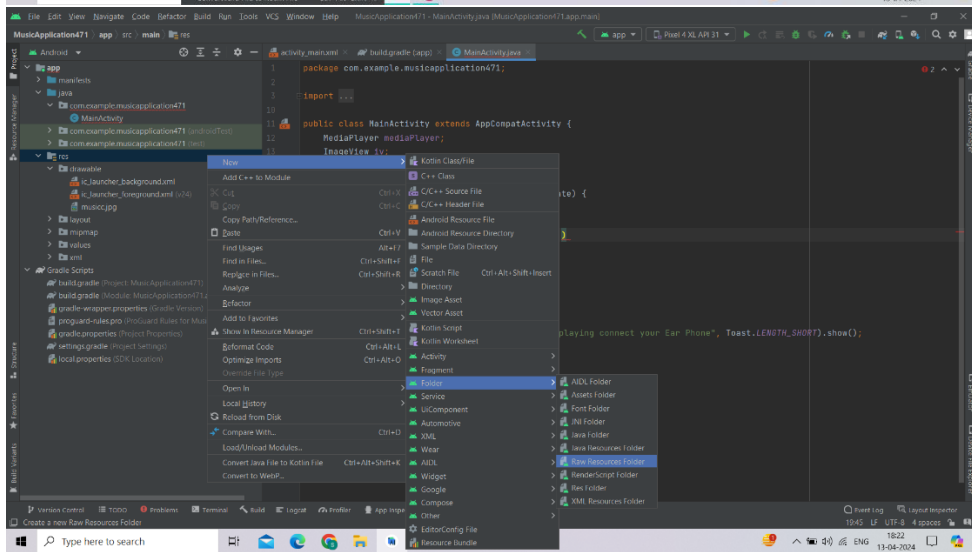
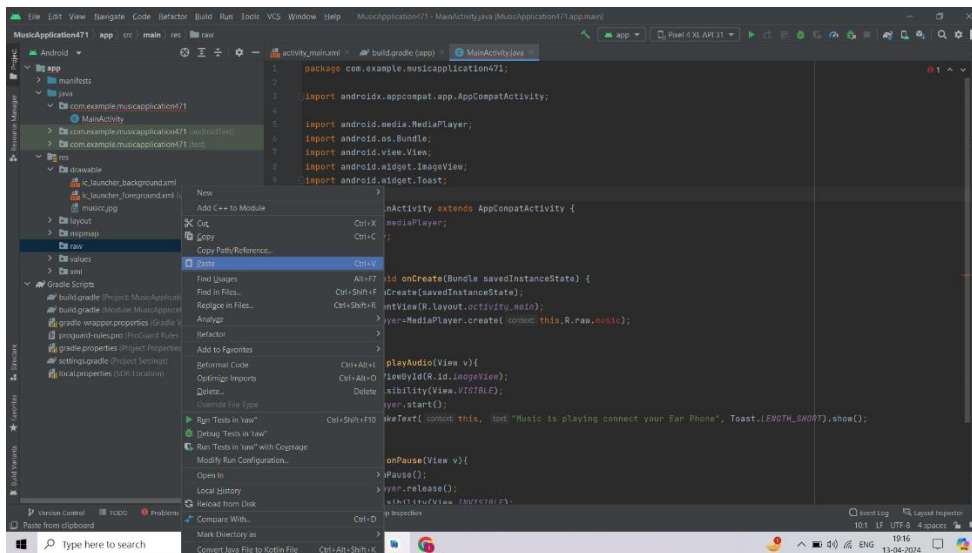
import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;

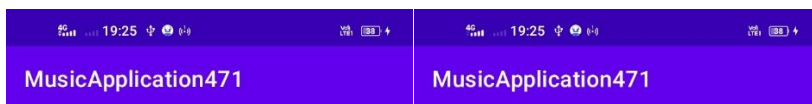
public class MainActivity extends AppCompatActivity {
    MediaPlayer mediaPlayer;
    ImageView iv;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mediaPlayer=MediaPlayer.create(this,R.raw.music);
    }

    public void playAudio(View v){
        iv=findViewById(R.id.imageView);
        iv.setVisibility(View.VISIBLE);
        mediaPlayer.start();
        Toast.makeText(this, "Music is playing connect your Ear
Phone", Toast.LENGTH_SHORT).show();
    }

