

GURU NANAK DEV ENGINEERING COLLEGE

LUDHIANA

MOBILE PRACTICAL



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SECTION - D4ITA1

PRACTICAL-1

CREATE FIRST APP ON ANDROID

MAINACTIVITY.JAVA

```
package com.task.task1;

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);
    }
}
```

ACTIVITY_MAIN.XML

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hi its Aarshpreet"
        android:textSize="25dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

PRACTICAL-2

CHANGE ICON OF APP AND THE LABEL BACKGROUND

MAINACTIVITY.JAVA

```
package com.task.task2;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.graphics.drawable.ColorDrawable;
import android.os.Bundle;
import android.text.Html;

public class MainActivity extends AppCompatActivity {

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

        ColorDrawable colorDrawable
            = new ColorDrawable(Color.parseColor("#0F9D58"));

        actionBar.setBackgroundDrawable(colorDrawable);
        actionBar.setTitle(Html.fromHtml("<font color='#000000'>TASK2 </font>"));
        actionBar.setIcon(R.drawable.icon1);
    }
}
```

ACTIVITY_MAIN.XML

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

PRACTICAL-3

CREATING BUTTON, MENU AND SCROLLBAR

MAINACTIVITY.JAVA

```
package com.task.task3;

import android.os.Bundle;

import com.google.android.material.floatingactionbutton.FloatingActionButton;
import com.google.android.material.snackbar.Snackbar;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.Toolbar;

import android.view.View;

import android.view.Menu;
import android.view.MenuItem;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    Button b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11,b12,b13,b14,b15,b16,b17;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=(Button)findViewById(R.id.button1);
        b2=(Button)findViewById(R.id.button2);
        b3=(Button)findViewById(R.id.button3);
        b4=(Button)findViewById(R.id.button4);
        b5=(Button)findViewById(R.id.button5);
        b6=(Button)findViewById(R.id.button6);
        b7=(Button)findViewById(R.id.button7);
        b8=(Button)findViewById(R.id.button8);
        b9=(Button)findViewById(R.id.button9);
        b10=(Button)findViewById(R.id.button10);
        b11=(Button)findViewById(R.id.button11);
        b12=(Button)findViewById(R.id.button12);
        b13=(Button)findViewById(R.id.button13);
        b14=(Button)findViewById(R.id.button14);
        b15=(Button)findViewById(R.id.button15);
        b16=(Button)findViewById(R.id.button16);
        b17=(Button)findViewById(R.id.button17);

        Toolbar toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu_main, menu);
    }
}
```

```

        return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        int id = item.getItemId();

        if (id == R.id.menu1) {
            Toast.makeText(getApplicationContext(), "Menu's Item 1
Selected", Toast.LENGTH_LONG).show();
            return true;
        }
        if (id == R.id.menu2) {
            Toast.makeText(getApplicationContext(), "Menu's Item 2
Selected", Toast.LENGTH_LONG).show();
            return true;
        }
        if (id == R.id.menu3) {
            Toast.makeText(getApplicationContext(), "Menu's Item 3
Selected", Toast.LENGTH_LONG).show();
            return true;
        }

        return super.onOptionsItemSelected(item);
    }

    public void buttonclicked(View view) {
        Toast.makeText(getApplicationContext(), "Button
Clicked", Toast.LENGTH_LONG).show();
    }
}

```

ACTIVITY_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">

    <com.google.android.material.appbar.AppBarLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:theme="@style/Theme.Task3.AppBarOverlay">

        <androidx.appcompat.widget.Toolbar
            android:id="@+id/toolbar"
            android:layout_width="match_parent"
            android:layout_height="?attr/actionBarSize"
            android:background="?attr/colorPrimary"
            app:popupTheme="@style/Theme.Task3.PopupOverlay" />

    </com.google.android.material.appbar.AppBarLayout>
    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="70dp"
        >

```

```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/toolbar"
    android:orientation="vertical">

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button1" />
    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button2" />
    <Button
        android:id="@+id/button3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button3" />
    <Button
        android:id="@+id/button4"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button4" />
    <Button
        android:id="@+id/button5"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button5" />
    <Button
        android:id="@+id/button6"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button6" />
    <Button
        android:id="@+id/button7"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button7" />
    <Button
        android:id="@+id/button8"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

```

