

# Dr. D. Y. Patil School of MCA

Dr DY Patil Knowledge City, Charholi (Bk.), Via Lohegaon, Pune – 412105

**MCA II year III Semester Course Code IT 31L – Practicals Part - A**

**Mobile Application Development**

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1. **Create a simple calculator. activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app=["http://sche](http://schemas.android.com/apk/res-auto)m[as.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:background="#8BC34A"

android:backgroundTint="@android:color/darker\_gray" tools:context=".MainActivity">

*<!-- Text View to display our basic heading of "calculator"-->*

<TextView android:layout\_width="194dp" android:layout\_height="43dp" android:layout\_marginStart="114dp" android:layout\_marginLeft="114dp" android:layout\_marginTop="58dp" android:layout\_marginEnd="103dp" android:layout\_marginRight="103dp" android:layout\_marginBottom="502dp" android:scrollbarSize="30dp"

android:text=" Calculator" android:textAppearance="@style/TextAppearance.AppCompat.Body1"

android:textSize="30dp" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- Edit Text View to input the values -->*

<EditText android:id="@+id/num1" android:layout\_width="364dp" android:layout\_height="28dp" android:layout\_marginStart="72dp" android:layout\_marginTop="70dp" android:layout\_marginEnd="71dp" android:layout\_marginBottom="416dp" android:background="@android:color/white" android:ems="10" android:hint="Number1(0)" android:inputType="number" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- Edit Text View to input 2nd value-->*

<EditText android:id="@+id/num2" android:layout\_width="363dp" android:layout\_height="30dp" android:layout\_marginStart="72dp" android:layout\_marginTop="112dp" android:layout\_marginEnd="71dp" android:layout\_marginBottom="374dp" android:background="@android:color/white"

android:ems="10" android:hint="number2(0)" android:inputType="number" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- Text View to display result -->*

<TextView android:id="@+id/result" android:layout\_width="356dp" android:layout\_height="71dp" android:layout\_marginStart="41dp" android:layout\_marginTop="151dp" android:layout\_marginEnd="48dp" android:layout\_marginBottom="287dp" android:background="@android:color/white"

android:text="result" android:textColorLink="#673AB7" android:textSize="25sp"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- A button to perform 'sum' operation -->*

<Button android:id="@+id/sum" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginStart="16dp" android:layout\_marginTop="292dp" android:layout\_marginEnd="307dp" android:layout\_marginBottom="263dp" android:backgroundTint="@android:color/holo\_red\_light" android:onClick="doSum"

android:text="+" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- A button to perform subtraction operation. -->*

<Button android:id="@+id/sub" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginStart="210dp" android:layout\_marginTop="292dp" android:layout\_marginEnd="113dp" android:layout\_marginBottom="263dp" android:backgroundTint="@android:color/holo\_red\_light" android:onClick="doSub"

android:text="-" app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- A button to perform division. -->*

<Button android:id="@+id/div" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginStart="307dp" android:layout\_marginTop="292dp" android:layout\_marginEnd="16dp" android:layout\_marginBottom="263dp" android:backgroundTint="@android:color/holo\_red\_light" android:onClick="doDiv"

android:text="/" app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.0" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- A button to perform multiplication. -->*

<Button android:id="@+id/mul" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginStart="16dp" android:layout\_marginTop="356dp" android:layout\_marginEnd="307dp" android:layout\_marginBottom="199dp" android:backgroundTint="@android:color/h olo\_red\_light" android:onClick="doMul" android:text="x"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- A button to perform a modulus function. -->*

<Button android:id="@+id/button" android:layout\_width="92dp" android:layout\_height="48dp" android:layout\_marginStart="113dp" android:layout\_marginTop="356dp" android:layout\_marginEnd="206dp" android:layout\_marginBottom="199dp" android:backgroundTint="@android:color/holo\_red\_light" android:onClick="doMod" android:text="%(mod)" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

*<!-- A button to perform a power function. -->*

<Button android:id="@+id/pow" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginStart="113dp" android:layout\_marginTop="292dp" android:layout\_marginEnd="210dp" android:layout\_marginBottom="263dp" android:backgroundTint="@android:color/holo\_red\_light" android:onClick="doPow" android:text="n1^n2"

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.a1calculator; import android.os.Bundle;

import android.view.View; import android.widget.EditText;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText e1, e2; TextView t1;

int num1, num2;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

}

*// a public method to get the input numbers*

public boolean getNumbers() {

*// defining the edit text 1 to e1*

e1 = (EditText) findViewById(R.id.*num1*);

*// defining the edit text 2 to e2*

e2 = (EditText) findViewById(R.id.*num2*);

*// defining the text view to t1* t1 = (TextView) findViewById(R.id.*result*);

*// taking input from text box 1*

String s1 = e1.getText().toString();

*// taking input from text box 2*

String s2 = e2.getText().toString();

*// condition to check if box is not empty*

if ((s1.equals(null) && s2.equals(null))

|| (s1.equals("") && s2.equals(""))) {

String result = "Please enter a value"; t1.setText(result);

return false;

} else {

*// converting string to int.*

num1 = Integer.*parseInt*(s1);

*// converting string to int.*

num2 = Integer.*parseInt*(s2); } return true;

}

*// a public method to perform addition*

public void doSum(View v) {

*// get the input numbers* if (getNumbers()) { int sum = num1 + num2;

t1.setText(Integer.*toString*(sum));

}

}

*// a public method to perform power function*

public void doPow(View v) {

*// get the input numbers* if (getNumbers()) { double sum = Math.pow(num1, num2);

t1.setText(Double.toString(sum));

}

}

*// a public method to perform subtraction*

public void doSub(View v) {

*// get the input numbers* if (getNumbers()) { int sum = num1 - num2;

t1.setText(Integer.toString(sum));

}

}

*// a public method to perform multiplication*

public void doMul(View v) {

*// get the input numbers* if (getNumbers()) { int sum = num1 \* num2;

t1.setText(Integer.toString(sum));

}

}

*// a public method to perform Division* public void doDiv(View v) { if (getNumbers()) { double sum = num1 / (num2 \* 1.0); t1.setText(Double.toString(sum));

}

}

*// a public method to perform modulus function*

public void doMod(View v) {

*// get the input numbers* if (getNumbers()) { double sum

= num1 % num2;

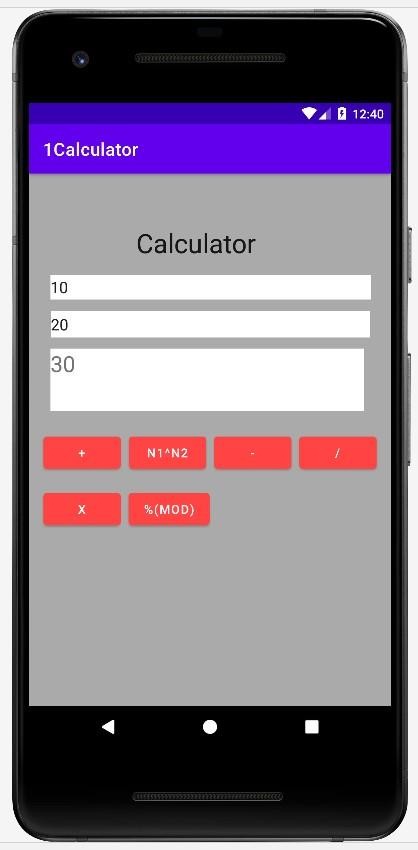
t1.setText(Double.toString(sum));

}

}

}

**Output**



* 1. **Write a program to find different views (buttons, Textview, Edittext etc.)**

**activity\_main Text**

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

<http://schemas.android.com/apk/res/android>" xmlns:tools="<http://schemas.android.com/tools>" android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

xmlns:android="

<RelativeLayout

tools:context="com.example.ugonnaagharanya.firstapp.MainActivity">

<Button

android:id="@+id/button" android:background="@color/colorPrimaryDark"

android:textColor="@android:color/white"

android:layout\_width="200dp" android:layout\_height="wrap\_content" android:layout\_centerHorizontal="true" android:layout\_centerVertical="true" android:text="@string/click\_me" />

android:textStyle="bold"

<TextView

android:id="@+id/textView" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:textColor="@android:color/holo\_red\_dark" android:layout\_alignParentTop="true" android:textSize="40sp" android:layout\_alignStart="@+id/button"

<EditText

android:text="@string/enter\_name" />

android:layout\_marginTop="28dp"

android:layout\_marginStart="1dp"

android:id="@+id/editText" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/textView" android:layout\_centerHorizontal="true"

android:ems="15"

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android:layout\_marginTop="30dp"

android:inputType="textPersonName" android:text=""

tools:ignore="LabelFor" />

</RelativeLayout>

**MainActivity**

package com.example.ugonnaagharanya.firstapp; import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.view.View; import android.widget.Button; import android.widget.Toast;

oid onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); bt1 = (Button) findViewById(R.id.button);

bt1.setOnClickListener(new View.OnClickListener() {

@Override

@Override protected v

Button bt1;

public class MainActivity ext

ends AppCompatActivity {

Toast.makeText(getApplicationContext(), "You Have Entered your name!", Toast.LENGTH\_LONG).show();

public void onClick(View view) {

}

});

}

}

Output :



* 1. **Write a program to show the intent (move from one activity to another activity).**

**activity\_first\_activity.xml**

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

<**RelativeLayout** xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".first\_activity">

<**EditText** android:id="@+id/send\_text\_id" android:layout\_width="300dp" android:layout\_height="wrap\_content" android:textSize="25dp" android:hint="Input" android:textStyle="bold" android:layout\_marginTop="20dp" android:layout\_marginLeft="40dp"/>

<**Button** android:id="@+id/send\_button\_id" android:layout\_width="wrap\_content" android:layout\_height="40dp" android:text="send" android:textStyle="bold" android:layout\_marginTop="150dp" android:layout\_marginLeft="150dp"/>

# </RelativeLayout>

## First\_Activity.java:

**package** or.shubham.navedmalik.sendthedata;

**import** android.content.Intent; **import** android.support.v7.app.AppCompatActivity; **import** android.os.Bundle; **import** android.view.View; **import** android.widget.Button; **import** android.widget.EditText;

**public class** first\_activity **extends** AppCompatActivity {

// define the variable Button send\_button;

EditText send\_text; @Override **protected void**

onCreate(Bundle savedInstanceState)

{

**super**.onCreate(savedInstanceState); setContentView(R.layout.activity\_first\_activity); send\_button

= (Button)findViewById(R.id.send\_button\_id); send\_text = (EditText)findViewById(R.id.send\_text\_id);

// add the OnClickListener in sender button

// after clicked this button following Instruction will run send\_button.setOnClickListener(**new** View.OnClickListener() {

@Override **public void**

onClick(View v)

{

// get the value which input by user in EditText

// and convert it to string

String str = send\_text.getText().toString();

// Create the Intent object of this class Context() to Second\_activity class Intent intent = **new** Intent(getApplicationContext(), Second\_activity.**class**);

// now by putExtra method put the value in key, value pair

// key is message\_key by this key we will receive the value, and put the string

intent.putExtra("message\_key", str);

// start the Intent startActivity(intent);

}

});

}

}

## activity\_second\_activity.xml

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

<**RelativeLayout** xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto)

xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context="org.geeksforgeeks.navedmalik.sendthedata.Second\_activity">

<**TextView** android:id="@+id/received\_value\_id" android:layout\_width="300dp" android:layout\_height="50dp" android:textStyle="bold" android:textSize="40dp" android:layout\_marginTop="20dp" android:layout\_marginLeft="40dp"/>

</**RelativeLayout**>

## Filename: Second\_Activity.java

**package** org.geeksforgeeks.navedmalik.sendthedata;

**import** android.content.Intent;

**import** android.support.v7.app.AppCompatActivity; **import** android.os.Bundle; **import** android.widget.TextView;

**public class** Second\_activity **extends** AppCompatActivity {

TextView receiver\_msg; @Override **protected void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState); setContentView(R.layout.activity\_second\_activity);

receiver\_msg = (TextView)findViewById(R.id.received\_value\_id);

// create the get Intent object Intent intent = getIntent();

// receive the value by getStringExtra() method

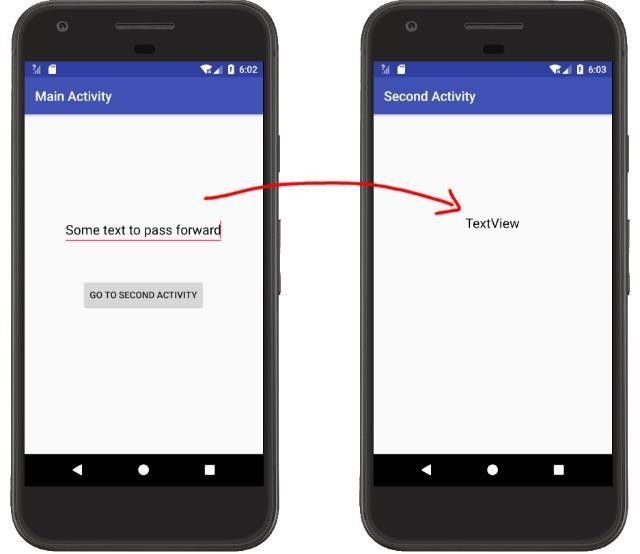
// and key must be same which is send by first activity String str = intent.getStringExtra("message\_key");

// display the string into textView

receiver\_msg.setText(str);

}}

**OUTPUT:**



* 1. **Write a program to show simple Listview and Webview.**

# Listview:

**activity\_main.xml**

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

**<android.support.constraint.ConstraintLayout** xmlns:android="[http://sch](http://sch/) emas.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="listview.example.com.listview.MainActivity"**>**

# <ListView

android:id="@+id/listView" android:layout\_width="match\_parent"

android:layout\_height="fill\_parent"

**/>**

# </android.support.constraint.ConstraintLayout> mylist.xml

**<?xml** version="1.0" encoding="utf8"**?>**

**<TextView** xmlns:android=["ht](http://schemas.android.com/apk/res/android)t[p://schemas.android.com/apk/res/android](http://schemas.android.com/apk/res/android)" android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Medium Text" android:textStyle="bold"

android:textAppearance="?android:attr/textAppearanceMedium" android:layout\_marginLeft="10dp" android:layout\_marginTop="5dp" android:padding="2dp"

android:textColor="#4d4d4d"

**/>**

***strings.xml***

# <resources>

**<string** name="app\_name"**>**ListView**</string>**

**<string-array** name="array\_technology"**>**

**<item>**Android**</item>**

**<item>**Java**</item>**

# <item>Php</item>

**<item>**Hadoop**</item>**

# <item>Sap</item>

**<item>**Python**</item>**

**<item>**Ajax**</item>**

# <item>C++</item>

**<item>**Ruby**</item>**

**<item>**Rails**</item>**

**<item>**.Net**</item>**

**<item>**Perl**</item>**

**</string-array> </resources> MainActivity.java package** listview.example.com.listview;

**import** android.support.v7.app.AppCompatActivity; **import** android.os.Bundle; **import** android.view.View; **import** android.widget.AdapterView; **import** android.widget.ArrayAdapter; **import** android.widget.ListView; **import** android.widget.TextView;

**import** android.widget.Toast;

**public class** MainActivity **extends** AppCompatActivity { ListView listView;

TextView textView; String[] listItem;

@Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

listView=(ListView)findViewById(R.id.listView); textView=(TextView)findViewById(R.id.textView); listItem = getResources().getStringArray(R.array.array\_technology); **final** ArrayAdapter<String> adapter = **new** ArrayAdapter<String>(**this**,

android.R.layout.simple\_list\_item\_1, android.R.id.text1, listItem); listView.setAdapter(adapter);

listView.setOnItemClickListener(**new** AdapterView.OnItemClickListen er() {

@Override

**public void** onItemClick(AdapterView<?> adapterView, View view,

**int** position, **long** l) {

// TODO Auto-generated method stub String value=adapter.getItem(position);

Toast.makeText(getApplicationContext(),value,Toast.LENGTH\_S HORT).show();

}

});

} }

**OUTPUT:**



**WEBVIEW:**

activity\_main.xml

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

**<android.support.constraint.ConstraintLayout** xmlns:android="[http://sch](http://sch/) emas.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="example.javatpoint.com.webview.MainActivity"**>**

**<WebView** android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:id="@+id/webView" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintLeft\_toLeftOf="parent" app:layout\_constraintRight\_toRightOf="parent" app:layout\_constraintTop\_toTopOf="parent" **/>**

# </android.support.constraint.ConstraintLayout>

File: MainActivity.java

**package** example.javatpoint.com.webview;

**import** android.support.v7.app.AppCompatActivity; **import**

android.os.Bundle;

**import** android.webkit.WebView;

**public class** MainActivity **extends** AppCompatActivity { @Override

**protected void** onCreate(Bundle savedInstanceState) { **super**.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

WebView mywebview = (WebView) findViewById(R.id.webView);

// mywebview.loadUrl("https://[www.javatpoint.com/](http://www.javatpoint.com/)");

/\*String data = "<html><body><h1>Hello, Javatpoint!</h1></body></ html>";

mywebview.loadData(data, "text/html", "UTF-8"); \*/

mywebview.loadUrl("file:///android\_asset/myresource.html");

}

}

**OUTPUT:**

**6. Write a program to show checkbox and Radiobutton.**

**activity\_man.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">

<Button

android:id="@+id/button" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text="Button" app:layout\_constraintBottom\_toTopOf="@+id/radioButton"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.507" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.757" />

<RadioButton android:id="@+id/radioButton" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginBottom="60dp" android:text="RadioButton"

app:layout\_constraintBottom\_toTopOf="@+id/toggleButton" app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent" />

<ToggleButton android:id="@+id/toggleButton" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginBottom="232dp" android:text="ToggleButton" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.498"

app:layout\_constraintStart\_toStartOf="parent" />

<ImageButton android:id="@+id/imageButton" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/toggleButton" app:srcCompat="@android:drawable/btn\_star\_big\_on" />

</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java *:***

package com.example.tooglebutton;

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

public class MainActivity extends AppCompatActivity { @Override

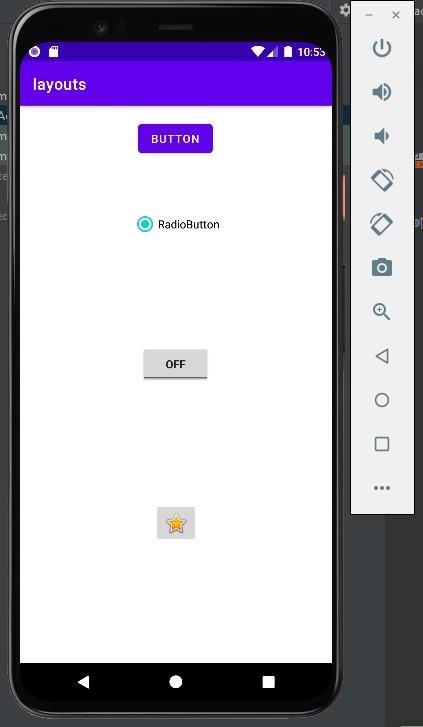
protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

}

}

**Output *:***



1. **write a Progarm create AlertDialog Box Activity\_main.xml:**

<RelativeLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/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:layout\_centerHorizontal="true" android:layout\_centerVertical="true" android:text=" " />

</RelativeLayout>

**Mainactivity.java**

package com.example.alertdialog;

import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.app.AlertDialog; import android.content.DialogInterface;

import android.view.Menu;

public class MainActivity extends AppCompatActivity { @Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*); AlertDialog.Builder builder = new AlertDialog.Builder(this);

*//Uncomment the below code to Set the message and title from the strings.xml file*

*//builder.setMessage(R.string.dialog\_message) .setTitle(R.string.dialog\_title);*

*//Setting message manually and performing action on button click*

builder.setMessage("Do you want to close this application ?")