    public void onPause(View v){
        super.onPause();
        mediaPlayer.release();
        iv.setVisibility(View.INVISIBLE);
    }
}
```





PLAY MUSIC

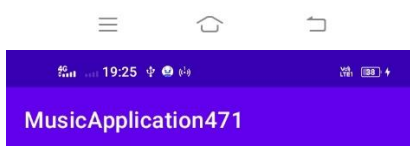
PLAY MUSIC

STOP MUSIC

STOP MUSIC



Music is playing connect your Ear Phone



PLAY MUSIC

STOP MUSIC



Practical No : 9A

Dial Number

Activiy_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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">

    <EditText
        android:id="@+id/et1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginStart="101dp"
        android:layout_marginTop="66dp"
        android:ems="10"
        android:hint="Enter Phone Number"
        android:inputType="textPersonName" />

    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="194dp"
        android:text="Call Number" />

</RelativeLayout>
```

MainActivity.java:

```
package com.example.dialnumber471;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
```

```

import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText txt1;
    Button b1;

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

        txt1=findViewById(R.id.et1);
        b1=findViewById(R.id.btn1);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    String strPhone=txt1.getText().toString();
                    Intent intent=new Intent(Intent.ACTION_CALL,
Uri.parse("tel: 7588436898
"+strPhone));

                    startActivity(intent);
                    Toast.makeText(MainActivity.this, "Mobile is
calling on phone number", Toast.LENGTH_SHORT).show();

                }

                catch (Exception ex){
                    Log.d("Error",ex.toString());
                }

            }

        });
    }
}

```

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"
    package="com.example.dialnumber471">

    <uses-permission
android:name="android.permission.CALL_PHONE"></uses-permission>

    <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"