```

        android:layout_weight="1"
        android:onClick="buttonclicked"
        android:text="Button8" />
<Button
    android:id="@+id/button9"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button9" />
<Button
    android:id="@+id/button10"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button10" />
<Button
    android:id="@+id/button11"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button11" />
<Button
    android:id="@+id/button12"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button12" />
<Button
    android:id="@+id/button13"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button13" />
<Button
    android:id="@+id/button14"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button14" />
<Button
    android:id="@+id/button15"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button15" />
<Button
    android:id="@+id/button16"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="buttonclicked"
    android:text="Button16" />

```

```
        <Button
            android:id="@+id/button17"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:onClick="buttonclicked"
            android:layout_weight="1"
            android:text="Button17" />
    </LinearLayout>
</ScrollView>

</RelativeLayout>
MENU_MAIN.XML
<menu 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"
    tools:context="com.task.task3.MainActivity">
    <item
        android:id="@+id/menu1"
        android:orderInCategory="100"
        android:title="Menu 1" />

    <item
        android:id="@+id/menu2"
        android:orderInCategory="100"
        android:title="Menu 2"
        />

    <item
        android:id="@+id/menu3"
        android:orderInCategory="100"
        android:title="Menu 3" />
</menu>
```


PRACTICAL-4

CREATE FORM USING ALL UI

MAINACTIVITY.JAVA

```
package com.task.task4;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    Button b1;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        b1 = (Button) findViewById(R.id.button);
```

```
        b1.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
```

```
            public void onClick(View v) {
```

```
                Toast.makeText(getApplicationContext(), "Form  
submitted", Toast.LENGTH_LONG).show();
```

```
            }
```

```
        });
```

```
    }
```

```
}
```

ACTIVITY_MAIN.XML

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

```
<ScrollView 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="wrap_content"
```

```
    tools:context=".MainActivity">
```

```
    <LinearLayout
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
```

```
        android:orientation="vertical">
```

```
        <TextView
```

```
            android:layout_width="match_parent"
```

```
            android:layout_height="wrap_content"
```

```
            android:text="FORM"
```

```
            android:layout_marginTop="10dp"
```

```
            android:textColor="@color/purple_500"
```

```
            android:gravity="center"
```

```
            android:textSize="20dp"/>
```

```
        <EditText
```

```
            android:id="@+id/editTextTextPersonName2"
```

```
            android:layout_width="match_parent"
```

```
            android:layout_height="wrap_content"
```

```
            android:ems="10"
```

```
            android:inputType="textPersonName"
```

```

        android:hint="Enter your Name" />

<EditText
    android:id="@+id/editTextTextPassword2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Password"
    android:ems="10"
    android:inputType="textPassword" />
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Select Gender"
    android:textColor="@color/black"
    android:layout_marginTop="10dp" />

<RadioGroup
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:weightSum="2">

    <RadioButton
        android:id="@+id/radioButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:checked="true"
        android:text="Male" />

    <RadioButton
        android:id="@+id/radioButton2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Female" />
</RadioGroup>

<Switch
    android:id="@+id/switch1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="Are you a Student?" />
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Languages Known"
    android:textColor="@color/black"
    android:layout_marginTop="10dp" />

<CheckBox
    android:id="@+id/checkbox2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="English" />

<CheckBox
    android:id="@+id/checkbox3"

```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Hindi" />

<CheckBox
    android:id="@+id/checkbox4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Punjabi" />
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Rate our College"
    android:textColor="@color/black"
    android:textSize="15dp"
    android:layout_marginTop="10dp" />

<RatingBar
    android:id="@+id/ratingBar"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:numStars="5" />

<Button
    android:id="@+id/button"
    android:layout_marginTop="10dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Submit" />

</LinearLayout>
</ScrollView>
```

PRACTICAL-5

DESIGNING FORM USING ALL LAYOUTS

FRAME.JAVA

```
package com.task.task5;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class Frame extends AppCompatActivity {

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

LINEAR.JAVA

```
package com.task.task5;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class Linear extends AppCompatActivity {
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_linear);
        b1=(Button)findViewById(R.id.linearbutton);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(),"Form
submitted",Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