.setCancelable(false)

.setPositiveButton("Yes", new DialogInterface.OnClickListener() { public void onClick(DialogInterface dialog, int id) { finish();

}

})

.setNegativeButton("No", new DialogInterface.OnClickListener() { public void onClick(DialogInterface dialog, int id) {

*// Action for 'NO' Button*

dialog.cancel();

}

});

*//Creating dialog box*

AlertDialog alert = builder.create();

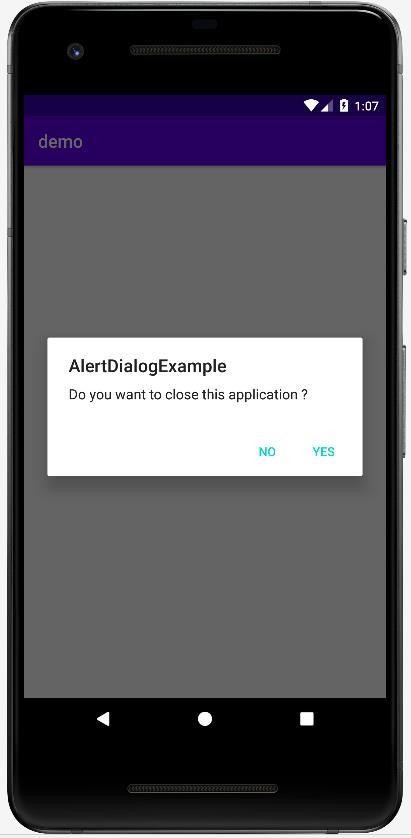
*//Setting the title manually*

alert.setTitle("AlertDialogExample"); alert.show();

}

}

**Output**



ProgressBar

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

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) android:layout\_width="match\_parent" android:layout\_height="match\_parent">

<ProgressBar android:id="@+id/pBar"

style="?android:attr/progressBarStyleHor izontal" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginLeft="100dp" android:layout\_marginTop="200dp" android:minHeight="50dp" android:minWidth="200dp" android:max="100" android:indeterminate="false" android:progress="0" />

<TextView android:id="@+id/tView" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignLeft="@+id/pBar" android:layout\_below="@+id/pBar" />

<Button android:id="@+id/btnShow" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginLeft="130dp" android:layout\_marginTop="20dp" android:text="Start Progress" android:layout\_below="@+id/tView"/>

</RelativeLayout>

**Mainactivity.java**

package com.example.progressbar;

import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.os.Handler; import android.view.View; import android.widget.Button; import android.widget.ProgressBar; import android.widget.TextView;

public class MainActivity extends AppCompatActivity

{ private ProgressBar pgsBar; private int i = 0; private TextView txtView; private Handler hdlr = new Handler();

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*); pgsBar = (ProgressBar) findViewById(R.id.*pBar*); txtView = (TextView) findViewById(R.id.*tView*); Button btn = (Button)findViewById(R.id.*btnShow*); btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

i = pgsBar.getProgress(); new Thread(new Runnable() {

public void run() { while (i < 100) {

i += 1;

*current value in text view*

public void run() { pgsBar.setProgress(i);

*// Update the progress bar and display the*

hdlr.post(new Runnable() {

txtView.setText(i+"/"+pgsBar.getMax());

try {

*progress slowly.*

});

}

*// Sleep for 100 milliseconds to show the*

Thread.*sleep*(100);

} catch (InterruptedException e) { e.printStackTrace();

}

}

}

}).start();

}

});

}

}



1. **Write a program to show Ratingbar and Googlemap on your screen**. **Activity\_main.xml:**

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent"

android:layout\_height="match\_parent" tools:context=".MainActivity" >

<RatingBar android:id="@+id/ratingBar1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignParentTop="true" android:layout\_centerHorizontal="true"

android:layout\_marginTop="44dp" />

<Button

android:id="@+id/button1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignLeft="@+id/ratingBar1"

android:layout\_below="@+id/ratingBar1" android:layout\_marginLeft="92dp" android:layout\_marginTop="66dp" android:text="submit"

/>

</RelativeLayout>

**Mainactvity.java**

package com.example.ratingbar;

import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.view.Menu; import android.view.View; import android.view.View.OnClickListener; import android.widget.Button; import android.widget.RatingBar;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity { RatingBar ratingbar1;

Button button;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*); addListenerOnButtonClick();

}

public void addListenerOnButtonClick(){ ratingbar1=(RatingBar)findViewById(R.id.*ratingBar1*);

button=(Button)findViewById(R.id.*button1*); button.setOnClickListener(new OnClickListener(){

@Override

public void onClick(View arg0) {

String rating=String.*valueOf*(ratingbar1.getRating()); Toast.*makeText*(getApplicationContext(), rating, Toast.*LENGTH\_LONG*).show();

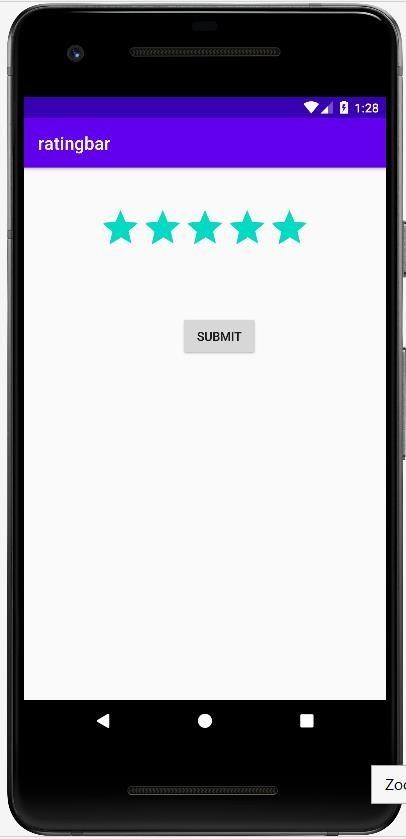
}

});

}

}

**Output**



**Google Map**

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

<fragment xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:map=["http://schemas.android.com/](http://schemas.android.com/apk/res-auto)a[pk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:id="@+id/map"

android:name="com.google.android.gms.maps.SupportMapFragment"

android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MapsActivity" />

**Mainactivity.java**

package com.example.googlemap;

import androidx.fragment.app.FragmentActivity; import android.os.Bundle;

import com.google.android.gms.maps.CameraUpdateFactory; import com.google.android.gms.maps.GoogleMap; import com.google.android.gms.maps.OnMapReadyCallback; import com.google.android.gms.maps.SupportMapFragment; import com.google.android.gms.maps.model.LatLng; import com.google.android.gms.maps.model.MarkerOptions; import com.example.googlemap.databinding.ActivityMapsBinding;

public class MapsActivity extends FragmentActivity implements OnMapReadyCallback { private GoogleMap mMap;

private ActivityMapsBinding binding;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

binding = ActivityMapsBinding.*inflate*(getLayoutInflater()); setContentView(binding.getRoot());

*// Obtain the SupportMapFragment and get notified when the map is ready to be used.*

SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()

.findFragmentById(R.id.map); mapFragment.getMapAsync(this);

}

@Override

public void onMapReady(GoogleMap googleMap) { mMap = googleMap;

*// Add a marker in Sydney and move the camera*

LatLng sydney = new LatLng(-34, 151);

mMap.addMarker(new MarkerOptions().position(sydney).title("Marker in Sydney")); mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));

}

}

**Output**



1. **Write a program to show bluetooth (on and off).**

***Activity\_man.xml ::***

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app=["http://sche](http://schemas.android.com/apk/res-auto)m[as.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView android:id="@+id/txtBTStatus" android:layout\_width="272dp" android:layout\_height="50dp" android:layout\_alignParentStart="true" android:layout\_alignParentTop="true" android:layout\_alignParentEnd="true" android:hint="Bluetooth Status" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.496" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.635"

tools:ignore="MissingConstraints" />

<Switch android:id="@+id/switchBT"

android:layout\_width="134dp" android:layout\_height="44dp" android:layout\_below="@+id/txtBTStatus" android:layout\_alignParentStart="true" android:layout\_alignParentEnd="true" android:layout\_alignParentBottom="true" android:text="Switch"

app:layout\_constraintBottom\_toTopOf="@+id/txtBTStatus" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.498" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.738"

tools:ignore="MissingConstraints,UseSwitchCompatOrMaterialXml" />

</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity.java ::**

package com.example.blutooth4; import androidx.appcompat.app.AppCompatActivity; import androidx.appcompat.widget.SwitchCompat; import android.bluetooth.BluetoothAdapter; import android.content.Intent; import android.os.Bundle; import android.widget.CompoundButton;

import android.widget.Switch; import android.widget.TextView;

public class MainActivity extends AppCompatActivity { Switch sw;

TextView textView; BluetoothAdapter bt;

Intent bluetoothIntent; int i = 1;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*); sw = findViewById(R.id.*switchBT*); textView = findViewById(R.id.*txtBTStatus*);

bt = BluetoothAdapter.*getDefaultAdapter*();

sw.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener()

{

@Override

public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {

if(isChecked){

bluetoothEnable();

else{

}

bluetoothDisable();

}

}

});

}

public void bluetoothEnable(){

bluetoothIntent = new Intent(BluetoothAdapter.*ACTION\_REQUEST\_ENABLE*); startActivityForResult(bluetoothIntent, i);

textView.setText("Bluetooth is ON");

}

public void bluetoothDisable(){ bt.disable(); textView.setText("Bluetooth is OFF");

}

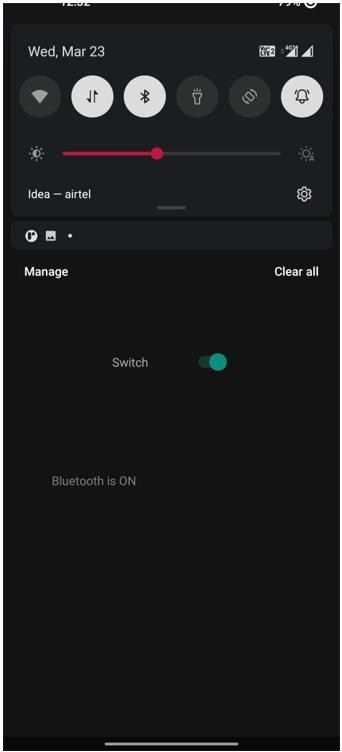
}

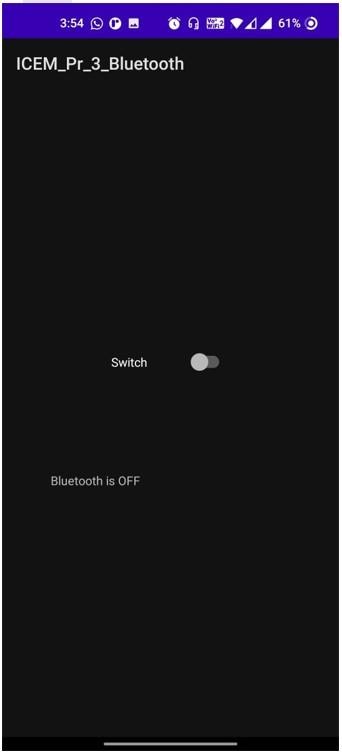
**AndroidManifest.xml ::**

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

<uses-permission android:name="android.permission.BLUETOOTH\_ADMIN"/>

<uses-permission android:name="android.permission.BLUETOOTH\_CONNECT" />

**Output**

1. **Write a program to show Audio and Video ** **on your screen.**

**MainActivity.java**

package com.example.audioexample;

import android.app.Activity; import android.net.Uri; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.media.MediaPlayer; import android.view.View;

import android.view.View.OnClickListener; import android.widget.Button; import android.widget.MediaController;

import android.widget.VideoView;

public class MainActivity extends Activity { MediaPlayer media;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); final VideoView myv = (VideoView) findViewById(R.id.videoView1); myv.setVideoURI(Uri.parse("android.resource://" + getPackageName() + "/" + R.raw.abc)); myv.setMediaController(new MediaController(this));

Button b= (Button) findViewById(R.id.button1); Button b1= (Button) findViewById(R.id.button2);

media = new MediaPlayer().create(getBaseContext(), R.raw.shree); b.setOnClickListener(new OnClickListener() { @Override public void onClick(View arg0) { // TODO Auto-generated method stub media.reset();

media = new MediaPlayer().create(getBaseContext(), R.raw.shree); media.start();

}

});

b1.setOnClickListener(new OnClickListener() { @Override

public void onClick(View v) {

// TODO Auto-generated method stub media.stop();

}

});

}

@Override public boolean onCreateOptionsMenu(Menu menu) {

// Inflate the menu; this adds items to the action bar if it is present.

getMenuInflater().inflate(R.menu.main, menu); return true;

}

@Override public boolean onOptionsItemSelected(MenuItem item) {

// Handle action bar item clicks here. The action bar will

// automatically handle clicks on the Home/Up button, so long

// as you specify a parent activity in AndroidManifest.xml. int id = item.getItemId(); if (id == R.id.action\_settings) {

return true;

}

return super.onOptionsItemSelected(item);

}

}

Activity\_main.xml

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:t[ools="ht](http://schemas.android.com/tools)tp:/[/schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:paddingBottom="@dimen/activity\_vertical\_margin" android:paddingLeft="@dimen/activity\_horizontal\_margin" android:paddingRight="@dimen/activity\_horizontal\_margin" android:paddingTop="@dimen/activity\_vertical\_margin"

tools:context=".MainActivity" >

<VideoView android:id="@+id/videoView1" android:layout\_width="match\_parent"

android:layout\_height="200dp" />

<Button

android:id="@+id/button2" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignLeft="@+id/button1" android:layout\_alignParentBottom="true" android:layout\_marginBottom="84dp"

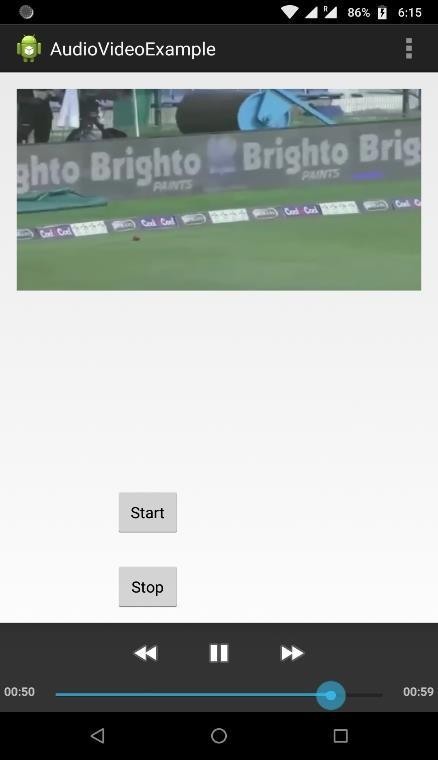
android:text="Stop" />

<Button

android:id="@+id/button1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_above="@+id/button2" android:layout\_alignLeft="@+id/videoView1"

android:layout\_marginBottom="26dp" android:layout\_marginLeft="95dp" android:text="Start" />

</RelativeLayout> Output:



1. **Write a program to show Current date (Datepicker) and current time (Timepicker) on your screen. MainActivity.java**

package com.example.datetimepicker;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.app.DatePickerDialog; import android.app.TimePickerDialog; import android.view.MenuItem; import android.view.View; import android.widget.Button; import android.widget.DatePicker; import android.widget.EditText; import android.widget.TimePicker; import java.util.Calendar;

public class MainActivity extends Activity implements View.OnClickListener {

Button btnDatePicker, btnTimePicker; EditText txtDate, txtTime;

private int mYear, mMonth, mDay, mHour, mMinute; @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); btnDatePicker=(Button)findViewById(R.id.btn\_date); btnTimePicker=(Button)findViewById(R.id.btn\_time); txtDate=(EditText)findViewById(R.id.in\_date); txtTime=(EditText)findViewById(R.id.in\_time);

btnDatePicker.setOnClickListener(this); btnTimePicker.setOnClickListener(this);

}

@Override

public void onClick(View v) { if (v == btnDatePicker) {

// Get Current Date

final Calendar c = Calendar.getInstance(); mYear = c.get(Calendar.YEAR); mMonth

= c.get(Calendar.MONTH);

mDay = c.get(Calendar.DAY\_OF\_MONTH);

DatePickerDialog datePickerDialog = new DatePickerDialog(this, new DatePickerDialog.OnDateSetListener() {

@Override public void onDateSet(DatePicker view, int year,

int monthOfYear, int dayOfMonth) {

txtDate.setText(dayOfMonth + "-" + (monthOfYear + 1) + "-" + year);

}

}, mYear, mMonth, mDay); datePickerDialog.show();

}

if (v == btnTimePicker) {

// Get Current Time final Calendar c

= Calendar.getInstance(); mHour = c.get(Calendar.HOUR\_OF\_DAY); mMinute = c.get(Calendar.MINUTE);

// Launch Time Picker Dialog

TimePickerDialog timePickerDialog = new TimePickerDialog(this, new TimePickerDialog.OnTimeSetListener() {

@Override

public void onTimeSet(TimePicker view, int hourOfDay, int minute) {

txtTime.setText(hourOfDay + ":" + minute);

}

}, mHour, mMinute, false); timePickerDialog.show();

}

}

}

**Activity\_main.xml**

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:t[ools="ht](http://schemas.android.com/tools)tp:/[/schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText android:layout\_width="200dp" android:layout\_height="wrap\_content" android:id="@+id/in\_date" android:layout\_marginTop="82dp" android:layout\_alignParentTop="true"

android:layout\_alignParentLeft="true"