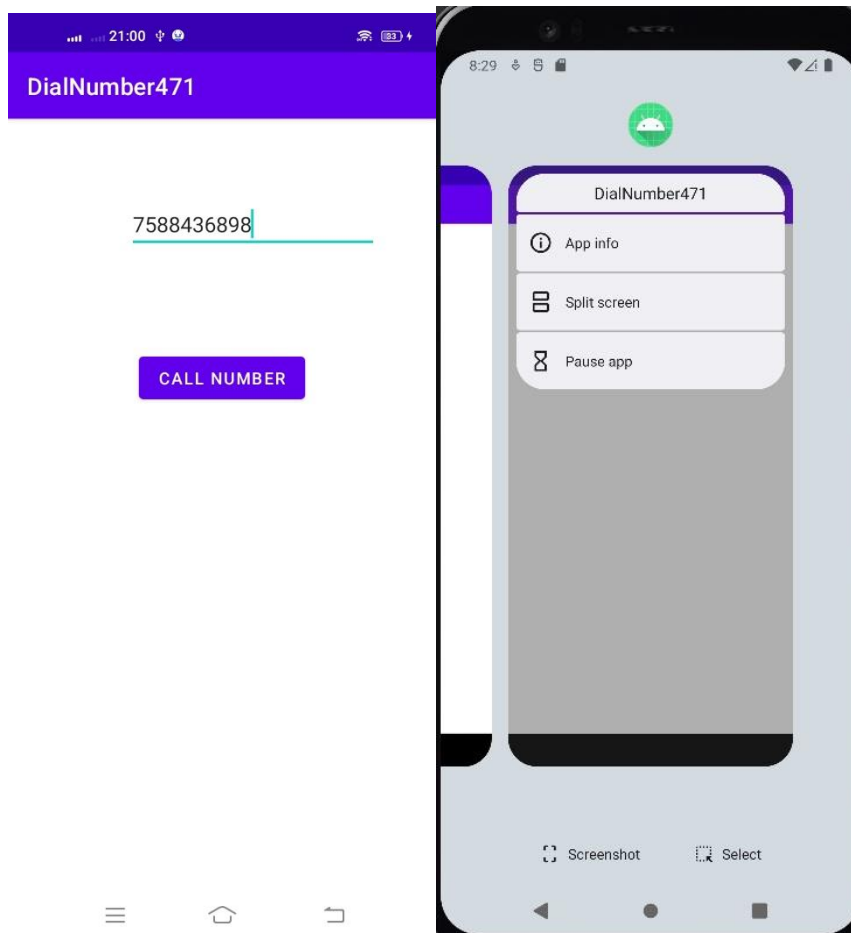
```

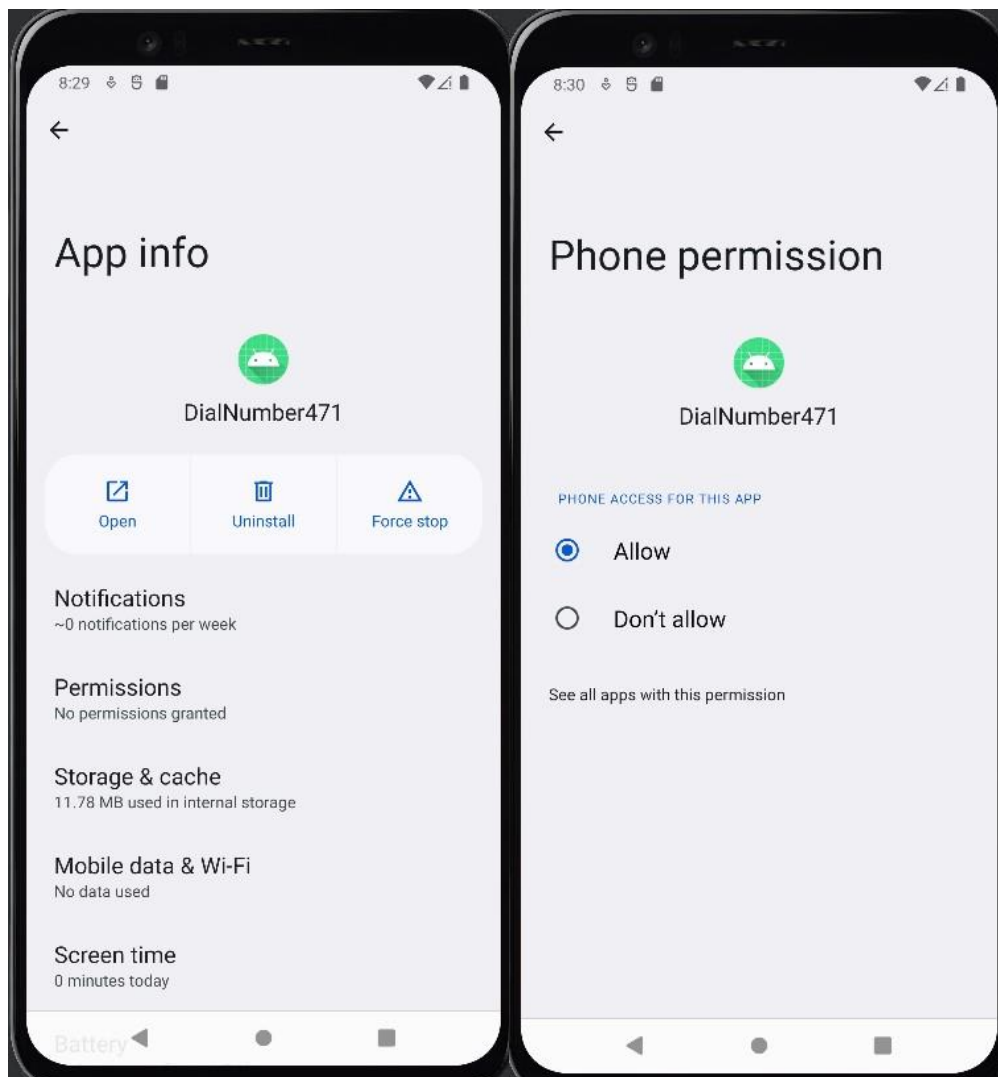
```