MAINACTIVITY.JAVA

```
package com.task.task5;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Button b1,b2,b3,b4;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    b1=(Button)findViewById(R.id.linear1);
    b2=(Button)findViewById(R.id.relative2);
    b3=(Button)findViewById(R.id.table3);
    b4=(Button)findViewById(R.id.frame4);
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent i= new Intent(MainActivity.this,Linear.class);
            startActivity(i);
        }
    });
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent i= new Intent(MainActivity.this,Relative.class);
            startActivity(i);
        }
    });
    b3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent i= new Intent(MainActivity.this,Table.class);
            startActivity(i);
        }
    });
    b4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent i= new Intent(MainActivity.this,Frame.class);
            startActivity(i);
        }
    });
}
}
}
RELATIVE.JAVA
package com.task.task5;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class Relative extends AppCompatActivity {
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_relative);
        b1=(Button)findViewById(R.id.rbutton);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(),"Form

```

```

Submitted", Toast.LENGTH_LONG).show();
    }
    });
}
}
TABLE.JAVA
package com.task.task5;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class Table extends AppCompatActivity {
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_table);
        b1=(Button)findViewById(R.id.tbutton);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(),"Form
Submitted", Toast.LENGTH_LONG).show();
            }
        });
    }
}
ACTIVITY_FRAME.XML
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout 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="vertical"
    android:padding="10dp"
    tools:context=".Frame">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="FRAME LAYOUT"
        android:textSize="30dp"
        android:layout_marginTop="20dp"
        android:gravity="center"
        android:textColor="@color/purple_200"
        android:textStyle="bold"/>
    <ImageView
        android:src="@drawable/logo"
        android:scaleType="fitCenter"
        android:layout_height="fill_parent"
        android:layout_width="fill_parent"/>

</FrameLayout>

```

ACTIVITY_LINEAR.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="vertical"
    android:padding="10dp"
    tools:context=".Linear">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="FORM LINEAR"
        android:textSize="30dp"
        android:layout_marginTop="20dp"
        android:gravity="center"
        android:textColor="@color/purple_200"
        android:textStyle="bold"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Name"
        android:textSize="20dp"
        android:textColor="@color/black"
        android:layout_marginTop="10dp"/>

    <EditText
        android:id="@+id/Linearname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:textSize="15dp"
        android:padding="10dp"
        android:textColor="@color/black"
        android:background="@drawable/editt"
        android:inputType="textPersonName"
        />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Department"
        android:textSize="20dp"
        android:textColor="@color/black"
        android:layout_marginTop="10dp" />

    <EditText
        android:id="@+id/linerdepartment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:textSize="15dp"
        android:padding="10dp"
        android:textColor="@color/black"
        android:background="@drawable/editt"
```

```

        android:inputType="textPersonName" />

<Button
    android:id="@+id/linearbutton"
    android:layout_marginTop="10dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="SUBMIT" />
</LinearLayout>
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"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:layout_marginTop="40dp"
    tools:context=".MainActivity">

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textColor="@color/purple_200"
    android:textSize="30dp"
    android:gravity="center"
    android:textStyle="bold"
    android:layout_marginBottom="20dp"
    android:text="CLICK ON BUTTON TO CHECK DIFFERENT LAYOUT USAGE"></TextView>
<Button
    android:id="@+id/linear1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="20dp"
    android:layout_marginTop="10dp"
    android:text="LINEAR LAYOUT"
    />

<Button
    android:id="@+id/relative2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="20dp"
    android:layout_marginTop="10dp"
    android:text="RELATIVE LAYOUT" />

<Button
    android:id="@+id/table3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="20dp"
    android:layout_marginTop="10dp"
    android:text="TABLE LAYOUT" />

<Button
    android:id="@+id/frame4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="20dp"

```



```

        android:layout_marginTop="10dp"
        android:text="FRAME LAYOUT" />
</LinearLayout>
ACTIVITY_RELATIVE.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"
    android:orientation="vertical"
    android:padding="10dp"
    tools:context=".Linear">

    <TextView
        android:id="@+id/r1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="FORM RELATIVE"
        android:textSize="30dp"
        android:layout_marginTop="20dp"
        android:gravity="center"
        android:textColor="@color/purple_200"
        android:textStyle="bold"/>