/>

<Button android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="SELECT DATE" android:id="@+id/btn\_date" android:layout\_alignBottom="@+id/in\_date"

android:layout\_toRightOf="@+id/in\_date"

/>

<EditText android:layout\_width="200dp"

android:layout\_height="wrap\_content" android:id="@+id/in\_time" android:layout\_below="@+id/in\_date"

android:layout\_alignParentLeft="true"

/>

<Button

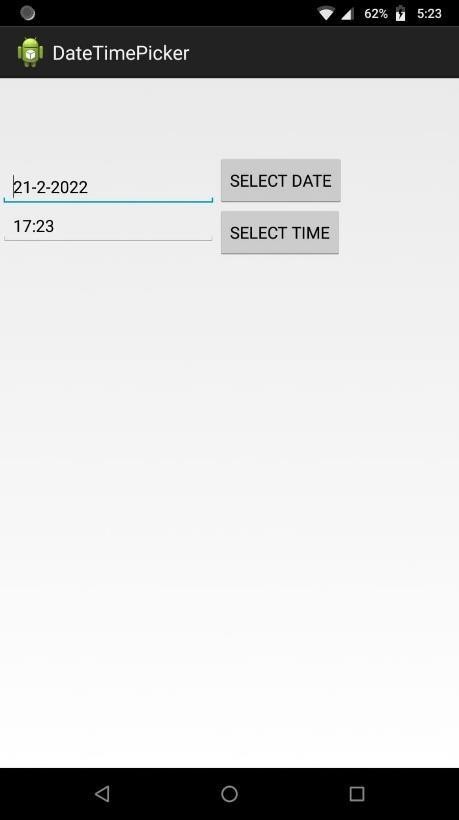
android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text="SELECT TIME" android:id="@+id/btn\_time"

android:layout\_below="@+id/btn\_date" android:layout\_alignLeft="@+id/btn\_date" />

</RelativeLayout>

**Output:**



1. **Write a program to on Camera on your screen and take a photograph.**

**MainActivity.java**

package com.example.cameraexample;

import android.annotation.SuppressLint; import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.Manifest; import android.app.Activity; import android.app.AlertDialog; import android.content.Context; import android.content.DialogInterface; import android.content.Intent; import android.content.SharedPreferences; import android.content.pm.PackageManager; import android.net.Uri; import android.os.Bundle;

import android.provider.Settings;

public class MainActivity extends Activity {

public static final int MY\_PERMISSIONS\_REQUEST\_CAMERA = 100;

public static final String ALLOW\_KEY = "ALLOWED"; public static final String CAMERA\_PREF = "camera\_pref";

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

if (ContextCompat.checkSelfPermission(this, Manifest.permission.CAMERA) != PackageManager.PERMISSION\_GRANTED) {

if (getFromPref(this, ALLOW\_KEY)) { showSettingsAlert();

} else if (ContextCompat.checkSelfPermission(this, Manifest.permission.CAMERA)

!= PackageManager.PERMISSION\_GRANTED) {

// Should we show an explanation? if (ActivityCompat.shouldShowRequestPermissionRationale(this,

Manifest.permission.CAMERA)) {

showAlert(); } else {

// No explanation needed, we can request the permission. ActivityCompat.requestPermissions(this,

new String[]{Manifest.permission.CAMERA}, MY\_PERMISSIONS\_REQUEST\_CAMERA);

}

}

} else { openCamera();

}

}

public static void saveToPreferences(Context context, String key, Boolean allowed) { SharedPreferences myPrefs = context.getSharedPreferences(CAMERA\_PREF,

Context.MODE\_PRIVATE); SharedPreferences.Editor prefsEditor = myPrefs.edit();

prefsEditor.putBoolean(key, allowed); prefsEditor.commit();

}

public static Boolean getFromPref(Context context, String key) { SharedPreferences myPrefs = context.getSharedPreferences(CAMERA\_PREF,

Context.MODE\_PRIVATE); return (myPrefs.getBoolean(key, false));

}

private void showAlert() {

AlertDialog alertDialog = new AlertDialog.Builder(MainActivity.this).create(); alertDialog.setTitle("Alert");

alertDialog.setMessage("App needs to access the Camera."); alertDialog.setButton(AlertDialog.BUTTON\_NEGATIVE, "DONT ALLOW", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int which) { dialog.dismiss();

finish();

}

});

alertDialog.setButton(AlertDialog.BUTTON\_POSITIVE, "ALLOW", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int which) { dialog.dismiss();

ActivityCompat.requestPermissions(MainActivity.this, new String[]{Manifest.permission.CAMERA}, MY\_PERMISSIONS\_REQUEST\_CAMERA);

}

});

alertDialog.show();

}

private void showSettingsAlert() {

AlertDialog alertDialog = new AlertDialog.Builder(MainActivity.this).create(); alertDialog.setTitle("Alert");

alertDialog.setMessage("App needs to access the Camera.");

alertDialog.setButton(AlertDialog.BUTTON\_NEGATIVE, "DONT ALLOW", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int which) { dialog.dismiss();

//finish();

}

});

alertDialog.setButton(AlertDialog.BUTTON\_POSITIVE, "SETTINGS", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int which) { dialog.dismiss();

startInstalledAppDetailsActivity(MainActivity.this);

}

});

alertDialog.show();

}

@SuppressLint("Override") public void onRequestPermissionsResult(int requestCode, String permissions[], int[] grantResults) {

switch (requestCode) {

case MY\_PERMISSIONS\_REQUEST\_CAMERA: {

for (int i = 0, len = permissions.length; i < len; i++) { String permission = permissions[i];

if (grantResults[i] == PackageManager.PERMISSION\_DENIED) { boolean showRationale =

ActivityCompat.shouldShowRequestPermissionRationale( this, permission);

showAlert();

if (showRationale) {

} else if (!showRationale) {

saveToPreferences(MainActivity.this, ALLOW\_KEY, true);

}}} }

// other 'case' lines to check for other

// permissions this app might request

}

}

@Override protected void onResume() {

super.onResume();

}

public static void startInstalledAppDetailsActivity(final Activity context) { if (context == null) {

return;

}

final Intent i = new Intent(); i.setAction(Settings.ACTION\_APPLICATION\_DETAILS\_SETTINGS); i.addCategory(Intent.CATEGORY\_DEFAULT); i.setData(Uri.parse("package:" + context.getPackageName())); i.addFlags(Intent.FLAG\_ACTIVITY\_NEW\_TASK); i.addFlags(Intent.FLAG\_ACTIVITY\_NO\_HISTORY); i.addFlags(Intent.FLAG\_ACTIVITY\_EXCLUDE\_FROM\_RECENTS);

context.startActivity(i);

}

private void openCamera() {

Intent intent = new Intent("android.media.action.IMAGE\_CAPTURE"); startActivity(intent);

}

}

**Activity\_main.xml**

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

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:t[ools="ht](http://schemas.android.com/tools)tp:/[/schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

</RelativeLayout>

**Output:**



1. **Write a program to show GPStracker on your screen (Latitude and Longitude).**

**MainActivity.java**

package com.example.gps;

import android.Manifest; import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.test.mock.MockPackageManager; import android.view.View; import android.widget.Button; import android.widget.Toast;

public class MainActivity extends Activity { Button btnShowLocation;

private static final int REQUEST\_CODE\_PERMISSION = 2;

String mPermission = Manifest.permission.ACCESS\_FINE\_LOCATION;

// GPSTracker class GpsTracker gps;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

try {

if (ActivityCompat.checkSelfPermission(this, mPermission)

!= MockPackageManager.PERMISSION\_GRANTED) { ActivityCompat.requestPermissions(this, new String[]{mPermission},

REQUEST\_CODE\_PERMISSION);

// If any permission above not allowed by user, this condition will

//execute every time, else your else part will work

}

} catch (Exception e) { e.printStackTrace();

}

btnShowLocation = (Button) findViewById(R.id.button);

// show location button click event btnShowLocation.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View arg0) {

// create class object

gps = new GpsTracker(MainActivity.this);

// check if GPS enabled if(gps.canGetLocation()){

double latitude = gps.getLatitude(); double longitude = gps.getLongitude();

// \n is for new line

Toast.makeText(getApplicationContext(), "Your Location is - \nLat: "

}else{

+ latitude + "\nLong: " + longitude, Toast.LENGTH\_LONG).show();

// can't get location

// GPS or Network is not enabled

// Ask user to enable GPS/network in settings gps.showSettingsAlert();

}

}

});

}

}

GpsRracker.java package com.example.gps;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.app.AlertDialog; import android.app.Service; import android.content.Context; import android.content.DialogInterface; import android.content.Intent; import android.location.Location; import android.location.LocationListener; import android.location.LocationManager; import android.os.Bundle; import android.os.IBinder; import android.provider.Settings;

import android.util.Log;

public class GpsTracker extends Service implements LocationListener{ private final Context mContext;

// flag for GPS status boolean isGPSEnabled = false;

// flag for network status boolean isNetworkEnabled = false;

// flag for GPS status boolean canGetLocation = false;

Location location; // location double latitude; // latitude double

longitude; // longitude

meters

// The minimum distance to change Updates in meters

private static final long MIN\_DISTANCE\_CHANGE\_FOR\_UPDATES = 10; // 10

// The minimum time between updates in milliseconds

private static final long MIN\_TIME\_BW\_UPDATES = 1000 \* 60 \* 1; // 1 minute

// Declaring a Location Manager protected LocationManager locationManager;

public GpsTracker(Context context) { this.mContext = context; getLocation();

}

public Location getLocation() { try {

locationManager = (LocationManager) mContext.getSystemService(LOCATION\_SERVICE);

// getting GPS status isGPSEnabled =

locationManager.isProviderEnabled(LocationManager.GPS\_PROVIDER);

// getting network status isNetworkEnabled = locationManager

.isProviderEnabled(LocationManager.NETWORK\_PROVIDER);

if (!isGPSEnabled && !isNetworkEnabled) {

// no network provider is enabled

} else {

this.canGetLocation = true;

// First get location from Network Provider if (isNetworkEnabled) {

locationManager.requestLocationUpdates( LocationManager.NETWORK\_PROVIDER, MIN\_TIME\_BW\_UPDATES, MIN\_DISTANCE\_CHANGE\_FOR\_UPDATES, this);

Log.d("Network", "Network"); if (locationManager != null) {

location = locationManager

.getLastKnownLocation(LocationManager.NETWORK\_PROVIDER); if (location != null) {

latitude = location.getLatitude(); longitude = location.getLongitude();

}

}

}

// if GPS Enabled get lat/long using GPS

Services if (isGPSEnabled) { if (location == null) {

locationManager.requestLocationUpdates( LocationManager.GPS\_PROVIDER, MIN\_TIME\_BW\_UPDATES, MIN\_DISTANCE\_CHANGE\_FOR\_UPDATES, this);

Log.d("GPS Enabled", "GPS

Enabled"); if (locationManager != null) { location = locationManager

.getLastKnownLocation(LocationManager.GPS\_PROVIDER);

if (location != null) { latitude = location.getLatitude(); longitude = location.getLongitude();

}

}

}

}

}

} catch (Exception e) { e.printStackTrace();

}

return location;

}

/\*\*

* Stop using GPS listener
* Calling this function will stop using GPS in your app

\* \*/

public void stopUsingGPS(){ if(locationManager != null){

locationManager.removeUpdates(GpsTracker.this);

}

}

/\*\*

* Function to get latitude

\* \*/

public double getLatitude(){ if(location != null){ latitude = location.getLatitude();

}

// return latitude return latitude;

}

/\*\*

* Function to get longitude

\* \*/

public double getLongitude(){ if(location != null){

longitude = location.getLongitude();

}

// return longitude return longitude;

}

/\*\*

* Function to check GPS/wifi enabled
* @return boolean

\* \*/

public boolean canGetLocation() { return this.canGetLocation;

}

/\*\*

* Function to show settings alert dialog
* On pressing Settings button will lauch Settings Options

\* \*/

public void showSettingsAlert(){

AlertDialog.Builder alertDialog = new AlertDialog.Builder(mContext);

// Setting Dialog Title alertDialog.setTitle("GPS is settings");

// Setting Dialog Message alertDialog.setMessage("GPS is not enabled. Do you want to go to settings menu?");

// On pressing Settings button

alertDialog.setPositiveButton("Settings", new DialogInterface.OnClickListener()

{

public void onClick(DialogInterface dialog,int which) { Intent intent = new

Intent(Settings.ACTION\_LOCATION\_SOURCE\_SETTINGS); mContext.startActivity(intent);

}

});

// on pressing cancel button

alertDialog.setNegativeButton("Cancel", new DialogInterface.OnClickListener()

{

public void onClick(DialogInterface dialog, int which) {

dialog.cancel();

}

});

// Showing Alert Message alertDialog.show();

}

@Override

public IBinder onBind(Intent arg0) { return null;

}

@Override

public void onLocationChanged(Location location) {

// TODO Auto-generated method stub

}

@Override

public void onStatusChanged(String provider, int status, Bundle extras) {

// TODO Auto-generated method stub

}

@Override

public void onProviderEnabled(String provider) {

// TODO Auto-generated method stub

}

@Override

public void onProviderDisabled(String provider) {

// TODO Auto-generated method stub

}

}

**Activiy\_main.xml**

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

<LinearLayout xmlns:android = ["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) android:layout\_width = "fill\_parent" android:layout\_height = "fill\_parent" android:orientation = "vertical" >

<Button

android:id = "@+id/button" android:layout\_width = "fill\_parent" android:layout\_height = "wrap\_content" android:text = "getlocation"/>

</LinearLayout>

**AndroidManifest.xml**

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

<manifest xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) package="com.example.gps" android:versionCode="1" android:versionName="1.0" >

<uses-permission android:name = "android.permission.ACCESS\_FINE\_LOCATION" />

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

<uses-sdk android:minSdkVersion="15"

android:targetSdkVersion="15" />

<application android:allowBackup="true"

android:icon="@drawable/ic\_launcher" android:label="@string/app\_name" android:theme="@style/AppTheme" >

<activity android:name=".MainActivity"

android:label="@string/app\_name" >

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity

android:name=".GpsTracker"

android:label="@string/title\_activity\_gps\_tracker" >

</activity>

</application>

</manifest> **Output:**



1. **Write a program to send SMS (Run this application on your actual android phone and show SMS received).**

MainActivit.java

package com.example.messagebox;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.telephony.SmsManager; import android.view.View; import android.widget.Button; import android.widget.EditText; import android.widget.Toast;

public class MainActivity extends Activity { private EditText txtMobile; private EditText txtMessage; private Button btnSms;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main); txtMobile

= (EditText)findViewById(R.id.mblTxt); txtMessage

= (EditText)findViewById(R.id.msgTxt); btnSms = (Button)findViewById(R.id.btnSend);

btnSms.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) {

try{

SmsManager smgr = SmsManager.getDefault();

smgr.sendTextMessage(txtMobile.getText().toString(),null,txtMessage.getText().toString(),n ull,null);

Toast.makeText(MainActivity.this, "SMS Sent Successfully", Toast.LENGTH\_SHORT).show();

}

catch (Exception e){

Toast.makeText(MainActivity.this, "SMS Failed to Send, Please try again", Toast.LENGTH\_SHORT).show();

}

}

});

}

}

**Activity\_main.xml**

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

<LinearLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/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/fstTxt" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginLeft="100dp" android:layout\_marginTop="150dp" android:text="Mobile No" />

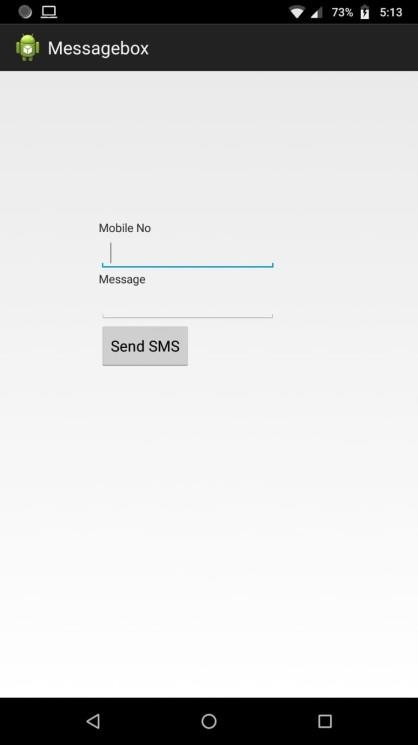
<EditText android:id="@+id/mblTxt" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginLeft="100dp" android:ems="10"/> <TextView android:id="@+id/secTxt" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text="Message" android:layout\_marginLeft="100dp" />

<EditText android:id="@+id/msgTxt" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginLeft="100dp" android:ems="10" /> <Button android:id="@+id/btnSend" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginLeft="100dp" android:text="Send SMS" />

</LinearLayout>

**Output:**



1. **Write a program to make a phone call. (Run this application on your actual android phone and show phone call on your screen).**

MainActivity.java

package com.example.phone2;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.Manifest; import android.content.Intent; import android.content.pm.PackageManager; import android.net.Uri; import android.view.View; import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends Activity { private EditText phone;

private Button call; @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); phone = (EditText) findViewById(R.id.number); call = (Button) findViewById(R.id.call); call.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String PhoneNumber = phone.getText().toString();

Intent intent = new Intent(Intent.ACTION\_CALL); intent.setData(Uri.parse("tel:"+PhoneNumber));

startActivity(intent);

}

});

}

}

**Activity\_main.xml**

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

<LinearLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) android:layout\_width="fill\_parent" android:layout\_height="fill\_parent" android:orientation="vertical" >

<EditText android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

android:id="@+id/number" android:hint="Phone Number" android:inputType="phone" android:layout\_margin="8dp">

</EditText>

<Button android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_gravity="center" android:text="call" android:id="@+id/call"/>

</LinearLayout>

**AndroidManifest.xml**

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

<manifest xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) package="com.example.phone2" android:versionCode="1" android:versionName="1.0" >