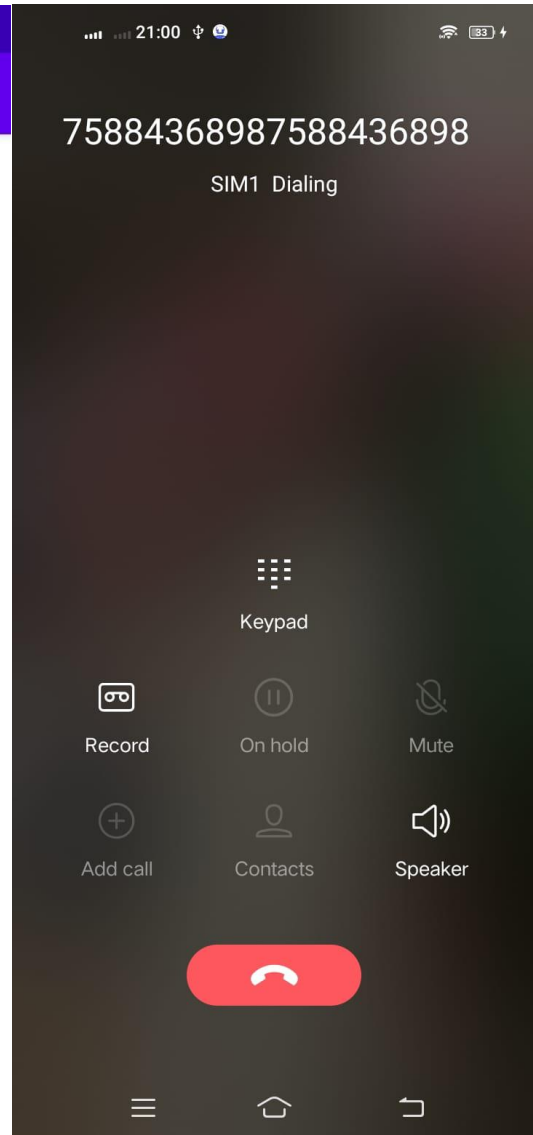
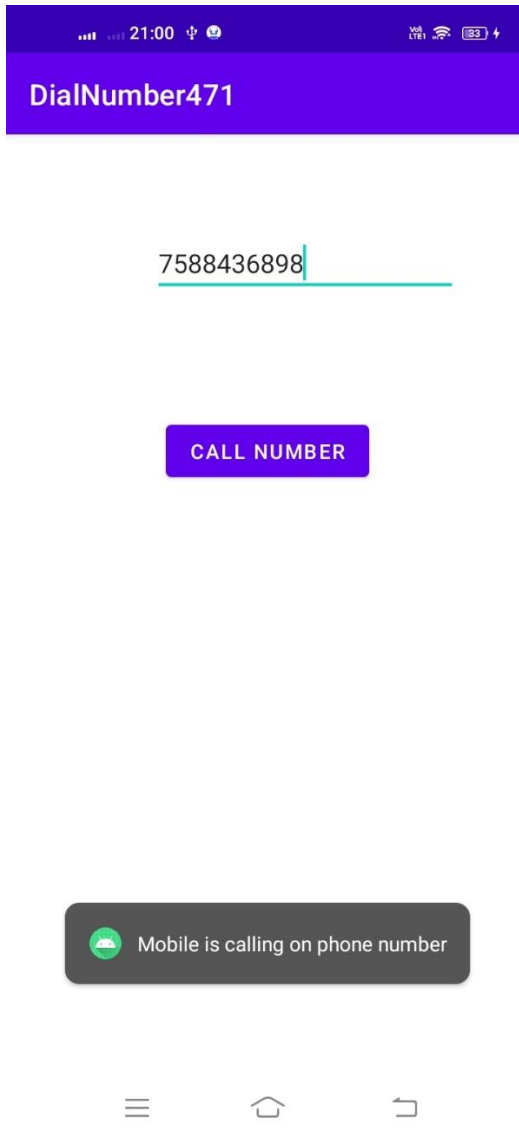
        android:theme="@style/Theme.DialNumber471"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category
                    android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
            </activity>
        </application>
</manifest>

```







Practical No : 9B

OnTouchListener

Activiy_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
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"
android:id="@+id/rl">

</RelativeLayout>
```

MainActivity.java:

```
package com.example.ontouchlist471;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.view.MotionEvent;
import android.view.View;
import android.widget.RelativeLayout;

public class MainActivity extends AppCompatActivity {

    RelativeLayout relativeLayout;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        relativeLayout=findViewById(R.id.rl);
        relativeLayout.setOnTouchListener(new View.OnTouchListener()
        {
            @Override
            public boolean onTouch(View view, MotionEvent
motionEvent) {
                int r=(int) (Math.random()*255);
                int g=(int) (Math.random()*255);
                int b=(int) (Math.random()*255);
                int col= Color.rgb(r,g,b);
                switch (motionEvent.getAction())
                {
                    case MotionEvent.ACTION_MOVE:
                        relativeLayout.setBackgroundColor(col);
                        break;
                }
                return true;
            }
        });
    }
}
```