    <TextView
        android:id="@+id/r2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Name"
        android:textSize="20dp"
        android:layout_below="@+id/r1"
        android:textColor="@color/black"
        android:layout_marginTop="10dp"/>

    <EditText
        android:id="@+id/rname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:textSize="15dp"
        android:padding="10dp"
        android:textColor="@color/black"
        android:layout_below="@+id/r2"
        android:background="@drawable/editt"
        android:inputType="textPersonName"
        />

    <TextView
        android:id="@+id/r3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Department"
        android:textSize="20dp"
        android:layout_below="@+id/rname"
        android:textColor="@color/black"
        android:layout_marginTop="10dp" />

```

```

<EditText
    android:id="@+id/rdepartment"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:textSize="15dp"
    android:layout_below="@+id/r3"
    android:padding="10dp"
    android:textColor="@color/black"
    android:background="@drawable/editt"
    android:inputType="textPersonName" />

<Button
    android:id="@+id/rbutton"
    android:layout_marginTop="10dp"
    android:layout_below="@id/rdepartment"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="SUBMIT" />
</RelativeLayout>
ACTIVITY_TABLE.XML
<?xml version="1.0" encoding="utf-8"?>
<TableLayout 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="vertical"
    android:padding="10dp"
    tools:context=".Table">

    <TableRow
        android:weightSum="1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="FORM TABLE"
            android:textSize="30dp"
            android:layout_marginTop="20dp"
            android:gravity="center"
            android:layout_weight="1"
            android:textColor="@color/purple_200"
            android:textStyle="bold"/>
    </TableRow>
    <TableRow
        android:weightSum="1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Name"
            android:textSize="20dp"
            android:layout_weight="1"
            android:textColor="@color/black"
            android:layout_marginTop="10dp"/>
    </TableRow>

```

```

<TableRow
    android:weightSum="1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <EditText
        android:id="@+id/tname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:layout_weight="1"
        android:textSize="15dp"
        android:padding="10dp"
        android:textColor="@color/black"
        android:background="@drawable/editt"
        android:inputType="textPersonName"
    />
</TableRow>
<TableRow
    android:weightSum="1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Department"
        android:layout_weight="1"
        android:textSize="20dp"
        android:textColor="@color/black"
        android:layout_marginTop="10dp" />
</TableRow>
<TableRow
    android:weightSum="1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <EditText
        android:id="@+id/tdepartment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:textSize="15dp"
        android:layout_weight="1"
        android:padding="10dp"
        android:textColor="@color/black"
        android:background="@drawable/editt"
        android:inputType="textPersonName" />
</TableRow>
<TableRow
    android:weightSum="1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <Button
        android:id="@+id/tbutton"
        android:layout_marginTop="10dp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="SUBMIT" />
</TableRow>
</TableLayout>

```

PRACTICAL-6

CREATING FRAGMENTS

MAINACTIVITY.JAVA

```
package com.task.task6;

import android.app.Fragment;
import android.app.FragmentManager;
import android.app.FragmentTransaction;

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

public class MainActivity extends AppCompatActivity {

    Button firstFragment, secondFragment;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // get the reference of Button's
        firstFragment = (Button) findViewById(R.id.firstFragment);
        secondFragment = (Button) findViewById(R.id.secondFragment);

        // perform setOnClickListener event on First Button
        firstFragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Load First Fragment
                loadFragment(new FirstFragment());
            }
        });
        // perform setOnClickListener event on Second Button
        secondFragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Load Second Fragment
                loadFragment(new SecondFragment());
            }
        });
    }

    private void loadFragment(Fragment fragment) {
        // create a FragmentManager
        FragmentManager fm = getFragmentManager();
        // create a FragmentTransaction to begin the transaction and replace the Fragment
        FragmentTransaction fragmentTransaction = fm.beginTransaction();
        // replace the FrameLayout with new Fragment
        fragmentTransaction.replace(R.id.frameLayout, fragment);
        fragmentTransaction.commit(); // save the changes
    }
}
```

FIRSTFRAGMENT.JAVA

```

package com.task.task6;

import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class FirstFragment extends Fragment {