<uses-sdk android:minSdkVersion="15" android:targetSdkVersion="15" />

<uses-permission android:name="android.permission.CALL\_PHONE"/>

<application android:allowBackup="true"

android:icon="@drawable/ic\_launcher" android:label="@string/app\_name"

android:theme="@style/AppTheme" >

<activity android:name=".MainActivity" android:label="@string/app\_name" >

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

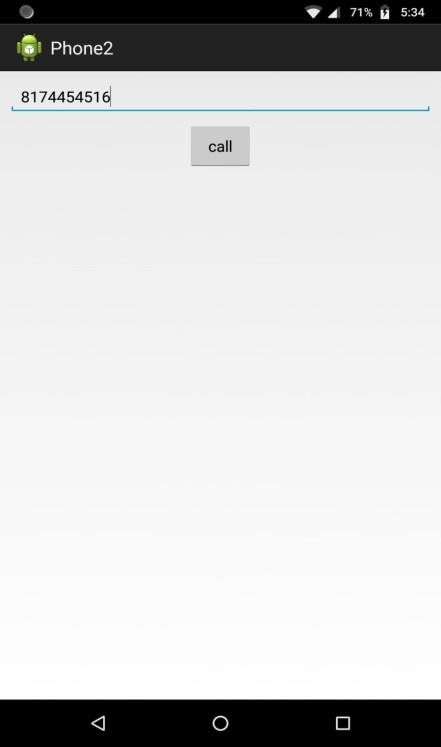
</intent-filter>

</activity>

</application>

</manifest>

**Output:**



1. **Write a program to send mail and show the received mail from your mailbox.**

**MainActivity.java**

package com.example.mailexample;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.content.Intent; import android.view.View; import android.widget.Button; import android.widget.EditText; public class MainActivity extends Activity { private EditText eTo;

private EditText eSubject; private EditText eMsg; private Button btn; @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); eTo = (EditText)findViewById(R.id.txtTo); eSubject = (EditText)findViewById(R.id.txtSub); eMsg = (EditText)findViewById(R.id.txtMsg); btn = (Button)findViewById(R.id.btnSend); btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Intent it = new Intent(Intent.ACTION\_SEND); it.putExtra(Intent.EXTRA\_EMAIL, new String[]{eTo.getText().toString()}); it.putExtra(Intent.EXTRA\_SUBJECT,eSubject.getText().toString()); it.putExtra(Intent.EXTRA\_TEXT,eMsg.getText());

it.setType("message/rfc822"); startActivity(Intent.createChooser(it,"Choose Mail App"));

}

});

}

}

**Activity\_main.xml**

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

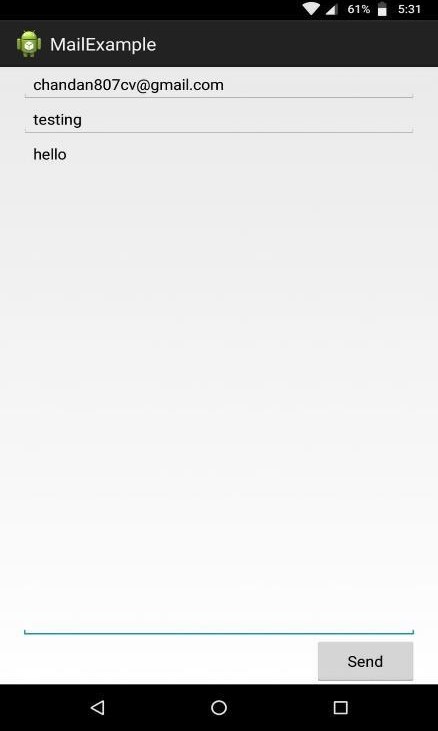
<LinearLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:paddingLeft="20dp" android:paddingRight="20dp" android:orientation="vertical" >

<EditText android:id="@+id/txtTo" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="To"/> <EditText android:id="@+id/txtSub" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="Subject"/> <EditText android:id="@+id/txtMsg" android:layout\_width="match\_parent" android:layout\_height="0dp" android:layout\_weight="1" android:gravity="top" android:hint="Message"/>

<Button android:layout\_width="100dp" android:layout\_height="wrap\_content" android:layout\_gravity="right" android:text="Send" android:id="@+id/btnSend"/>

</LinearLayout>

**Output:**



1. **Write a program to show whether Wi-Fi connection is on or off from your screen**

**MainActivity.java**

package com.example.wifiexample;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.content.Context; import android.view.View;

import android.view.View.OnClickListener; import android.widget.Button;

import android.net.wifi.WifiManager;

public class MainActivity extends Activity { Button enableButton,disableButton;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); enableButton=(Button)findViewById(R.id.button1); disableButton=(Button)findViewById(R.id.button2); enableButton.setOnClickListener(new OnClickListener(){

public void onClick(View v){ WifiManager wifi = (WifiManager)

getApplicationContext().getSystemService(Context.WIFI\_SERVICE); wifi.setWifiEnabled(true);

}

});

disableButton.setOnClickListener(new OnClickListener(){

public void onClick(View v){ WifiManager wifi = (WifiManager) getApplicationContext().getSystemService(Context.WIFI\_SERVICE); wifi.setWifiEnabled(false);

}

});

}

}

**Activity\_main.xml**

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

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:t[ools="ht](http://schemas.android.com/tools)tp:/[/schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<Button

android:id="@+id/button1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_centerVertical="true" android:layout\_marginLeft="76dp" android:text="Enable Wifi" />

<Button

android:id="@+id/button2" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignParentBottom="true" android:layout\_marginBottom="93dp" android:text="Disable Wifi" />

</RelativeLayout>

**AndroidManifest.xml**

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

<manifest xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) package="com.example.wifiexample" android:versionCode="1" android:versionName="1.0" >

<uses-permission android:name="android.permission.ACCESS\_WIFI\_STATE" />

<uses-permission android:name="android.permission.CHANGE\_WIFI\_STATE" />

<uses-sdk android:minSdkVersion="15"

android:targetSdkVersion="15" />

<application

android:allowBackup="true" android:icon="@drawable/ic\_launcher" android:label="@string/app\_name"

android:theme="@style/AppTheme" >

<activity android:name=".MainActivity" android:label="@string/app\_name" >

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

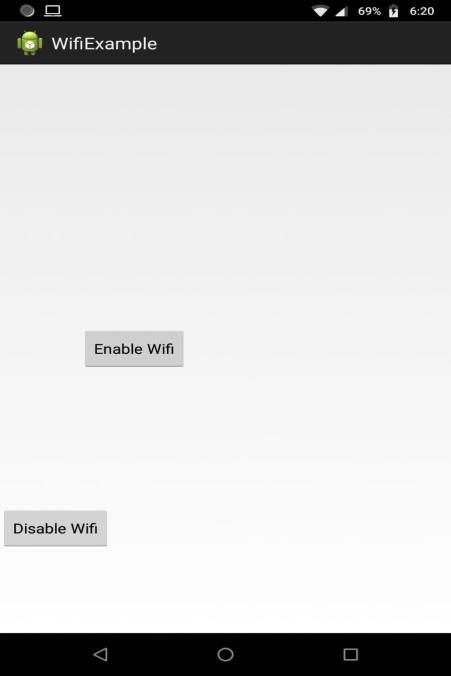
</intent-filter>

</activity>

</application>

</manifest>

**Output:**



1. **Write a program to show Table layout and Toggle button**.

MainActivity.java

package com.example.tablelayoutexample;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.os.Bundle; import

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

public class MainActivity extends Activity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

// initiate a button

Button loginButton = (Button) findViewById(R.id.loginBtn);

// perform click event on the button loginButton.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) { Toast.makeText(getApplicationContext(), "Hello How are you..!!!",

Toast.LENGTH\_LONG).show(); // display a toast message

}

});

}

}

Activity\_main.xml

<TableLayout xmlns:a[ndroid="ht](http://schemas.android.com/apk/res/android)tp://sch[emas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:background="#000" android:orientation="vertical" android:stretchColumns="1">

<TableRow android:padding="5dip">

<TextView android:layout\_height="wrap\_content" android:layout\_marginBottom="20dp" android:layout\_span="2" android:gravity="center\_horizontal" android:text="@string/loginForm" android:textColor="#0ff" android:textSize="25sp" android:textStyle="bold" />

</TableRow>

<TableRow>

<TextView

android:layout\_height="wrap\_content" android:layout\_column="0" android:layout\_marginLeft="10dp"

android:text="@string/userName" android:textColor="#fff" android:textSize="16sp"

/>

<EditText android:id="@+id/userName"

android:layout\_height="wrap\_content" android:layout\_column="1" android:layout\_marginLeft="10dp" android:background="#fff" android:hint="@string/userName" android:padding="5dp" android:textColor="#000"

/>

</TableRow>

<TableRow>

<TextView android:layout\_height="wrap\_content" android:layout\_column="0" android:layout\_marginLeft="10dp" android:layout\_marginTop="20dp" android:text="@string/password" android:textColor="#fff" android:textSize="16sp" />

<EditText android:id="@+id/password" android:layout\_height="wrap\_content" android:layout\_column="1" android:layout\_marginLeft="10dp" android:layout\_marginTop="20dp" android:background="#fff" android:hint="@string/password" android:padding="5dp" android:textColor="#000" />

</TableRow>

<TableRow android:layout\_marginTop="20dp">

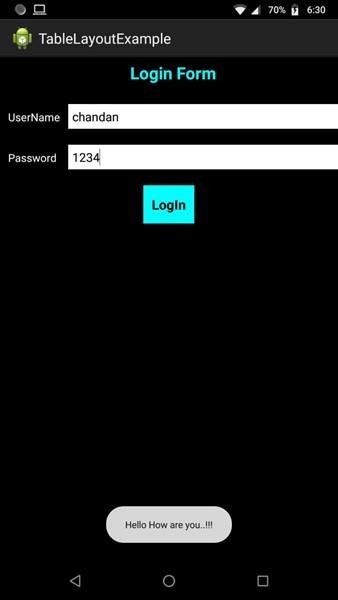
<Button android:id="@+id/loginBtn" android:layout\_height="wrap\_content" android:layout\_gravity="center" android:layout\_span="2" android:background="#0ff" android:text="@string/login"

android:textColor="#000" android:textSize="20sp"

android:textStyle="bold" />

</TableRow>

</TableLayout> Output:



## Toggle:

MainActivity.xml

package com.example.togleex;

import android.app.Activity; import android.os.Bundle; import android.view.Menu; import android.view.MenuItem; import android.view.View;

import android.view.View.OnClickListener; import android.widget.Button; import android.widget.Toast;

import android.widget.ToggleButton;

public class MainActivity extends Activity {

private ToggleButton toggleButton1, toggleButton2; private Button buttonSubmit;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); addListenerOnButtonClick();

}

public void addListenerOnButtonClick()

{//Getting the ToggleButton and Button instance from the layout xml file toggleButton1 = (ToggleButton) findViewById(R.id.toggleButton1); toggleButton2 = (ToggleButton) findViewById(R.id.toggleButton2); buttonSubmit = (Button) findViewById(R.id.button1); //Performing action on button click

buttonSubmit.setOnClickListener(new OnClickListener()

{

public void onClick(View view)

{StringBuilder result = new StringBuilder(); result.append("ToggleButton1 : ").append(toggleButton1.getText());

result.append("\nToggleButton2 : ").append(toggleButton2.getText());

//Displaying the message in toast

Toast.makeText(getApplicationContext(), result.toString(), Toast.LENGTH\_LONG).show();

}});

}

@Override public boolean onCreateOptionsMenu(Menu menu) {

// Inflate the menu; this adds items to the action bar if it is present. getMenuInflater().inflate(R.menu.main, menu);

return true;

}

@Override public boolean onOptionsItemSelected(MenuItem item) {

// Handle action bar item clicks here. The action bar will

// automatically handle clicks on the Home/Up button, so long

// as you specify a parent activity in AndroidManifest.xml. int id = item.getItemId(); if (id == R.id.action\_settings) {

return true;

}

return super.onOptionsItemSelected(item);

}

}

Activity\_main.xml

<RelativeLayout xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:too[ls="http://schemas.android.com/t](http://schemas.android.com/tools)ools" android:layout\_width="match\_parent"

android:layout\_height="match\_parent" tools:context=".MainActivity" >

<ToggleButton android:id="@+id/toggleButton1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignParentLeft="true" android:layout\_alignParentTop="true" android:layout\_marginLeft="60dp" android:layout\_marginTop="18dp" android:text="ToggleButton1"

android:textOff="Off" android:textOn="On"

/> <ToggleButton android:id="@+id/toggleButton2" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_alignBaseline="@+id/toggleButton1" android:layout\_alignBottom="@+id/toggleButton1" android:layout\_marginLeft="44dp" android:layout\_toRightOf="@+id/toggleButton1" android:text="ToggleButton2" android:textOff="Off"

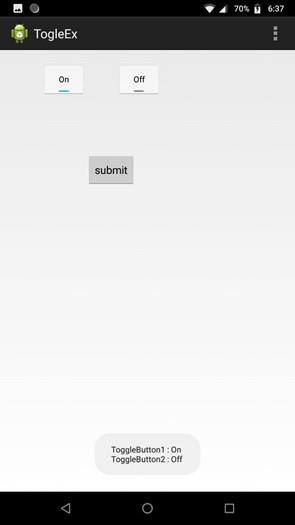
android:textOn="On" />

<Button

android:id="@+id/button1" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/toggleButton2" android:layout\_marginTop="82dp" android:layout\_toRightOf="@+id/toggleButton1"

android:text="submit" />

</RelativeLayout> Output:



1. **Write a program to show SQLite database to perform CRUD operations (Create, Read, Update and Delete).**

MainActivity.java

package com.example.sqliteoperations;

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

import android.widget.EditText;

import android.view.Menu; import android.view.MenuItem;

public class MainActivity extends Activity {

EditText Name, Pass , updateold, updatenew, delete; myDbAdapter helper;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); Name= (EditText) findViewById(R.id.editName); Pass= (EditText) findViewById(R.id.editPass); updateold= (EditText) findViewById(R.id.editText3); updatenew= (EditText) findViewById(R.id.editText5); delete =

(EditText) findViewById(R.id.editText6); helper = new myDbAdapter(this);

}

public void addUser(View view)

{

String t1 = Name.getText().toString(); String t2 = Pass.getText().toString();

if(t1.isEmpty() || t2.isEmpty())

{

}

else

{

{

Message.message(getApplicationContext(),"Enter Both Name and Password");

long id = helper.insertData(t1,t2); if(id<=0)

Message.message(getApplicationContext(),"Insertion Unsuccessful");

Name.setText("");

Pass.setText("");

} else

{

Message.message(getApplicationContext(),"Insertion Successful"); Name.setText("");

Pass.setText("");

}

}

}

public void viewdata(View view)

{

String data = helper.getData(); Message.message(this,data);

}

public void update( View view)

{

String u1 = updateold.getText().toString(); String u2 = updatenew.getText().toString(); if(u1.isEmpty() || u2.isEmpty())

{

}

else

{

Message.message(getApplicationContext(),"Enter Data");

int a= helper.updateName( u1, u2); if(a<=0)

{

Message.message(getApplicationContext(),"Unsuccessful"); updateold.setText(""); updatenew.setText("");

} else {

Message.message(getApplicationContext(),"Updated"); updateold.setText("");

updatenew.setText("");

}

}

}

public void delete( View view)

{

String uname = delete.getText().toString(); if(uname.isEmpty())

{

}

else{

Message.message(getApplicationContext(),"Enter Data");

int a= helper.delete(uname); if(a<=0)

{

Message.message(getApplicationContext(),"Unsuccessful"); delete.setText("");

}

else

{

Message.message(this, "DELETED");

delete.setText("");

}

}

}

}

myDbAdapter.java

package com.example.sqliteoperations;

import android.annotation.SuppressLint; import android.content.ContentValues; import android.content.Context; import android.database.Cursor; import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

public class myDbAdapter { myDbHelper myhelper;

public myDbAdapter(Context context)

{

myhelper = new myDbHelper(context);

}

public long insertData(String name, String pass)

{

SQLiteDatabase dbb = myhelper.getWritableDatabase(); ContentValues contentValues = new ContentValues(); contentValues.put(myDbHelper.NAME, name);

contentValues.put(myDbHelper.MyPASSWORD, pass); long id;

id = dbb.insert(myDbHelper.TABLE\_NAME, null , contentValues); return id;

}

public String getData()

{

SQLiteDatabase db = myhelper.getWritableDatabase(); String[] columns =

{myDbHelper.UID,myDbHelper.NAME,myDbHelper.MyPASSWORD}; @SuppressLint("Recycle") Cursor cursor

=db.query(myDbHelper.TABLE\_NAME,columns,null,null,null,null,null); StringBuffer buffer;

buffer = new StringBuffer(); while (cursor.moveToNext())

{

@SuppressLint("Range") int cid

=cursor.getInt(cursor.getColumnIndex(myDbHelper.UID)); @SuppressLint("Range") String name

=cursor.getString(cursor.getColumnIndex(myDbHelper.NAME)); @SuppressLint("Range") String password

=cursor.getString(cursor.getColumnIndex(myDbHelper.MyPASSWORD)); buffer.append(cid).append(" ").append(name).append(" ").append(password).append(" \n");

}

return buffer.toString();

}

public int delete(String uname)

{

SQLiteDatabase db = myhelper.getWritableDatabase(); String[] whereArgs ={uname};

int count;

count = db.delete(myDbHelper.TABLE\_NAME ,myDbHelper.NAME+" =

?",whereArgs);

return count;

}

public int updateName(String oldName , String newName)

{

SQLiteDatabase db = myhelper.getWritableDatabase(); ContentValues contentValues = new ContentValues(); contentValues.put(myDbHelper.NAME,newName);

String[] whereArgs= {oldName}; int count;

count = db.update(myDbHelper.TABLE\_NAME,contentValues, myDbHelper.NAME+"

= ?",whereArgs ); return count;

}

static class myDbHelper extends SQLiteOpenHelper

{

private static final String DATABASE\_NAME = "myDatabase"; // Database Name private static final String TABLE\_NAME = "myTable"; // Table Name private static final int DATABASE\_Version = 1; // Database Version private static final String UID="\_id"; // Column I (Primary Key) private static final String NAME = "Name"; //Column II private static final String MyPASSWORD= "Password"; // Column III

private static final String CREATE\_TABLE = "CREATE TABLE "+TABLE\_NAME+ " ("+UID+" INTEGER PRIMARY KEY AUTOINCREMENT, "+NAME+"

VARCHAR(255) ,"+ MyPASSWORD+" VARCHAR(225));";

private static final String DROP\_TABLE ="DROP TABLE IF EXISTS "+TABLE\_NAME;

private final Context context; public myDbHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_Version); this.context=context;

}

public void onCreate(SQLiteDatabase db) {

try {

db.execSQL(CREATE\_TABLE);

} catch (Exception e) { Message.message(context,""+e);

}

}

try {

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

Message.message(context,"OnUpgrade");

db.execSQL(DROP\_TABLE);

onCreate(db);

}catch (Exception e) {

Message.message(context,""+e);

}

}

}

}

Activity\_main.java

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

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:t[ools="ht](http://schemas.android.com/tools)tp:/[/schemas.android.com/tool](http://schemas.android.com/tools)s" android:id="@+id/activity\_main" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context="com.example.sqliteoperations.MainActivity" android:background="@android:color/holo\_blue\_dark">

<TextView android:text="@string/username"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_alignParentTop="true" android:layout\_marginTop="12dp" android:id="@+id/textView" android:textSize="18sp" android:textStyle="bold|italic"

android:layout\_alignParentLeft="true"

android:gravity="center" />

<EditText android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" android:inputType="textPersonName" android:ems="10" android:id="@+id/editName" android:textStyle="bold|italic" android:layout\_below="@+id/textView"

android:layout\_alignParentRight="true"

android:hint="Enter Name" android:gravity="center\_vertical|center" />

<TextView android:text="@string/password" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginTop="13dp" android:id="@+id/textView2" android:textStyle="bold|italic" android:textSize="18sp" android:layout\_below="@+id/editName" android:layout\_alignParentRight="true"

android:gravity="center" android:hint="Enter Password" />

<Button android:text="@string/view\_data" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/button2" android:textSize="18sp" android:onClick="viewdata" android:textStyle="bold|italic" android:layout\_alignBaseline="@+id/button" android:layout\_alignBottom="@+id/button"

android:layout\_alignRight="@+id/button4"

/>

<Button android:text="@string/add\_user" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/button" android:textStyle="bold|italic" android:textSize="18sp" android:onClick="addUser" android:layout\_marginLeft="28dp" android:layout\_below="@+id/editPass" android:layout\_alignParentLeft="true" android:layout\_marginTop="23dp" />

<Button android:text="@string/update" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/button3" android:onClick="update" android:textStyle="normal|bold" android:layout\_below="@+id/editText3" android:layout\_alignLeft="@+id/button4" android:layout\_marginTop="13dp" />

<EditText android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:inputType="textPersonName" android:ems="10"

android:id="@+id/editText6" android:layout\_alignTop="@+id/button4" android:layout\_alignParentLeft="true" android:freezesText="false" android:hint="Enter Name to Delete Data" android:layout\_toLeftOf="@+id/button2"

/>

<Button android:text="@string/delete" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginRight="21dp" android:id="@+id/button4" android:onClick="delete" android:textStyle="normal|bold" tools:ignore="RelativeOverlap" android:layout\_marginBottom="41dp" android:layout\_alignParentBottom="true"

android:layout\_alignParentRight="true"

/>

<EditText android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:inputType="textPersonName"

android:ems="10" android:layout\_marginTop="47dp" android:id="@+id/editText3" android:textStyle="bold|italic" android:textSize="14sp" android:layout\_below="@+id/button" android:layout\_alignParentLeft="true" android:layout\_marginLeft="7dp" android:hint="Current Name" />

<EditText android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:inputType="textPassword" android:ems="10" android:layout\_marginTop="11dp" android:id="@+id/editPass" android:hint="Enter Password" android:gravity="center\_vertical|center" android:textSize="18sp" android:layout\_below="@+id/textView2" android:layout\_alignParentLeft="true" android:textAllCaps="false" android:textStyle="normal|bold" />

<EditText android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:inputType="textPersonName" android:ems="10" android:id="@+id/editText5" android:textStyle="bold|italic" android:textSize="14sp" android:hint="New Name"

android:layout\_alignTop="@+id/button3" android:layout\_alignLeft="@+id/editText3" android:layout\_marginTop="32dp" />

</RelativeLayout> **Output:**



1. **Write a program to show image gesture (touch screen events such as pinch, double tap, scrolls, long presses and flinch).**

**Activity\_main.xml**

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

<RelativeLayout xmlns:android=["http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView android:text=" Imageswitcher Example" android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:id="@+id/textview" android:textSize="35dp" android:layout\_alignParentTop="true" android:layout\_centerHorizontal="true" /> <TextView android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text=" " android:id="@+id/textView" android:layout\_below="@+id/textview" android:layout\_centerHorizontal="true" android:textColor="#ff7aff24"

android:textSize="35dp" />

<ImageSwitcher android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/imageSwitcher" android:layout\_below="@+id/textView" android:layout\_centerHorizontal="true"

android:layout\_marginTop="168dp" />

<Button android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="@string/left" android:id="@+id/button" android:layout\_below="@+id/textView"

android:layout\_centerHorizontal="true" />

<Button android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="@string/right" android:id="@+id/button2" android:layout\_alignParentBottom="true" android:layout\_alignLeft="@+id/button"

android:layout\_alignStart="@+id/button" />

</RelativeLayout>

**Mainactivity.java**

package com.example.imagegeasture;

import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.app.ActionBar.LayoutParams; import android.view.View; import android.widget.Button; import android.widget.ImageSwitcher; import android.widget.ImageView; import android.widget.Toast;

import android.widget.ViewSwitcher.ViewFactory;

public class MainActivity extends AppCompatActivity { private ImageSwitcher sw;

private Button b1,b2;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*); b1 = (Button) findViewById(R.id.*button*);

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

sw = (ImageSwitcher) findViewById(R.id.*imageSwitcher*); sw.setFactory(new ViewFactory() {

@Override

public View makeView() {

ImageView myView = new ImageView(getApplicationContext()); myView.setScaleType(ImageView.ScaleType.*FIT\_CENTER*);

myView.setLayoutParams(new ImageSwitcher.LayoutParams(LayoutParams.*WRAP\_CONTENT*, LayoutParams.*WRAP\_CONTENT*));

return myView;

}

});

b1.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) { Toast.*makeText*(getApplicationContext(), "previous Image",

Toast.*LENGTH\_LONG*).show();

sw.setImageResource(R.drawable.*pqr*);

}

});

b2.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) { Toast.*makeText*(getApplicationContext(), "Next Image",

Toast.*LENGTH\_LONG*).show();

sw.setImageResource(R.drawable.*xyz*);

}

});

}

}

**Output**

1. **Write a program to show internal storage demo by storing and reading file. E.g. code.txt**

**activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app=["http://sche](http://schemas.android.com/apk/res-auto)m[as.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView android:id="@+id/textView2"

android:layout\_width="337dp" android:layout\_height="28dp" android:text=" File Content " android:textAlignment="center"

android:textColor="#000" android:textSize="24sp" android:textStyle="bold" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintLeft\_toLeftOf="parent" app:layout\_constraintRight\_toRightOf="parent" app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.52" />

<Button android:id="@+id/write\_button" android:layout\_width="wrap\_content" android:layout\_height="48dp" android:layout\_marginStart="160dp" android:layout\_marginEnd="159dp" android:layout\_marginBottom="16dp"

android:text="Write" app:layout\_constraintBottom\_toTopOf="@+id/read\_button"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.0" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.904" />

<Button android:id="@+id/read\_button" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginStart="160dp" android:layout\_marginEnd="158dp" android:layout\_marginBottom="48dp"

android:text="Read" app:layout\_constraintBottom\_toTopOf="@+id/textView2"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.0"

app:layout\_constraintStart\_toStartOf="parent" />

<EditText android:id="@+id/userInput" android:layout\_width="319dp" android:layout\_height="50dp" android:layout\_marginStart="46dp" android:layout\_marginTop="91dp" android:layout\_marginEnd="46dp" android:ems="10"

android:inputType="textPersonName" android:text="Name"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

<TextView android:id="@+id/content" android:layout\_width="332dp" android:layout\_height="306dp" android:layout\_marginStart="33dp" android:layout\_marginTop="21dp" android:layout\_marginEnd="33dp" android:layout\_marginBottom="6dp"

android:text="" android:textAlignment="center" android:textColor="#000" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.461" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/textView2" app:layout\_constraintVertical\_bias="0.0" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java**

package com.example.calculator;

import android.content.Context; import android.os.Bundle; import android.view.View; import android.widget.Button; import android.widget.EditText; import android.widget.TextView; import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity; import java.io.FileInputStream; import java.io.FileOutputStream;

import java.io.IOException;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {

*// declare the variables* Button read, write; EditText userInput; TextView fileContent;

private String filename = "code.txt";

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

read = findViewById(R.id.*read\_button*); write = findViewById(R.id.*write\_button*); userInput = findViewById(R.id.*userInput*);

fileContent = findViewById(R.id.*content*);

read.setOnClickListener(this); write.setOnClickListener(this);

}

public void printMessage(String m) {

Toast.*makeText*(this, m, Toast.*LENGTH\_LONG*).show();

}

@Override public void onClick(View view) {

Button b = (Button) view;

*// get the button text : in out case either read or*

*// write depending on the button pressed.*

String b\_text = b.getText().toString();

switch (b\_text.toLowerCase()) { case "write": {

writeData(); break;

}

case "read": { readData(); break;

}

}

}

private void writeData() {

try {

FileOutputStream fos = openFileOutput(filename, Context.*MODE\_PRIVATE*); String data = userInput.getText().toString();

fos.write(data.getBytes()); fos.flush();

fos.close();

} catch (IOException e) { e.printStackTrace();

}

userInput.setText("");

printMessage("writing to file " + filename + "completed...");

}

private void readData() { try {

FileInputStream fin = openFileInput(filename);

int a;

StringBuilder temp = new StringBuilder(); while ((a = fin.read()) != -1) {

temp.append((char) a);

}

*// setting text from the file.* fileContent.setText(temp.toString()); fin.close();

} catch (IOException e) { e.printStackTrace();

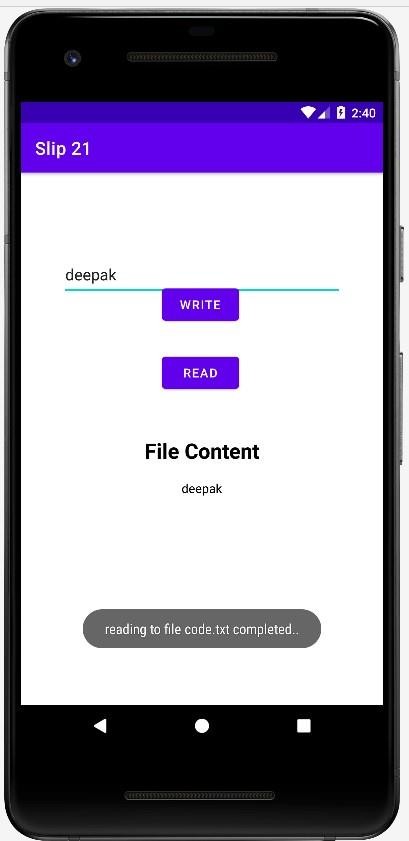
}

printMessage("reading to file " + filename + " completed..");

}

}

**Output**



1. **Write a program to show Multiautocomplete Textview?**

**activity\_main.xml**

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

<LinearLayout xmlns:android="<http://schemas.android.com/apk/res/android>"

xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:layout\_gravity="center"

android:layout\_margin="16dp" android:orientation="vertical" tools:context=".MainActivity">

<TextView android:id="@+id/textView" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:gravity="center" android:text="Text Separated by Commas"

android:textSize="18sp" />

<MultiAutoCompleteTextView android:id="@+id/multiAutoCompleteTextViewDefault" android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" android:layout\_margin="20dp" android:ems="10"

android:hint="Enter Search Terms here" />

<TextView android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

android:gravity="center"

android:text="Text Separated by Custom Token" android:textSize="18sp" />

<MultiAutoCompleteTextView android:id="@+id/multiAutoCompleteTextViewCustom" android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" android:layout\_margin="20dp" android:ems="10"

android:hint="Add your necessary tags here" />

</LinearLayout>

**Mainactivity.java**

package com.example.slip22; import android.os.Bundle; import

android.widget.ArrayAdapter; import android.widget.MultiAutoCompleteTextView; import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity { MultiAutoCompleteTextView multiAutoCompleteTextViewDefault;

MultiAutoCompleteTextView multiAutoCompleteTextViewCustom;

String[] fewRandomSuggestedText = {"a", "ant", "apple", "asp", "android", "animation", "adobe", "chrome", "chromium", "firefox", "freeware", "fedora"};

String[] fewTags = {"Java", "JavaScript", "Spring", "Java EE", "Java 8", "Java 9", "Java 10", "MongoDB", "MarshMallow", "NoSQL", "NativeApp", "SQL", "SQLite"};

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

multiAutoCompleteTextViewDefault = findViewById(R.id.*multiAutoCompleteTextViewDefault*); multiAutoCompleteTextViewCustom = findViewById(R.id.*multiAutoCompleteTextViewCustom*);

ArrayAdapter<String> randomArrayAdapter = new ArrayAdapter<>(this, android.R.layout.*simple\_list\_item\_1*, fewRandomSuggestedText);

multiAutoCompleteTextViewDefault.setAdapter(randomArrayAdapter); multiAutoCompleteTextViewDefault.setThreshold(1);

multiAutoCompleteTextViewDefault.setTokenizer(new MultiAutoCompleteTextView.CommaTokenizer());

ArrayAdapter<String> tagArrayAdapter = new ArrayAdapter<>(this, android.R.layout.*simple\_list\_item\_1*, fewTags);

multiAutoCompleteTextViewCustom.setAdapter(tagArrayAdapter);

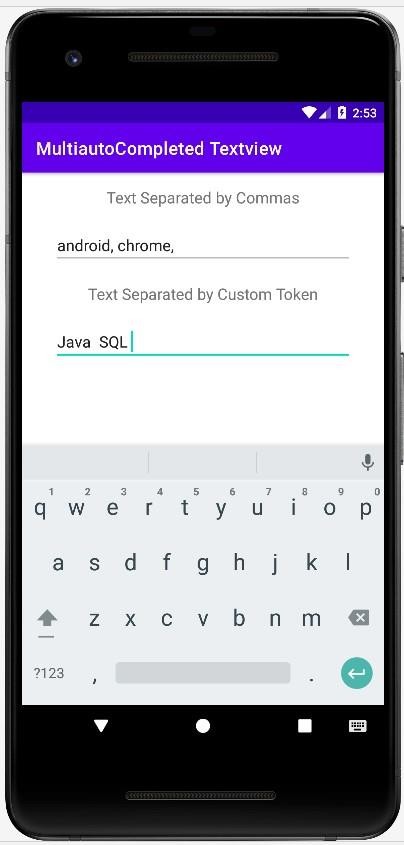
multiAutoCompleteTextViewCustom.setThreshold(2);

multiAutoCompleteTextViewCustom.setTokenizer((MultiAutoCompleteTextView.Tokenizer) new SpaceTokenizer());

}

}

**Output**



1. **Write a program to show Multitouch. (More than one touches the screen at the same time.) Activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app=["http://sche](http://schemas.android.com/apk/res-auto)m[as.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" 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:layout\_marginStart="39dp" android:layout\_marginTop="37dp" android:layout\_marginEnd="64dp" android:layout\_marginBottom="14dp"

android:text="Multitouch example" android:textSize="35dp" app:layout\_constraintBottom\_toTopOf="@+id/textView"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

<TextView android:id="@+id/textView"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/textview" android:layout\_centerHorizontal="true" android:layout\_marginStart="94dp" android:layout\_marginTop="14dp" android:layout\_marginEnd="94dp" android:layout\_marginBottom="25dp" android:text="Tutorials point" android:textColor="#ff7aff24" android:textSize="35dp"

app:layout\_constraintBottom\_toTopOf="@+id/imageView" app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/textview" />

<ImageView android:id="@+id/imageView" android:layout\_width="337dp" android:layout\_height="149dp"

android:layout\_below="@+id/textView" android:layout\_centerHorizontal="true" android:layout\_marginStart="39dp"

android:layout\_marginTop="18dp" android:layout\_marginEnd="35dp" android:layout\_marginBottom="41dp" android:src="@drawable/abc" android:theme="@style/Base.TextAppearance.AppCompat" app:layout\_constraintBottom\_toTopOf="@+id/editText" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/textView" />

<EditText android:id="@+id/editText" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/imageView" android:layout\_alignStart="@+id/textview" android:layout\_alignLeft="@+id/textview" android:layout\_alignEnd="@+id/textview" android:layout\_alignRight="@+id/textview" android:layout\_marginStart="86dp" android:layout\_marginTop="29dp" android:layout\_marginEnd="268dp" android:layout\_marginBottom="14dp"

android:hint="X-Axis" android:minHeight="48dp" android:textColorHint="#ff69ff0e"

app:layout\_constraintBottom\_toTopOf="@+id/editText2" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/imageView" />

<EditText android:id="@+id/editText2"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/editText" android:layout\_alignStart="@+id/editText" android:layout\_alignLeft="@+id/editText" android:layout\_alignEnd="@+id/editText" android:layout\_alignRight="@+id/editText" android:layout\_marginStart="86dp" android:layout\_marginEnd="268dp" android:layout\_marginBottom="6dp"

android:hint="Y-Axis" android:minHeight="48dp" android:textColorHint="#ff21ff11" app:layout\_constraintBottom\_toTopOf="@+id/edi

tText3" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editText" />

<EditText android:id="@+id/editText3" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/editText2" android:layout\_alignStart="@+id/editText2" android:layout\_alignLeft="@+id/editText2" android:layout\_alignEnd="@+id/editText2" android:layout\_alignRight="@+id/editText2" android:layout\_marginStart="86dp" android:layout\_marginEnd="258dp" android:layout\_marginBottom="17dp" android:hint="Move X" android:minHeight="48dp" android:textColorHint="#ff33ff20"

app:layout\_constraintBottom\_toTopOf="@+id/editText4" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/editText2" />

<EditText android:id="@+id/editText4" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@+id/editText3" android:layout\_alignStart="@+id/editText3" android:layout\_alignLeft="@+id/editText3" android:layout\_alignEnd="@+id/editText3" android:layout\_alignRight="@+id/editText3" android:layout\_marginStart="86dp" android:layout\_marginTop="14dp" android:layout\_marginEnd="258dp" android:layout\_marginBottom="17dp" android:hint="Move Y" android:minHeight="48dp" android:textColorHint="#ff31ff07"

app:layout\_constraintBottom\_toTopOf="@+id/textView2" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="1.0" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/editText3" />

<TextView android:id="@+id/textView2" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:layout\_alignStart="@+id/imag eView" android:layout\_alignLeft="@+id/image View" android:layout\_alignParentBottom="true"

android:layout\_marginStart="94dp" android:layout\_marginTop="9dp" android:layout\_marginEnd="144dp" android:layout\_marginBottom="23dp"

android:clickable="true" android:focusable="true" android:minHeight="48dp" android:text="Touch here" android:textColor="#ff5480ff" android:textSize="35dp" android:typeface="sans" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/editText4" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java**

package com.example.a23slip;

import android.app.Activity; import android.os.Bundle; import android.view.MotionEvent; import android.view.View; import android.widget.EditText;

import android.widget.TextView;

public class MainActivity extends Activity { float xAxis = 0f;

float yAxis = 0f;

float lastXAxis = 0f; float lastYAxis = 0f;