    View view;
    Button firstButton;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        view = inflater.inflate(R.layout.activity_first_fragment, container,
false);
        // get the reference of Button
        firstButton = (Button) view.findViewById(R.id.firstButton);
        // perform setOnClickListener on first Button
        firstButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // display a message by using a Toast
                Toast.makeText(getActivity(), "First Fragment",
Toast.LENGTH_LONG).show();
            }
        });
        return view;
    }
}
SECONDFRAGMENT.JAVA
package com.task.task6;

```

```

import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class SecondFragment extends Fragment {

    View view;
    Button secondButton;

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

```

```

false);
// get the reference of Button
    secondButton = (Button) view.findViewById(R.id.secondButton);
// perform setOnClickListener on second Button
    secondButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
// display a message by using a Toast
            Toast.makeText(getActivity(), "Second Fragment",
Toast.LENGTH_LONG).show();
        }
    });
    return view;
}
}
ACTIVITY_MAIN.XML
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="5dp"
    tools:context=".MainActivity">
    <!-- display two Button's and a FrameLayout to replace the Fragment's -->
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:weightSum="2">
        <Button
            android:id="@+id/firstFragment"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="@color/button_background_color"
            android:text="First Fragment"
            android:textColor="@color/white"
            android:textSize="20sp" />

        <Button
            android:id="@+id/secondFragment"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="@color/button_background_color"
            android:text="Second Fragment"
            android:textColor="@color/white"
            android:textSize="20sp" />
    </LinearLayout>

    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="10dp" />
</LinearLayout>
ACTIVITY_FIRST_FRAGMENT.XML
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"

```

```

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FirstFragment">

    <!--TextView and Button displayed in First Fragment -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="This is First Fragment"
        android:textColor="@color/black"
        android:textSize="25sp" />

    <Button
        android:id="@+id/firstButton"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:background="@color/purple_200"
        android:text="First Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
        android:textStyle="bold" />
</RelativeLayout>
ACTIVITY_SECOND_FRAGMENT.XML
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".SecondFragment">

    <!--TextView and Button displayed in Second Fragment -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="This is Second Fragment"
        android:textColor="@color/black"
        android:textSize="25sp" />

    <Button
        android:id="@+id/secondButton"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:background="@color/purple_200"
        android:text="Second Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
        android:textStyle="bold" />

</RelativeLayout>

```

PRACTICAL-7

IMPLEMENTING INTENTS

MAINACTIVITY.JAVA

```
package com.task.task7;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    Button b1;
    EditText e1
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=(Button)findViewById(R.id.next);
        e1=(EditText)findViewById(R.id.edit);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i= new Intent(MainActivity.this,SecondActivity.class);
                i.putExtra("text",e1.getText().toString());
                startActivity(i);
            }
        });
    }
}
```

SECONDACTIVITY.JAVA

```
package com.task.task7;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
public class SecondActivity extends AppCompatActivity {
    TextView t1;
    String a;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        t1=(TextView)findViewById(R.id.result);
        Intent i=getIntent();
        a=i.getStringExtra("text");
        t1.setText(a);
    }
}
```

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



```

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="30dp"
    android:textStyle="bold"
    android:textColor="@color/purple_200"
    android:layout_marginTop="40dp"
    android:text="INTENT USAGE"
    android:gravity="center"/>

<EditText
    android:id="@+id/edit"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:layout_marginTop="30dp"
    android:inputType="textPersonName"
    android:hint="Enter any text" />

<Button
    android:id="@+id/next"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="30dp"
    android:text="NEXT" />
</LinearLayout>
ACTIVITY_SECOND.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="vertical"
    tools:context=".SecondActivity">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="SECOND ACTIVITY"
        android:textColor="@color/purple_200"
        android:textStyle="bold"
        android:textSize="30dp"
        android:gravity="center"
        android:layout_marginTop="40dp"/>

    <TextView
        android:id="@+id/result"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="40dp"
        android:textSize="30dp"
        android:inputType="textMultiLine"
        android:text="text" />
</LinearLayout>

```

PRACTICAL-8

STORING DATA USING SQLITE DATABASES

sqlite.JAVA

```
package com.mad.mad;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import android.widget.Toast;
```