EditText ed1, ed2, ed3, ed4; TextView tv1;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

ed1 = (EditText) findViewById(R.id.*editText*); ed2

= (EditText) findViewById(R.id.*editText2*); ed3 = (EditText) findViewById(R.id.*editText3*);

ed4 = (EditText) findViewById(R.id.*editText4*);

tv1=(TextView)findViewById(R.id.*textView2*); tv1.setOnTouchListener(new View.OnTouchListener() {

@Override public boolean onTouch(View v, MotionEvent event) { final int actionPeformed = event.getAction();

switch(actionPeformed){ case MotionEvent.*ACTION\_DOWN*:{

final float x = event.getX(); final float y = event.getY();

lastXAxis = x;

lastYAxis = y;

ed1.setText(Float.*toString*(lastXAxis)); ed2.setText(Float.*toString*(lastYAxis)); break;

}

case MotionEvent.*ACTION\_MOVE*:{ final float x = event.getX(); final float y = event.getY();

final float dx = x - lastXAxis; final float dy = y - lastYAxis;

xAxis += dx;

yAxis += dy;

ed3.setText(Float.*toString*(xAxis)); ed4.setText(Float.*toString*(yAxis));

break;

}

} return

true;

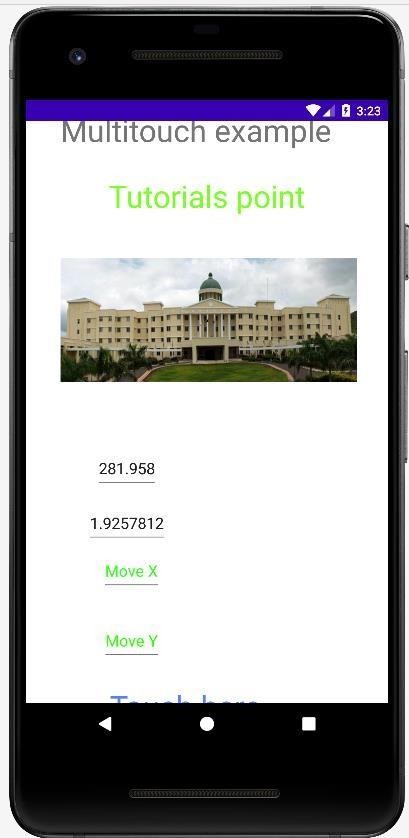
}

});

}

}

**Output**



1. **Write a program to show Push notification. Activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app=["http://sche](http://schemas.android.com/apk/res-auto)m[as.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<TextView android:id="@+id/textView2" android:layout\_width="fill\_parent" android:layout\_height="wrap\_content" android:gravity="center"

android:text="your detail of notification..." android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.173" tools:ignore="MissingConstraints"

tools:layout\_editor\_absoluteX="16dp" />

<TextView android:id="@+id/textView"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium" app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.177" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/textView2"

app:layout\_constraintVertical\_bias="0.229" tools:ignore="MissingConstraints" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java**

package com.example.a24notifiaction;

import static android.content.Context.*NOTIFICATION\_SERVICE*;

import android.app.NotificationChannel ; import android.app.NotificationManager ; import android.graphics.BitmapFactory ; import android.os.Bundle ; import android.view.View ;

import androidx.appcompat.app.AppCompatActivity; import androidx.core.app.NotificationCompat;

public class MainActivity extends AppCompatActivity { public static final String *NOTIFICATION\_CHANNEL\_ID* = "10001"; private final static String *default\_notification\_channel\_id* = "default";

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

}

public void createNotification(View view) {

NotificationManager mNotificationManager = (NotificationManager) getSystemService(*NOTIFICATION\_SERVICE*);

NotificationCompat.Builder mBuilder = new NotificationCompat.Builder(MainActivity.this, *default\_notification\_channel\_id*); mBuilder.setContentTitle("My Notification"); mBuilder.setContentText("Welcome to ICEM!");

mBuilder.setLargeIcon(BitmapFactory.*decodeResource*(getResources(), R.drawable.*ic\_launcher\_foreground*)); mBuilder.setSmallIcon(R.drawable.*ic\_launcher\_foreground*); mBuilder.setAutoCancel(true);

if (android.os.Build.VERSION.*SDK\_INT* >= android.os.Build.VERSION\_CODES.*O*) { int importance = NotificationManager.*IMPORTANCE\_HIGH*;

NotificationChannel notificationChannel = new NotificationChannel(*NOTIFICATION\_CHANNEL\_ID*, "NOTIFICATION\_CHANNEL\_NAME", importance); mBuilder.setChannelId(*NOTIFICATION\_CHANNEL\_ID*);

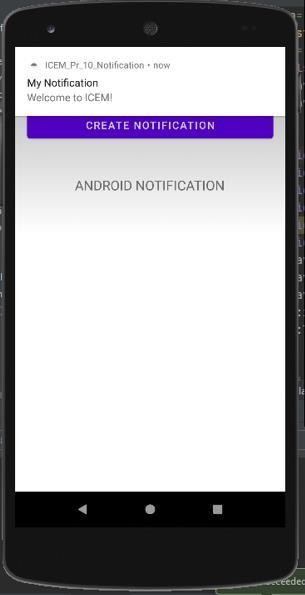
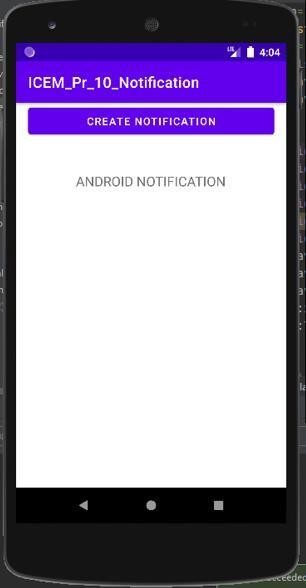
assert mNotificationManager != null; mNotificationManager.createNotificationChannel(notificationChannel);

}

assert mNotificationManager != null;

mNotificationManager.notify((int) System.*currentTimeMillis*(), mBuilder.build());

} }

**Output**

1. **Write a program to show how to use Location Services in your app to get the current location and its equivalent addresses etc**

**Activity\_main.xml**

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

<RelativeLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:orientation="vertical" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<TextView

android:layout\_marginTop="20dp" android:layout\_width="fill\_parent" android:layout\_height="wrap\_content" android:text="Get Current Location and City Name"

android:textAlignment="center" android:layout\_centerHorizontal="true" android:textSize="20sp" />

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/textView" android:layout\_centerInParent="true" android:textSize="16sp" android:textStyle="bold"/>

</RelativeLayout>

**MainActivity.java**

package com.example.location; import androidx.annotation.NonNull; import androidx.appcompat.app.AppCompatActivity; import androidx.core.app.ActivityCompat; import androidx.core.content.ContextCompat; import android.Manifest; import android.content.Intent; import android.content.pm.PackageManager; import android.location.Geocoder; import android.location.Location; import android.os.Bundle; import android.os.Handler; import android.os.ResultReceiver; import android.util.Log; import android.widget.TextView; import android.widget.Toast;

import com.google.android.gms.location.FusedLocationProviderClient; import com.google.android.gms.location.LocationCallback; import com.google.android.gms.location.LocationRequest; import com.google.android.gms.location.LocationResult; import com.google.android.gms.location.LocationServices; public class MainActivity extends AppCompatActivity { private FusedLocationProviderClient fusedLocationClient; private static final int LOCATION\_PERMISSION\_REQUEST\_CODE = 2; private LocationAddressResultReceiver addressResultReceiver; private TextView currentAddTv; private Location currentLocation; private LocationCallback locationCallback;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

addressResultReceiver = new LocationAddressResultReceiver(new Handler());

currentAddTv = findViewById(R.id.textView); fusedLocationClient = LocationServices.getFusedLocationProviderClient(this); locationCallback = new LocationCallback() {

@Override

public void onLocationResult(LocationResult locationResult) { currentLocation = locationResult.getLocations().get(0);

getAddress();

}

};

startLocationUpdates();

}

@SuppressWarnings("MissingPermission") private void startLocationUpdates() { if (ContextCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_FINE\_LOCATION) !=

PackageManager.PERMISSION\_GRANTED) { ActivityCompat.requestPermissions(this, new

String[]{Manifest.permission.ACCESS\_FINE\_LOCATION},

LOCATION\_PERMISSION\_REQUEST\_CODE);

}

else {

LocationRequest locationRequest = new LocationRequest();

locationRequest.setInterval(2000); locationRequest.setFastestInterval(1000);

locationRequest.setPriority(LocationRequest.PRIORITY\_HIGH\_ACCURACY); fusedLocationClient.requestLocationUpdates(locationRequest, locationCallback, null);

}

}

@SuppressWarnings("MissingPermission") private void getAddress() { if (!Geocoder.isPresent()) {

Toast.makeText(MainActivity.this, "Can't find current address,

",

return;

}

Toast.LENGTH\_SHORT).show();

Intent intent = new Intent(this, GetaddressIntentService.class); intent.putExtra("add\_receiver", addressResultReceiver); intent.putExtra("add\_location", currentLocation);

startService(intent);

}

@Override

public void onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults) {

super.onRequestPermissionsResult(requestCode, permissions, grantResults);

if (requestCode == LOCATION\_PERMISSION\_REQUEST\_CODE) { if (grantResults.length > 0 && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {

startLocationUpdates();

} else {

Toast.makeText(this, "Location permission not granted, " + "restart the app if you want the feature", Toast.LENGTH\_SHORT).show();

}

}

}

private class LocationAddressResultReceiver extends ResultReceiver { LocationAddressResultReceiver(Handler handler) {

super(handler);

}

@Override

protected void onReceiveResult(int resultCode, Bundle resultData) { if (resultCode == 0) {

Log.d("Address", "Location null retrying");

getAddress();

}

if (resultCode == 1) {

Toast.makeText(MainActivity.this, "Address not found, ", Toast.LENGTH\_SHORT).show();

}

String currentAdd = resultData.getString("address\_result"); showResults(currentAdd);

}

}

private void showResults(String currentAdd) {

currentAddTv.setText(currentAdd);

}

@Override

protected void onResume() {

super.onResume(); startLocationUpdates();

}

@Override

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

fusedLocationClient.removeLocationUpdates(locationCallback);

} }

**GetAddressInstance.java**

package com.example.location; import android.app.IntentService; import android.content.Intent; import android.location.Address; import android.location.Geocoder; import android.location.Location; import android.os.Bundle; import android.os.ResultReceiver; import android.util.Log; import java.util.List; import java.util.Locale; import java.util.Objects; import androidx.annotation.Nullable;

public class GetaddressIntentService extends IntentService { private static final String *IDENTIFIER* = "GetAddressIntentService"; private ResultReceiver addressResultReceiver; public GetaddressIntentService() { super(*IDENTIFIER*);

}

@Override

protected void onHandleIntent(@Nullable Intent intent) { String msg;

addressResultReceiver = Objects.*requireNonNull*(intent).getParcelableExtra("add\_receiver"); if (addressResultReceiver == null) {

Log.*e*("GetAddressIntentService", "No receiver, not processing the request further"); return;

}

Location location = intent.getParcelableExtra("add\_location"); if (location == null) {

msg = "No location, can't go further without location"; sendResultsToReceiver(0, msg); return;

}

Geocoder geocoder = new Geocoder(this, Locale.*getDefault*()); List<Address> addresses = null;

try {

addresses = geocoder.getFromLocation(location.getLatitude(),

location.getLongitude(), 1);

}

catch (Exception ioException) {

Log.*e*("", "Error in getting address for the location");

}

if (addresses == null || addresses.size() == 0) { msg = "No address found for the location"; sendResultsToReceiver(1, msg);

}

else {

Address address = addresses.get(0);

String addressDetails = address.getFeatureName() + "\n" +

address.getThoroughfare() + "\n" +

"Locality: " + address.getLocality() + "\n" + "County: " + address.getSubAdminArea() + "\n" +

"State: " + address.getAdminArea() + "\n" + "Country: "

+ address.getCountryName() + "\n" +

"Postal Code: " + address.getPostalCode() + "\n"; sendResultsToReceiver(2, addressDetails);

}

}

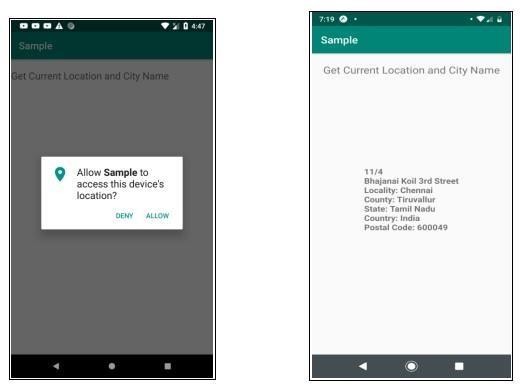
private void sendResultsToReceiver(int resultCode, String message) {

Bundle bundle = new Bundle(); bundle.putString("address\_result", message);

addressResultReceiver.send(resultCode, bundle);

}

}

**Output**

1. **Write a program to show Texture View. (It creates a basic application that allows you to view camera inside a texture view and change its angle, orientation etc.)**

**Activity\_main.xml**

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

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent"

android:layout\_height="match\_parent" tools:context=".MainActivity">

</RelativeLayout>

**MainActivity.java**

package com.example.camera;

import android.support.v7.app.AppCompatActivity; import android.os.Bundle; import android.Manifest; import android.app.AlertDialog; import android.content.Context; import android.content.DialogInterface; import android.content.Intent; import android.content.SharedPreferences; import android.content.pm.PackageManager; import android.net.Uri; import android.provider.Settings; import android.support.v4.app.ActivityCompat; import android.support.v4.content.ContextCompat;

public class MainActivity extends AppCompatActivity { public static final int MY\_PERMISSIONS\_REQUEST\_CAMERA = 100; public static final String ALLOW\_KEY = "ALLOWED"; public static final String CAMERA\_PREF = "camera\_pref";

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main); if (ContextCompat.checkSelfPermission(this, Manifest.permission.CAMERA) != PackageManager.PERMISSION\_GRANTED) { if (getFromPref(this, ALLOW\_KEY)) {

showSettingsAlert();

} else if (ContextCompat.checkSelfPermission(this, Manifest.permission.CAMERA)

!= PackageManager.PERMISSION\_GRANTED) {

*// Should we show an explanation?*

if

(ActivityCompat.shouldShowRequestPermissionRationale(this, Manifest.permission.CAMERA)) { showAlert();

} else {

*permission.*

*// No explanation needed, we can request the*

ActivityCompat.requestPermissions(this,

new String[]{Manifest.permission.CAMERA},

MY\_PERMISSIONS\_REQUEST\_CAMERA);

}

} }

else {

openCamera();

}

}

public static void saveToPreferences(Context context, String key,

Boolean allowed) {

SharedPreferences myPrefs = context.getSharedPreferences(CAMERA\_PREF,

Context.MODE\_PRIVATE); SharedPreferences.Editor prefsEditor = myPrefs.edit();

prefsEditor.putBoolean(key, allowed); prefsEditor.commit();

}

public static Boolean getFromPref(Context context, String key) { SharedPreferences myPrefs = context.getSharedPreferences(CAMERA\_PREF,

Context.MODE\_PRIVATE); return (myPrefs.getBoolean(key, false));

} private void showAlert() {

AlertDialog alertDialog = new AlertDialog.Builder(MainActivity.this).create(); alertDialog.setTitle("Alert");

alertDialog.setMessage("App needs to access the Camera.");

alertDialog.setButton(AlertDialog.BUTTON\_NEGATIVE, "DONT ALLOW", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int which)

{

dialog.dismiss(); finish();

}

});

alertDialog.setButton(AlertDialog.BUTTON\_POSITIVE, "ALLOW", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int

which)

{

dialog.dismiss();

ActivityCompat.requestPermissions(MainActivity.this,

new String[]{Manifest.permission.CAMERA}, MY\_PERMISSIONS\_REQUEST\_CAMERA);

} }); alertDialog.show();

}

private void showSettingsAlert()

{ AlertDialog alertDialog = new

AlertDialog.Builder(MainActivity.this).create(); alertDialog.setTitle("Alert");

alertDialog.setMessage("App needs to access the Camera.");

alertDialog.setButton(AlertDialog.BUTTON\_NEGATIVE, "DONT ALLOW", new DialogInterface.OnClickListener() {

{

dialog.dismiss();

public void onClick(DialogInterface dialog, int which)

*//finish();*

}

});

alertDialog.setButton(AlertDialog.BUTTON\_POSITIVE, "SETTINGS", new DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int which)

{

dialog.dismiss();

startInstalledAppDetailsActivity(MainActivity.this);

}

});

alertDialog.show();

}

@Override

public void onRequestPermissionsResult(int requestCode, String permissions[], int[] grantResults) { switch (requestCode)

{

case MY\_PERMISSIONS\_REQUEST\_CAMERA: {

for (int i = 0, len = permissions.length; i < len; i++) { String permission = permissions[i];

if (grantResults[i]

==

PackageManager.PERMISSION\_DENIED) { boolean

showRationale =

ActivityCompat.shouldShowRequestPermissionRationale( this, permission);

if (showRationale)

{ showAlert();

} else if (!showRationale) {

*// user denied flagging NEVER ASK AGAIN*

*// you can either enable some fall back,*

*// disable features of your app*

*// or open another dialog explaining*

*// again the permission and directing to*

*// the app setting*

saveToPreferences(MainActivity.this, ALLOW\_KEY,

true);

}

}

}

}

*// other 'case' lines to check for other*

*// permissions this app might request*

}

}

@Override

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

}

public static void startInstalledAppDetailsActivity(final MainActivity context) {

if (context == null) {

return;

}

final Intent i = new Intent(); i.setAction(Settings.ACTION\_APPLICATION\_DETAILS\_SETTINGS); i.addCategory(Intent.CATEGORY\_DEFAULT); i.setData(Uri.parse("package:" + context.getPackageName())); i.addFlags(Intent.FLAG\_ACTIVITY\_NEW\_TASK); i.addFlags(Intent.FLAG\_ACTIVITY\_NO\_HISTORY); i.addFlags(Intent.FLAG\_ACTIVITY\_EXCLUDE\_FROM\_RECENTS);

context.startActivity(i);

}

private void openCamera() {

Intent intent = new Intent("android.media.action.IMAGE\_CAPTURE"); startActivity(intent);