```
import com.google.android.material.textfield.TextInputLayout;
```

```
public class SQLITE extends AppCompatActivity {
```

```
    Button b1,b2;
```

```
    TextInputLayout t1,t2;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_s_q_l_i_t_e);
```

```
        b1=(Button)findViewById(R.id.button);
```

```
        b2=(Button)findViewById(R.id.button2);
```

```
        t1=(TextInputLayout)findViewById(R.id.name);
```

```
        t2=(TextInputLayout)findViewById(R.id.college);
```

```
        b1.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
```

```
            public void onClick(View v) {
```

```
                Toast.makeText(getApplicationContext(),"Student Name:
```

```
                "+t1.getEditText().getText().toString().trim()+"\n College Name:
```

```
                "+t2.getEditText().getText().toString().trim(),Toast.LENGTH_LONG).show();
```

```
            }
```

```
        });
```

```
        b2.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
```

```
            public void onClick(View v) {
```

```
                Toast.makeText(getApplicationContext(),"Data Saved
```

```
                Successfully",Toast.LENGTH_LONG).show();
```

```
            }
```

```
        });
```

```
    }
```

```
}
```

ACTIVITY_S_Q_L_I_T_E.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="vertical"
```

```
    tools:context=".SQLITE">
```

```
    <TextView
```

```
        android:id="@+id/top"
```

```
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
```

```

        android:textStyle="bold"
        android:textSize="30dp"
        android:textColor="@color/purple_200"
        android:layout_marginTop="20dp"
        android:layout_gravity="center"
        android:gravity="center"
        android:text="SQLite Database" />

<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Student Name"
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
    app:hintTextColor="@color/purple_200"
    app:boxStrokeWidthFocused="2dp"
    app:boxStrokeColor="#1B7169"
    android:layout_marginTop="10dp">

    <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:inputType="text"/>
</com.google.android.material.textfield.TextInputLayout>

<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/college"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
    app:hintTextColor="@color/purple_200"
    app:boxStrokeWidthFocused="2dp"
    app:boxStrokeColor="#1B7169"
    android:layout_marginTop="10dp">
        android:hint="College Name"

    <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:inputType="text"/>
</com.google.android.material.textfield.TextInputLayout>

<Button
    android:id="@+id/button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="Save" />

<Button
    android:id="@+id/button2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp"
    android:text="Load" />

</LinearLayout>

```

PRACTICAL-9

DEMONSTRATION OF CONTENT PROVIDER

MAINACTIVITY.JAVA

```
package com.task.task9;

import androidx.appcompat.app.AppCompatActivity;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.net.Uri;
import android.os.Bundle;
import android.view.MotionEvent;
import android.view.View;
import android.view.inputmethod.InputMethodManager;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    @Override
    public boolean onTouchEvent(MotionEvent event) {
        InputMethodManager imm =
        (InputMethodManager) getSystemService(Context.INPUT_METHOD_SERVICE);
        imm.hideSoftInputFromWindow(getCurrentFocus().getWindowToken(), 0);
        return true;
    }
    public void onClickAddDetails(View view) {
        ContentValues values = new ContentValues();
        values.put(MyContentProvider.name, ((EditText)
        findViewById(R.id.txtName)).getText().toString());
        getContentResolver().insert(MyContentProvider.CONTENT_URI, values);
        Toast.makeText(getBaseContext(), "New Record Inserted",
        Toast.LENGTH_LONG).show();
    }

    public void onClickShowDetails(View view) {

        TextView resultView= (TextView) findViewById(R.id.res);
        Cursor cursor =
        getContentResolver().query(Uri.parse("content://com.task.task9.UserProvider/users"
        ), null, null, null, null);
        if(cursor.moveToFirst()) {
            StringBuilder strBuild=new StringBuilder();
            while (!cursor.isAfterLast()) {

                strBuild.append("\n"+cursor.getString(cursor.getColumnIndex("id"))+ "-"+
                cursor.getString(cursor.getColumnIndex("name")));
                cursor.moveToNext();
            }
            resultView.setText(strBuild);
        }
    }
}
```

```

        else {
            resultView.setText("No Records Found");
        }
    }
}
MYCONTENTPROVIDER.JAVA
package com.task.task9;

import android.content.ContentProvider;
import android.content.ContentUris;
import android.content.ContentValues;
import android.content.Context;
import android.content.UriMatcher;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteException;
import android.database.sqlite.SQLiteOpenHelper;
import android.database.sqlite.SQLiteQueryBuilder;
import android.net.Uri;
import java.util.HashMap;

public class MyContentProvider extends ContentProvider {
    static final String PROVIDER_NAME = "com.task.task9.UserProvider";
    static final String URL = "content://" + PROVIDER_NAME + "/users";
    static final Uri CONTENT_URI = Uri.parse(URL);

    static final String id = "id";
    static final String name = "name";
    static final int uriCode = 1;
    static final UriMatcher uriMatcher;
    private static HashMap<String, String> values;
    static {
        uriMatcher = new UriMatcher(UriMatcher.NO_MATCH);
        uriMatcher.addURI(PROVIDER_NAME, "users", uriCode);
        uriMatcher.addURI(PROVIDER_NAME, "users/*", uriCode);
    }

    @Override
    public String getType(Uri uri) {
        switch (uriMatcher.match(uri)) {
            case uriCode:
                return "vnd.android.cursor.dir/users";
            default:
                throw new IllegalArgumentException("Unsupported URI: " + uri);
        }
    }

    @Override
    public boolean onCreate() {
        Context context = getContext();
        DatabaseHelper dbHelper = new DatabaseHelper(context);
        db = dbHelper.getWritableDatabase();
        if (db != null) {
            return true;
        }
        return false;
    }

    @Override