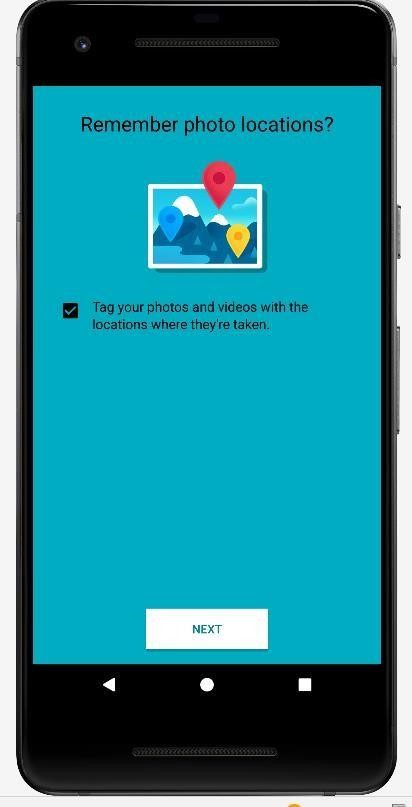
}

}

**AndroidMainfest.xml**

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

**Output**

1. **Write a program to show network connection**. **(It creates a basic application that allows you to download HTML from a given web page.)**

**Activity\_main.xml**

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

<RelativeLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/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="Network Connection" android:id="@+id/textView" android:textSize="25sp"

android:layout\_centerHorizontal="true" />

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text=" " android:id="@+id/textView2" android:layout\_below="@+id/textView" android:layout\_alignRight="@+id/textView" android:layout\_alignEnd="@+id/textView" android:textColor="#ff36ff15" android:textIsSelectable="false" android:textSize="35dp" />

<ImageView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/imageView" android:layout\_below="@+id/textView2" android:layout\_centerHorizontal="true" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Click" android:id="@+id/button" android:layout\_below="@+id/imageView" android:layout\_centerHorizontal="true" android:layout\_marginTop="76dp" />

</RelativeLayout>

**Mainactivity.java**

package com.example.networkconnection; import android.app.ProgressDialog; import android.graphics.Bitmap; import android.graphics.BitmapFactory; import android.net.ConnectivityManager; import android.os.Bundle; import android.os.Handler; import android.os.Message;

import android.support.v7.app.AppCompatActivity; import android.view.View; import android.widget.Button; import android.widget.ImageView; import android.widget.Toast;

import java.io.IOException; import java.io.InputStream; import java.net.HttpURLConnection; import java.net.MalformedURLException; import java.net.URL; import java.net.URLConnection;

public class MainActivity extends AppCompatActivity

{ private ProgressDialog progressDialog; private Bitmap bitmap = null;

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) { checkInternetConenction();

downloadImage(["http://www.tutorialspoint.com/green/images/logo.png"](http://www.tutorialspoint.com/green/images/logo.png));

}

});

}

private void downloadImage(String urlStr) {

progressDialog = ProgressDialog.show(this, "", "Downloading Image from " + urlStr);

final String url = urlStr;

new Thread() { public void run() {

InputStream in = null;

Message msg = Message.obtain();

msg.what = 1;

try {

in = openHttpConnection(url);

bitmap = BitmapFactory.decodeStream(in); Bundle b = new Bundle(); b.putParcelable("bitmap", bitmap);

msg.setData(b); in.close();

}catch (IOException e1) { e1.printStackTrace();

}

messageHandler.sendMessage(msg);

}

}.start();

} private InputStream openHttpConnection(String urlStr) {

InputStream in = null; int resCode = -1;

try {

URL url = new URL(urlStr);

URLConnection urlConn = url.openConnection();

if (!(urlConn instanceof HttpURLConnection)) { throw new IOException("URL is not an Http URL");

}

HttpURLConnection httpConn = (HttpURLConnection) urlConn; httpConn.setAllowUserInteraction(false); httpConn.setInstanceFollowRedirects(true); httpConn.setRequestMethod("GET");

httpConn.connect();

resCode = httpConn.getResponseCode();

if (resCode == HttpURLConnection.HTTP\_OK)

{ in = httpConn.getInputStream();

}

}catch (MalformedURLException e) { e.printStackTrace();

}catch (IOException e) {

e.printStackTrace(); } return in;

} private Handler messageHandler = new Handler() { public void handleMessage(Message msg) {

super.handleMessage(msg);

ImageView img = (ImageView) findViewById(R.id.imageView); img.setImageBitmap((Bitmap) (msg.getData().getParcelable("bitmap"))); progressDialog.show();

}

};

private boolean checkInternetConenction() {

*// get Connectivity Manager object to check connection*

ConnectivityManager connec

=(ConnectivityManager)getSystemService(getBaseContext().CONNECTIVITY\_SERVIC E);

*// Check for network connections* if ( connec.getNetworkInfo(0).getState() == android.net.NetworkInfo.State.CONNECTED || connec.getNetworkInfo(0).getState() == android.net.NetworkInfo.State.CONNECTING || connec.getNetworkInfo(1).getState() == android.net.NetworkInfo.State.CONNECTING || connec.getNetworkInfo(1).getState() == android.net.NetworkInfo.State.CONNECTED ) {

Toast.makeText(this, " Connected ", Toast.LENGTH\_LONG).show(); return true; }else if (

connec.getNetworkInfo(0).getState() == android.net.NetworkInfo.State.DISCONNECTED ||

connec.getNetworkInfo(1).getState() ==

android.net.NetworkInfo.State.DISCONNECTED

) {

Toast.makeText(this, " Not Connected ",

Toast.LENGTH\_LONG).show(); return false;

}

return false;

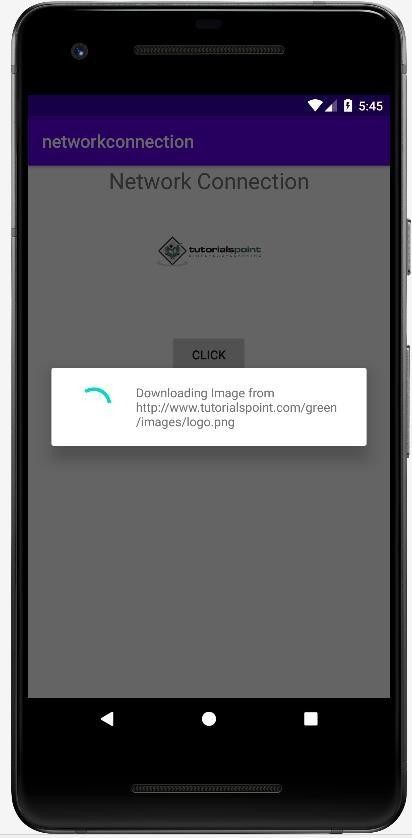
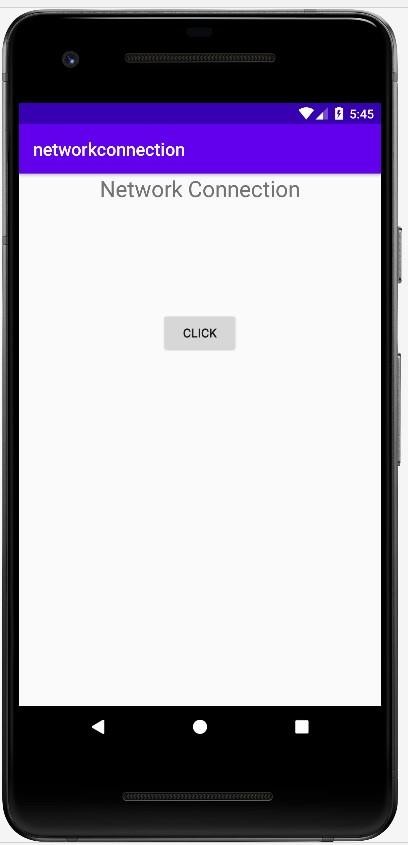
}

}

**AndroidMainfest.xml**

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

<uses-permission android:name="android.permission.ACCESS\_NETWORK\_STATE"></uses-permission>

**Output**

1. **Write a program to show Audio Capture (It provides demonstration of Media Recorder class to capture audio and then Media Player class to play that recorded audio.) Activity\_main.xml**

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

*<!--XML code for activity\_main.xml-->*

<RelativeLayout xmlns:android=["http://schemas.android.com/](http://schemas.android.com/apk/res/android)a[pk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app=["http://sche](http://schemas.android.com/apk/res-auto)m[as.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools=["http://schemas.android.com/tool](http://schemas.android.com/tools)s" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:orientation="horizontal"

tools:context=".MainActivity">

*<!--Heading Text View-->*

<TextView android:id="@+id/txthead"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_centerHorizontal="true" android:text="@string/audio\_recorder" android:textAlignment="center" android:textColor="@color/black"

android:textSize="30sp" />

*<!--This will display the status of our app when we will record some audio and play that audio-->*

<TextView android:id="@+id/idTVstatus" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginTop="150dp" android:text="@string/status" android:textAlignment="center"

android:textSize="18sp" />

*<!--Linear Layout for adding textviews in horizontal manner-->*

<LinearLayout android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" android:layout\_centerInParent="true" android:layout\_marginTop="30dp" android:orientation="horizontal" android:weightSum="4">

*<!--Textview to start audio recording drawableTop will add above mic image-->*

<TextView android:id="@+id/btnRecord" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_margin="5dp" android:layout\_weight="1" android:background="@color/purple\_500" android:padding="5dp" android:text="@string/start\_recording" android:textAlignment="center" android:textColor="@color/white"

app:drawableTopCompat="@drawable/ic\_start\_recording" />

*<!--Textview to stop audio recording drawableTop will add above mic image-->*

<TextView android:id="@+id/btnStop" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_margin="5dp" android:layout\_weight="1" android:background="@color/purple\_500" android:padding="5dp" android:text="@string/stop\_recording" android:textAlignment="center" android:textColor="@color/white"

app:drawableTopCompat="@drawable/ic\_stop\_recording" />

*<!--Textview to play audio that is recorded drawableTop will add above mic image-->*

<TextView android:id="@+id/btnPlay"

android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_margin="5dp" android:layout\_weight="1" android:background="@color/purple\_500" android:padding="5dp"

android:text="@string/play\_recording" android:textAlignment="center" android:textColor="@color/white" app:drawableTopCompat="@drawable/ic\_start\_recording" />

*<!--Textview to pause the play of audio recording drawableTop will add above mic image-->*

<TextView android:id="@+id/btnStopPlay" android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_margin="5dp" android:layout\_weight="1" android:background="@color/purple\_500"

android:lines="2" android:padding="5dp" android:text="@string/stop\_playing" android:textAlignment="center" android:textColor="@color/white"

app:drawableTopCompat="@drawable/ic\_stop\_recording" />

</LinearLayout>

</RelativeLayout>

**Mainactivity.java**

package com.example.audiocapture;

import android.content.pm.PackageManager; import android.media.MediaPlayer; import android.media.MediaRecorder; import android.os.Bundle; import android.os.Environment; import android.util.Log; import android.view.View; import android.widget.TextView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity; import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat; import java.io.IOException;

import static android.Manifest.permission.*RECORD\_AUDIO*; import static android.Manifest.permission.*WRITE\_EXTERNAL\_STORAGE*;

public class MainActivity extends AppCompatActivity {

*// Initializing all variables..*

private TextView startTV, stopTV, playTV, stopplayTV, statusTV;

*// creating a variable for medi recorder object class.*

private MediaRecorder mRecorder;

*// creating a variable for mediaplayer class*

private MediaPlayer mPlayer;

*// string variable is created for storing a file name*

private static String *mFileName* = null;

*// constant for storing audio permission*

public static final int *REQUEST\_AUDIO\_PERMISSION\_CODE* = 1;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);

setContentView(R.layout.*activity\_main*);

*// initialize all variables with their layout items.*

statusTV = findViewById(R.id.*idTVstatus*); startTV = findViewById(R.id.*btnRecord*);

stopTV = findViewById(R.id.*btnStop*); playTV

= findViewById(R.id.*btnPlay*); stopplayTV = findViewById(R.id.*btnStopPlay*);

stopTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); playTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); stopplayTV.setBackgroundColor(getResources().getColor(R.color.*gray*));

startTV.setOnClickListener(new View.OnClickListener() { @Override public void

onClick(View v) { *// start recording method will // start the recording of audio.* startRecording();

}

});

stopTV.setOnClickListener(new View.OnClickListener() { @Override public void

onClick(View v) { *// pause Recording method will // pause the recording of audio.* pauseRecording();

}

});

playTV.setOnClickListener(new View.OnClickListener() { @Override public void

onClick(View v) { *// play audio*

*method will play // the audio which we have recorded*

playAudio();

}

});

stopplayTV.setOnClickListener(new View.OnClickListener() { @Override public void

onClick(View v) { *// pause*

*play method will // pause the play of audio*

pausePlaying();

}

});

}

private void startRecording() {

*// check permission method is used to check*

*// that the user has granted permission // to record nd store the audio.*

if (CheckPermissions()) {

*// setbackgroundcolor method will change*

*// the background color of text view.*

stopTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*)); startTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); playTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); stopplayTV.setBackgroundColor(getResources().getColor(R.color.*gray*));

*// we are here initializing our filename variable*

*// with the path of the recorded audio file.*

*mFileName* = Environment.*getExternalStorageDirectory*().getAbsolutePath();

*mFileName* += "/AudioRecording.3gp";

*// below method is used to initialize*

*// the media recorder clss*

mRecorder = new MediaRecorder();

*// below method is used to set the audio*

*// source which we are using a mic.*

mRecorder.setAudioSource(MediaRecorder.AudioSource.*MIC*);

*// below method is used to set*

*// the output format of the audio.*

mRecorder.setOutputFormat(MediaRecorder.OutputFormat.*THREE\_GPP*);

*// below method is used to set the*

*// audio encoder for our recorded audio.*

mRecorder.setAudioEncoder(MediaRecorder.AudioEncoder.*AMR\_NB*);

try {

*// below method is used to set the*

*// output file location for our recorded audio*

mRecorder.setOutputFile(*mFileName*);

*// below method will prepare*

*// our audio recorder class* mRecorder.prepare(); } catch (IOException e) {

Log.*e*("TAG", "prepare() failed");

}

*// start method will start*

*// the audio recording.*

mRecorder.start();

statusTV.setText("Recording Started");

} else {

*// if audio recording permissions are*

*// not granted by user below method will*

*// ask for runtime permission for mic and storage.*

RequestPermissions();

}

}

@Override

public void onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults) {

*// this method is called when user will // grant the permission for audio recording.* super.onRequestPermissionsResult(requestCode, permissions, grantResults); super.onRequestPermissionsResult(requestCode, permissions, grantResults); switch (requestCode) { case *REQUEST\_AUDIO\_PERMISSION\_CODE*:

if (grantResults.length > 0) {

boolean permissionToRecord = grantResults[0] == PackageManager.*PERMISSION\_GRANTED*;

boolean permissionToStore = grantResults[1] == PackageManager.*PERMISSION\_GRANTED*;

if (permissionToRecord && permissionToStore) { Toast.*makeText*(getApplicationContext(), "Permission Granted",

Toast.*LENGTH\_LONG*).show();

} else {

Toast.*makeText*(getApplicationContext(), "Permission Denied", Toast.*LENGTH\_LONG*).show();

}

}

break;

}

}

public boolean CheckPermissions() {

*// this method is used to check permission*

int result = ContextCompat.*checkSelfPermission*(getApplicationContext(),

*WRITE\_EXTERNAL\_STORAGE*);

int result1 = ContextCompat.*checkSelfPermission*(getApplicationContext(),

*RECORD\_AUDIO*);

return result == PackageManager.*PERMISSION\_GRANTED* && result1 == PackageManager.*PERMISSION\_GRANTED*;

}

private void RequestPermissions() {

*// this method is used to request the*

*// permission for audio recording and storage.*

ActivityCompat.*requestPermissions*(MainActivity.this, new String[]{*RECORD\_AUDIO*, *WRITE\_EXTERNAL\_STORAGE*}, *REQUEST\_AUDIO\_PERMISSION\_CODE*);

}

public void playAudio() { stopTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); startTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*)); playTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); stopplayTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*));

*// for playing our recorded audio*

*// we are using media player class.*

mPlayer = new MediaPlayer(); try {

*// below method is used to set the*

*// data source which will be our file name*

mPlayer.setDataSource(*mFileName*);

*// below method will prepare our media player*

mPlayer.prepare();

*// below method will start our media player.*

mPlayer.start();

statusTV.setText("Recording Started Playing");

} catch (IOException e) { Log.*e*("TAG", "prepare() failed");

}

}

public void pauseRecording() { stopTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); startTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*)); playTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*)); stopplayTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*));

*// below method will stop*

*// the audio recording.*

mRecorder.stop();

*// below method will release*

*// the media recorder class.*

mRecorder.release(); mRecorder = null; statusTV.setText("Recording Stopped");

}

public void pausePlaying() {

*// this method will release the media player*

*// class and pause the playing of our recorded audio.*

mPlayer.release(); mPlayer = null;

stopTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); startTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*)); playTV.setBackgroundColor(getResources().getColor(R.color.*purple\_200*)); stopplayTV.setBackgroundColor(getResources().getColor(R.color.*gray*)); statusTV.setText("Recording Play Stopped");

}

}

**AndroidMainfest.xml**

<uses-permission android:name="android.permission.RECORD\_AUDIO"/>

<uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE"/>

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

**Output**



1. **Write a program to show Image effects. (It demonstrates some of the image effects on the bitmap. It creates a basic application that allows you to convert the picture into grayscale and much more.**

**Activity\_main.xml**

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

<RelativeLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent"

android:layout\_height="match\_parent" android:paddingLeft="@dimen/cardview\_default\_radius" android:paddingRight="@dimen/cardview\_default\_radius" android:paddingTop="@dimen/cardview\_default\_radius" android:paddingBottom="@dimen/cardview\_default\_radius" tools:context=".MainActivity">

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/textView" android:layout\_alignParentTop="true" android:layout\_centerHorizontal="true" android:textSize="30dp" android:text="Image Effects" />

<TextView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Tutorials Point" android:id="@+id/textView2" android:layout\_below="@+id/textView" android:layout\_centerHorizontal="true" android:textSize="35dp" android:textColor="#ff16ff01" />

<ImageView

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/imageView" android:layout\_below="@+id/textView2" android:layout\_centerHorizontal="true" android:src="@drawable/ic\_start\_recording"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Gray" android:onClick="gray" android:id="@+id/button" android:layout\_alignParentBottom="true" android:layout\_alignParentLeft="true" android:layout\_alignParentStart="true" android:layout\_marginBottom="97dp" />

<Button

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="dark"

android:onClick="dark" android:id="@+id/button2" android:layout\_alignBottom="@+id/button" android:layout\_alignParentRight="true" android:layout\_alignParentEnd="true" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Bright" android:onClick="bright" android:id="@+id/button3" android:layout\_alignTop="@+id/button2" android:layout\_centerHorizontal="true" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Red" android:onClick="gama" android:id="@+id/button4" android:layout\_below="@+id/button3" android:layout\_alignParentLeft="true" android:layout\_alignParentStart="true" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="Green" android:onClick="green" android:id="@+id/button5" android:layout\_alignTop="@+id/button4" android:layout\_alignLeft="@+id/button3" android:layout\_alignStart="@+id/button3" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:text="blue" android:onClick="blue" android:id="@+id/button6" android:layout\_below="@+id/button2" android:layout\_toRightOf="@+id/textView" android:layout\_toEndOf="@+id/textView" />