```

```

public Cursor query(Uri uri, String[] projection, String selection,
                    String[] selectionArgs, String sortOrder) {
    SQLiteQueryBuilder qb = new SQLiteQueryBuilder();
    qb.setTables(TABLE_NAME);

    switch (uriMatcher.match(uri)) {
        case uriCode:
            qb.setProjectionMap(values);
            break;
        default:
            throw new IllegalArgumentException("Unknown URI " + uri);
    }
    if (sortOrder == null || sortOrder == "") {
        sortOrder = id;
    }
    Cursor c = qb.query(db, projection, selection, selectionArgs, null,
                        null, sortOrder);
    c.setNotificationUri(getContext().getContentResolver(), uri);
    return c;
}

@Override
public Uri insert(Uri uri, ContentValues values) {
    long rowID = db.insert(TABLE_NAME, "", values);
    if (rowID > 0) {
        Uri _uri = ContentUris.withAppendedId(CONTENT_URI, rowID);
        getContext().getContentResolver().notifyChange(_uri, null);
        return _uri;
    }
    throw new SQLiteException("Failed to add a record into " + uri);
}

@Override
public int update(Uri uri, ContentValues values, String selection,
                  String[] selectionArgs) {
    int count = 0;
    switch (uriMatcher.match(uri)) {
        case uriCode:
            count = db.update(TABLE_NAME, values, selection, selectionArgs);
            break;
        default:
            throw new IllegalArgumentException("Unknown URI " + uri);
    }
    getContext().getContentResolver().notifyChange(uri, null);
    return count;
}

@Override
public int delete(Uri uri, String selection, String[] selectionArgs) {
    int count = 0;
    switch (uriMatcher.match(uri)) {
        case uriCode:
            count = db.delete(TABLE_NAME, selection, selectionArgs);
            break;
        default:
            throw new IllegalArgumentException("Unknown URI " + uri);
    }
    getContext().getContentResolver().notifyChange(uri, null);
    return count;
}

private SQLiteDatabase db;
static final String DATABASE_NAME = "EmpDB";

```

```

static final String TABLE_NAME = "Employees";
static final int DATABASE_VERSION = 1;
static final String CREATE_DB_TABLE = " CREATE TABLE " + TABLE_NAME
    + " (id INTEGER PRIMARY KEY AUTOINCREMENT, "
    + " name TEXT NOT NULL);";

private static class DatabaseHelper extends SQLiteOpenHelper {
    DatabaseHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

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

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);
        onCreate(db);
    }
}
}
ACTIVITY_MAIN.XML
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Content Provider "
        android:textColor="@color/purple_200"
        android:textStyle="bold"
        android:textSize="30dp"
        android:gravity="center"
        android:layout_marginTop="50dp"
        android:layout_centerHorizontal="true" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="50dp"
        android:text="Name"
        android:textSize="20dp" />

    <EditText
        android:id="@+id/txtName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:ems="10" />

    <Button
        android:id="@+id/btnAdd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```