</RelativeLayout>

**Mainactivity.java**

package com.example.a29image\_effect;

import android.graphics.Bitmap; import android.graphics.Color;

import android.graphics.drawable.BitmapDrawable;

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

android.widget.Button; import android.widget.ImageView;

import androidx.appcompat.app.AppCompatActivity; public class MainActivity extends AppCompatActivity {

Button b1, b2, b3;

ImageView im;

private Bitmap bmp; private Bitmap operation;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

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

b2 = (Button) findViewById(R.id.button2); b3 = (Button) findViewById(R.id.button3); im = (ImageView) findViewById(R.id.imageView);

BitmapDrawable abmp = (BitmapDrawable) im.getDrawable(); bmp = abmp.getBitmap();

}

public void gray(View view) {

operation = Bitmap.createBitmap(bmp.getWidth(),bmp.getHeight(), bmp.getConfig()); double red = 0.33; double green = 0.59; double blue = 0.11;

for (int i = 0; i < bmp.getWidth(); i++) { for (int j = 0; j < bmp.getHeight(); j++) {

int p = bmp.getPixel(i, j); int r = Color.red(p); int g = Color.green(p); int b = Color.blue(p);

r = (int) red \* r; g = (int) green \* g;

b = (int) blue \* b;

operation.setPixel(i, j, Color.argb(Color.alpha(p), r, g, b)); } }

im.setImageBitmap(operation);

}

public void bright(View view){

operation= Bitmap.createBitmap(bmp.getWidth(), bmp.getHeight(),bmp.getConfig());

for(int i=0; i<bmp.getWidth(); i++){ for(int j=0; j<bmp.getHeight(); j++){

int p = bmp.getPixel(i, j); int r

= Color.red(p); int g =

Color.green(p); int b =

Color.blue(p); int alpha = Color.alpha(p);

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | r | = | 100 | + | r; |
| g = 100 + g; |  |  |  | b | = 100 |
| + b; |  |  | alpha | = | 100 + |
| alpha; |  |  |  |  |  |

operation.setPixel(i, j, Color.argb(alpha, r, g, b));

}

}

im.setImageBitmap(operation);

}

public void dark(View view){ operation=

Bitmap.createBitmap(bmp.getWidth(),bmp.getHeight(),bmp.getConfig());

for(int i=0; i<bmp.getWidth(); i++){ for(int j=0; j<bmp.getHeight(); j++){

int p = bmp.getPixel(i, j); int r

= Color.red(p); int g =

Color.green(p); int b =

Color.blue(p); int alpha = Color.alpha(p);

r = r - 50;

g = g - 50; b =

b - 50; alpha =

alpha -50;

operation.setPixel(i, j, Color.argb(Color.alpha(p), r, g, b)); } }

im.setImageBitmap(operation);

}

public void gama(View view) { operation =

Bitmap.createBitmap(bmp.getWidth(),bmp.getHeight(),bmp.getConfig()); for(int i=0; i<bmp.getWidth(); i++){

for(int j=0; j<bmp.getHeight(); j++){

int p = bmp.getPixel(i, j); int r

= Color.red(p); int g =

Color.green(p); int b =

Color.blue(p); int alpha = Color.alpha(p);

r = r + 150;

g = 0; b =

0; alpha = 0;

operation.setPixel(i, j, Color.argb(Color.alpha(p), r, g, b)); } }

im.setImageBitmap(operation);

}

public void green(View view) {

operation = Bitmap.createBitmap(bmp.getWidth(), bmp.getHeight(), bmp.getConfig());

int

i; i++){

for (i = 0; i<bmp.getWidth();

for (int j = 0; j < bmp.getHeight(); j++) {

int p = bmp.getPixel(i, j); int r = Color.red(p); int g = Color.green(p); int b = Color.blue(p); int alpha = Color.alpha(p);

r = 0;

g = g + 150;

b = 0; alpha

= 0;

operation.setPixel(i, j, Color.argb(Color.alpha(p), r, g,

b));

}

}

im.setImageBitmap(operation);

}

public void blue(View view){

operation = Bitmap.createBitmap(bmp.getWidth(),bmp.getHeight(), bmp.getConfig());

for(int i=0; i<bmp.getWidth(); i++){ for(int j=0; j<bmp.getHeight(); j++){

int p = bmp.getPixel(i, j); int r

= Color.red(p); int g =

Color.green(p); int b =

Color.blue(p); int alpha = Color.alpha(p);

r = 0;

g = 0; b =

b+150; alpha

= 0;

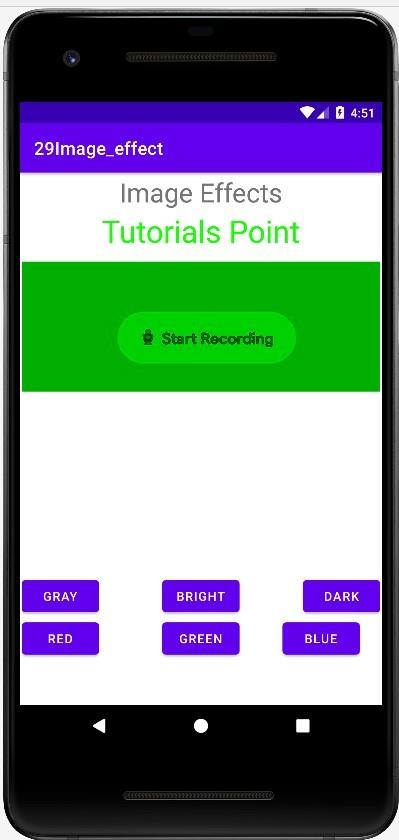
operation.setPixel(i, j, Color.argb(Color.alpha(p), r, g, b)); } }

im.setImageBitmap(operation);

}

}

**Output**



1. **Write a program to show custom Fonts (It creates a basic application that displays a custom font that you specified in the fonts file.)**

**Activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent">

<TextView

android:id="@+id/textview" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="GeeksforGeeks" android:textColor="#006600" android:textSize="50dp"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintLeft\_toLeftOf="parent" app:layout\_constraintRight\_toRightOf="parent" app:layout\_constraintTop\_toTopOf="parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java**

package com.example.custom\_font;

import androidx.appcompat.app.AppCompatActivity; import androidx.core.content.res.ResourcesCompat; import android.graphics.Typeface; import android.os.Bundle; import android.widget.TextView;

public class MainActivity extends AppCompatActivity { @Override

protected void onCreate(Bundle savedInstanceState)

{

super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

TextView textView = findViewById(R.id.textview); Typeface typeface = Typeface.createFromAsset(

getAssets(),

"WaterBrush-Regular.ttf"); textView.setTypeface(typeface);

}

}

**Output**



1. **Write a program to show Progress Circle (It display a spinning progress dialog on pressing the button.)**

**Activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<ImageView

android:id="@+id/imageView" android:layout\_width="403dp" android:layout\_height="173dp" android:src="@drawable/abc"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.0" />

<EditText

android:id="@+id/editTextTextPersonName" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginTop="44dp" android:ems="10"

android:inputType="textPersonName" android:text="Name"

app:layout\_constraintBottom\_toTopOf="@+id/editTextTextPersonName2" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/imageView" app:layout\_constraintVertical\_bias="0.031" />

<EditText

android:id="@+id/editTextTextPersonName2" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginBottom="28dp" android:ems="10"

android:inputType="textPersonName" android:text="Name"

app:layout\_constraintBottom\_toTopOf="@+id/button" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.497" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toBottomOf="@+id/imageView" app:layout\_constraintVertical\_bias="0.992" />

<Button

android:id="@+id/button" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_marginBottom="300dp" android:text="Button"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.498" app:layout\_constraintStart\_toStartOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java**

package com.example.progress\_circle; import

android.app.ProgressDialog; import android.app.Activity; import android.os.Bundle; import android.os.Handler; import android.view.View; import android.widget.Button;

public class MainActivity extends Activity

{ Button b1;

private ProgressDialog progressBar; private int progressBarStatus = 0; private Handler progressBarbHandler = new Handler(); private long fileSize = 0;

@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) {

progressBar = new ProgressDialog(v.getContext()); progressBar.setCancelable(true);

progressBar.setMessage("File downloading ..."); progressBar.setProgressStyle(ProgressDialog.*STYLE\_SPINNER*); progressBar.setProgress(0); progressBar.setMax(100); progressBar.show(); progressBarStatus = 0;

fileSize = 0;

new Thread(new Runnable() { public void run() {

while (progressBarStatus < 100) { progressBarStatus = downloadFile();

try { Thread.*sleep*(1000);

} catch (InterruptedException e) { e.printStackTrace();

}

progressBarbHandler.post(new Runnable() {

public void run() {

progressBar.setProgress(progressBarStatus);

}

});

}

try {

}

if (progressBarStatus >= 100) {

Thread.*sleep*(2000);

} catch (InterruptedException e) { e.printStackTrace();

progressBar.dismiss();

}

}

}).start();

}

});

|  |  |  |
| --- | --- | --- |
|  | } | public int downloadFile() |
| { |  | while (fileSize <= 1000000) |
| { |  | fileSize++; |

return 10;

return 20;

return 30;

return 40;

return 50;

return 70;

return 80;

if (fileSize == 100000) {

}else if (fileSize == 200000) {

}else if (fileSize == 300000) {

}else if (fileSize == 400000) {

}else if (fileSize == 500000) {

}else if (fileSize == 700000) {

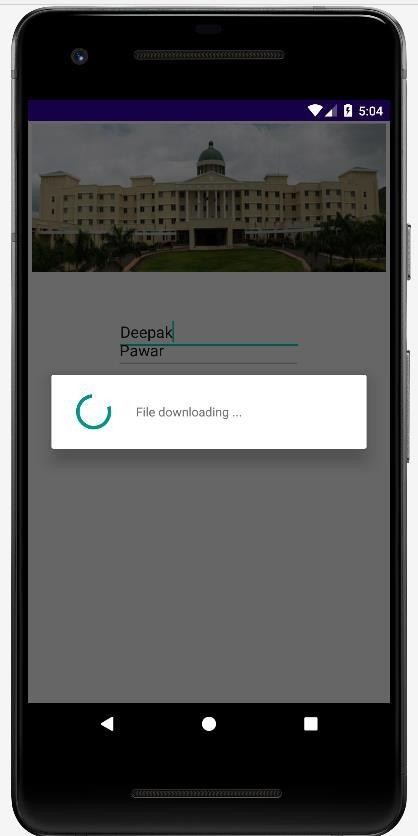
}else if (fileSize == 800000) {

}

} return

100;

} }

**Output**

1. **Write a program to show Navigation (It creates a basic application that allows you to navigate within your application.)**

**Activity\_main.xml**

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

*<!--the root view must be the DrawerLayout-->*

<androidx.drawerlayout.widget.DrawerLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:id="@+id/my\_drawer\_layout" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity" tools:ignore="HardcodedText">

<LinearLayout

android:layout\_width="match\_parent" android:layout\_height="match\_parent">

<TextView

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginTop="128dp" android:gravity="center" android:text="GeeksforGeeks" android:textSize="18sp" />

</LinearLayout>

*<!--this the navigation view which draws and shows the navigation drawer-->*

*<!--include the menu created in the menu folder-->*

<com.google.android.material.navigation.NavigationView android:layout\_width="wrap\_content" android:layout\_height="match\_parent"

android:layout\_gravity="start" app:menu="@menu/navigation\_menu"

/>

</androidx.drawerlayout.widget.DrawerLayout>

**MainActivity.java**

package com.example.nevigation;

import androidx.annotation.NonNull;

import androidx.appcompat.app.ActionBarDrawerToggle; import androidx.appcompat.app.AppCompatActivity; import androidx.drawerlayout.widget.DrawerLayout; import android.os.Bundle; import android.view.MenuItem;

public class MainActivity extends AppCompatActivity

{

public DrawerLayout drawerLayout;

public ActionBarDrawerToggle actionBarDrawerToggle; @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

*// drawer layout instance to toggle the menu icon to open*

*// drawer and back button to close drawer* drawerLayout = findViewById(R.id.*my\_drawer\_layout*); actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout, R.string.*nav\_open*, R.string.*nav\_close*);

*// pass the Open and Close toggle for the drawer layout listener*

*// to toggle the button* drawerLayout.addDrawerListener(actionBarDrawerToggle); actionBarDrawerToggle.syncState();

*bar*

}

*// to make the Navigation drawer icon always appear on the action*

getSupportActionBar().setDisplayHomeAsUpEnabled(true);

*// override the onOptionsItemSelected()*

*// function to implement*

*// the item click listener callback*

*// to open and close the navigation*

*// drawer when the icon is clicked*

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

if (actionBarDrawerToggle.onOptionsItemSelected(item)) { return true;

}

return super.onOptionsItemSelected(item);

} }

**navigation.java**

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

<menu xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) tools:ignore="HardcodedText">

<item

android:id="@+id/nav\_account"

android:title="My Account" />

<item

android:id="@+id/nav\_settings"

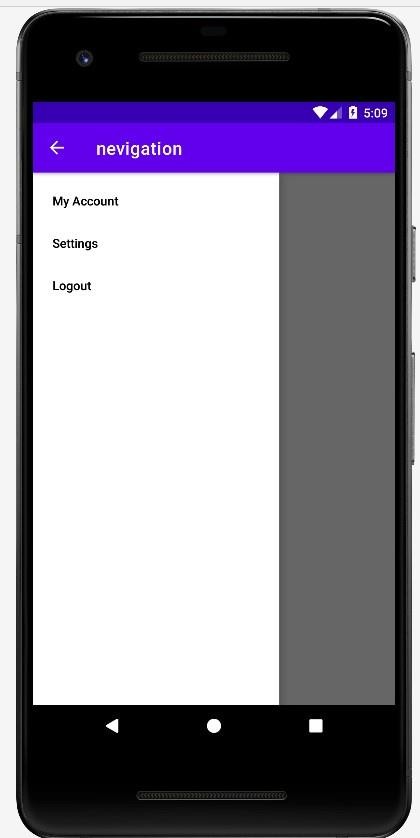
android:title="Settings" />

<item

android:id="@+id/nav\_logout"

android:title="Logout" />

</menu>

**Output**

1. **Write a program to show androidcustomgridview. Activity\_main.xml**

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

*<!-- android:numColumns=2 is the number of columns for Grid View android:horizontalSpacing is the space between horizontal*

*grid items.-->* <GridView android:id="@+id/idGVcourses"

android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:horizontalSpacing="6dp" android:numColumns="2" android:verticalSpacing="6dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Card\_item.xml**

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

*<!--XML implementation of Card Layout-->*

<androidx.cardview.widget.CardView xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android)

xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-[auto"](http://schemas.android.com/apk/res-auto) android:layout\_width="match\_parent" android:layout\_height="120dp" android:layout\_gravity="center" android:layout\_margin="5dp" app:cardCornerRadius="5dp" app:cardElevation="5dp">

<LinearLayout

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="vertical">

<ImageView

android:id="@+id/idIVcourse" android:layout\_width="100dp" android:layout\_height="100dp" android:layout\_gravity="center"

android:src="@drawable/ic\_launcher\_background" />

<TextView

android:id="@+id/idTVCourse" android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

android:text="@string/app\_name" android:textAlignment="center"

/>

</LinearLayout>

</androidx.cardview.widget.CardView>

**Mainactivity.java**

package com.example.a33androidcustomview; import android.os.Bundle;

import android.widget.GridView;

import androidx.appcompat.app.AppCompatActivity; import java.util.ArrayList;

public class MainActivity extends AppCompatActivity

{

GridView coursesGV;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

coursesGV = findViewById(R.id.*idGVcourses*);

ArrayList<CourseModel> courseModelArrayList = new ArrayList<CourseModel>();

courseModelArrayList.add(new CourseModel("DSA", R.drawable.*ic\_gfglogo*));

courseModelArrayList.add(new CourseModel("JAVA", R.drawable.*ic\_gfglogo*));

courseModelArrayList.add(new CourseModel("C++", R.drawable.*ic\_gfglogo*));

courseModelArrayList.add(new CourseModel("Python", R.drawable.*ic\_gfglogo*));

courseModelArrayList.add(new CourseModel("Javascript", R.drawable.*ic\_gfglogo*));

courseModelArrayList.add(new CourseModel("DSA", R.drawable.ic\_gfglogo));

CourseGVAdapter adapter = new CourseGVAdapter(this, courseModelArrayList);

coursesGV.setAdapter(adapter);

} }

**CourseModel.java**

package com.example.a33androidcustomview; public class CourseModel {

*// string course\_name for storing course\_name*

*// and imgid for storing image id.*

private String course\_name; private int imgid;

public CourseModel(String course\_name, int imgid) { this.course\_name = course\_name; this.imgid = imgid;

} public String getCourse\_name() { return course\_name;

}

public void setCourse\_name(String course\_name) { this.course\_name = course\_name;

} public int getImgid() { return imgid;

} public void setImgid(int imgid) { this.imgid = imgid;

}

}

**CourseGVAdapter.java**

package com.example.a33androidcustomview;

import android.content.Context; import android.view.LayoutInflater; import android.view.View; import android.view.ViewGroup; import android.widget.ArrayAdapter; import android.widget.ImageView; import android.widget.TextView; import androidx.annotation.NonNull; import androidx.annotation.Nullable; import java.util.ArrayList;

public class CourseGVAdapter extends ArrayAdapter<CourseModel> { public CourseGVAdapter(@NonNull Context context, ArrayList<CourseModel> courseModelArrayList) {

super(context, 0, courseModelArrayList);

}

@NonNull @Override

public View getView(int position, @Nullable View convertView, @NonNull ViewGroup parent) {

View listitemView = convertView; if (listitemView == null) {

*// Layout Inflater inflates each item to be displayed in*

*GridView.*

listitemView = LayoutInflater.*from*(getContext()).inflate(R.layout.*card\_item*, parent, false);

}

CourseModel courseModel = getItem(position);

TextView courseTV = listitemView.findViewById(R.id.*idTVCourse*); ImageView courseIV = listitemView.findViewById(R.id.*idIVcourse*);

courseTV.setText(courseModel.getCourse\_name()); courseIV.setImageResource(courseModel.getImgid()); return listitemView;

}

}

**Output**

1. **Write a program to show Restful Web Service.**