```
        android:layout_gravity="center"
        android:onClick="onClickAddDetails"
        android:text="Add User" />

<Button
    android:id="@+id/btnRetrieve"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:onClick="onClickShowDetails"
    android:text="Show Users" />

<TextView
    android:id="@+id/res"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:clickable="false"
    android:textSize="15dp"
    android:ems="10" />
</LinearLayout>
```


PRACTICAL-10

DEMONSTRATING SERVICES

MAINACTIVITY.JAVA

```
package com.task.task10;

import android.content.Intent;

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

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    // Start the service
    public void startService(View view) {
        startService(new Intent(this, MyService.class));
    }
    // Stop the service
    public void stopService(View view) {
        stopService(new Intent(this, MyService.class));
    }
}
```

MYSERVICE.JAVA

```
package com.task.task10;

import android.app.Service;
import android.content.Intent;
import android.media.MediaPlayer;
import android.os.IBinder;
import android.provider.Settings;
import android.widget.Toast;

public class MyService extends Service {
    private MediaPlayer player;
    @Override
    public IBinder onBind(Intent intent) {
        return null;
    }
    @Override
    public void onCreate() {
        Toast.makeText(this, "Service was Created", Toast.LENGTH_LONG).show();
    }
    @Override
    public int onStartCommand(Intent intent, int flags, int startId) {
        player = MediaPlayer.create(this, Settings.System.DEFAULT_RINGTONE_URI);
        // This will play the ringtone continuously until we stop the service.
        player.setLooping(true);
        // It will start the player
        player.start();
        Toast.makeText(this, "Service Started", Toast.LENGTH_LONG).show();
        return START_STICKY;
    }
    @Override
```

```

    public void onDestroy() {
        super.onDestroy();
        // Stopping the player when service is destroyed
        player.stop();
        Toast.makeText(this, "Service Stopped", Toast.LENGTH_LONG).show();
    }
}

```

ACTIVITY_MAIN.XML

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
    <Button
        android:id="@+id/btnStart"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="startService"
        android:layout_gravity="center"
        android:layout_marginTop="150dp"
        android:text="Start Service"/>
    <Button
        android:id="@+id/btnstop"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:onClick="stopService"
        android:layout_marginTop="20dp"
        android:text="Stop Service"/>
</LinearLayout>

```

PRACTICAL-11

SECURITY AND DEBUGGING

MAINACTIVITY.JAVA

```
package com.example.task11;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    TextView t;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1 = findViewById(R.id.t1);
        e2 = findViewById(R.id.editText);
        t = findViewById(R.id.re);
    }

    public void add(View view){
        Log.i("Mainactivity","Executed 1");
        int a1 = Integer.parseInt(e1.getText().toString());
        Log.i("Mainactivity","Executed 2");
        int a2 = Integer.parseInt(e2.getText().toString());
        Log.i("Mainactivity","Executed 3");
        int res = a1 + a2;
        Log.i("Mainactivity","Executed 4");
        t.setText(""+res);
        Log.i("Mainactivity","Executed 5");
    }
}
```

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

    <EditText
        android:id="@+id/t1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter number 1"
        app:layout_constraintBottom_toTopOf="@+id/editText"
        app:layout_constraintTop_toTopOf="parent"
```

```

        app:layout_constraintVertical_bias="0.73"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="0dp" />

<EditText
    android:id="@+id/editText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter number 2"
    tools:ignore="MissingConstraints"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="253dp" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Add two numbers"
    android:gravity="center"
    android:layout_marginTop="30dp"
    android:layout_marginLeft="85dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editText"
    app:layout_constraintVertical_bias="0.217"
    tools:ignore="MissingConstraints"
    android:onClick="add"/>

<TextView
    android:id="@+id/re"
    android:layout_width="98dp"

    android:layout_height="25dp"
    android:layout_marginTop="50dp"
    android:gravity="center"
    android:layout_marginLeft="100dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button"
    app:layout_constraintVertical_bias="0.258"

    tools:ignore="MissingConstraints" />

</LinearLayout>

```