RAJEEV GANDHI MEMORIAL COLLEGE OF ENGG.& TECH.,
NANDYAL-518 501
(AUTONOMOUS)

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

(ESTD-1995)

LAB MANUAL

ANDROID PROGRAMMING

III B.TECH-II SEM

VISION OF THE DEPARTMENT

- To empower students with cutting edge technologies in computer science and engineering
- To train the students as entrepreneurs in computer science and engineering to address the needs of the society
- To develop smart applications to disseminate information to rural people

MISSION OF THE DEPARTMENT

- To become the best computer science and engineering department in the region offering undergraduate, post graduate and research programs in collaboration with industry
- To incubate, apply and spread innovative ideas by collaborating with relevant industries and R & D labs through focused research groups.
- To provide exposure to the students in the latest tools and technologies to develop smart applications for the society

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AUTONOMOUS

COMPUTER SCIENCE AND ENGINEERING

III B. Tech. II- Sem (CSE) P 3 C 2

(A0585156) ANDROID PROGRAMMING LAB

OBJECTIVES:

- Understand how Android applications work, their life cycle, manifest, Intents, and using external resources
- Design and develop useful Android applications with compelling user interfaces by using, extending, and creating yourown layouts and Views and using Menus.
- Secure, tune, package, and deploy Android applications
- Use Android's communication APIs for SMS, telephony, network management, and internet resources (HTTP).

OUTCOMES:

- Display proficiency in coding on a mobile programming platform.
- Understand the limitations and features of developing for mobile devices.
- Creating a complete Mobile app with a significant programming component, involving the sensors and hardware features of the phone.
- Practice existing state of mobile app development via researching existing apps, meeting with industry professionals, and formulating new ideas.
- Display proficiency in coding on a mobile programming platform.
- Good knowledge of economics and features of the app marketplace by offering the app for download.

CO-PO MAPPING:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
CO1		2	1							3			1	1	
CO2	1							3			2		2	3	1
CO3		1							2		1		2	1	2
CO4				1			2						1		1
CO5	2		1		3									1	1
CO6						1				2			2	2	2

EXPERIMENTS:

1. a) Create an android application to display RGMCET Text Message.
   b) Create an android application to display RGMCET Message by using Button.

2. Create an android application to call different activities by using Implicit and Explicit Intents.

3 a) Create an android application to select item from given list by using AutoCompleteTextView (ACTV).
   b) Create an android application to display dropdown menu items and pick one item by using Spinner Component.

4 a) Create an android application to display internal storage data using Array Adapter.
   b) Create an android application to display internal storage data in vertical format by using Custom Adapter.

5. Create an android application to display WhatsApp videos in grid view by using Custom Adapter.

6. Create an android application to display webpage by using Web view Component.

7. Create an android application to display different webpages in fragments by using Fragments Component.

8. Create an android application to store the data by using Shared Preferences.

9. Create an android application to demonstrate concept of SQLite Database Storage method.

10. Create an android application to perform different types of operations (Send SMS, Making call and sending email) by using Telephony app.

11. Write an android program to develop Media player application.

12 a) Write an android program to develop Video view application
b) Write an android program to develop Audio Recording application.

13 a) Write an android program to develop Video Recording application.
b) Write an android program to develop Camera and Gallery application.

14 a) Create an android application to get latitude and longitude value by using Location Service.
b) Create an android application to display X, Y Sensor values by using Sensor Service.

15 a) Create an android application to get the notifications on Notification Bar by Using Notification Service.
b) Create an android application to display available Wi-Fi devices and Paired Wi-Fi devices by using Wi-Fi Service.

16 a) Create an android application to get the Bluetooth devices and list of devices using Bluetooth and Vibrator Service.

b) Create an android application to get the System Announcements by using Broadcast Receiver.

17. Create an android application to share the data between multiple applications by using Content Provider.

18. Create an android application to display different Dialog Boxes.

19. Create an android application to display current location on Google maps by using Google-Maps Service.

REFERENCES:

1. Android Application Development (with Kitkat Support), Black Book by Pradeep Kothari.
2. Beginning Android 4 Application Development by Wei-Meng Lee.
3. Android Application Development for Dummies by Michael Burton

III B.Tech. II-Sem (CSE)

ANDROID PROGRAMMING LAB

To create a new instant app project in Android Studio 3.0, do the following:

1. Launch Android Studio and create a new project:
   - If you have not opened a project yet, in the **Welcome to Android Studio** window, click **Start a new Android Studio project**.
   - If you already have a project open, select **File > New Project**.
2. In the **Create Android Project** window, do the following:
   - In the **Application name** box, enter "My First Instant App".
   - In the **Company domain** box, enter "example.com".
   - Leave the **Package name** as "com.example.myfirstinstantapp".
3. Click **Next**.
4. In the **Target Android Devices** window, do the following:
   - Ensure that **Phone and Tablet** is selected.
   - In the **Minimum SDK** list, select **API 23: Android 6.0 (Marshmallow)**.
   - Under the **Minimum SDK** list, check **Include Android Instant app support**.

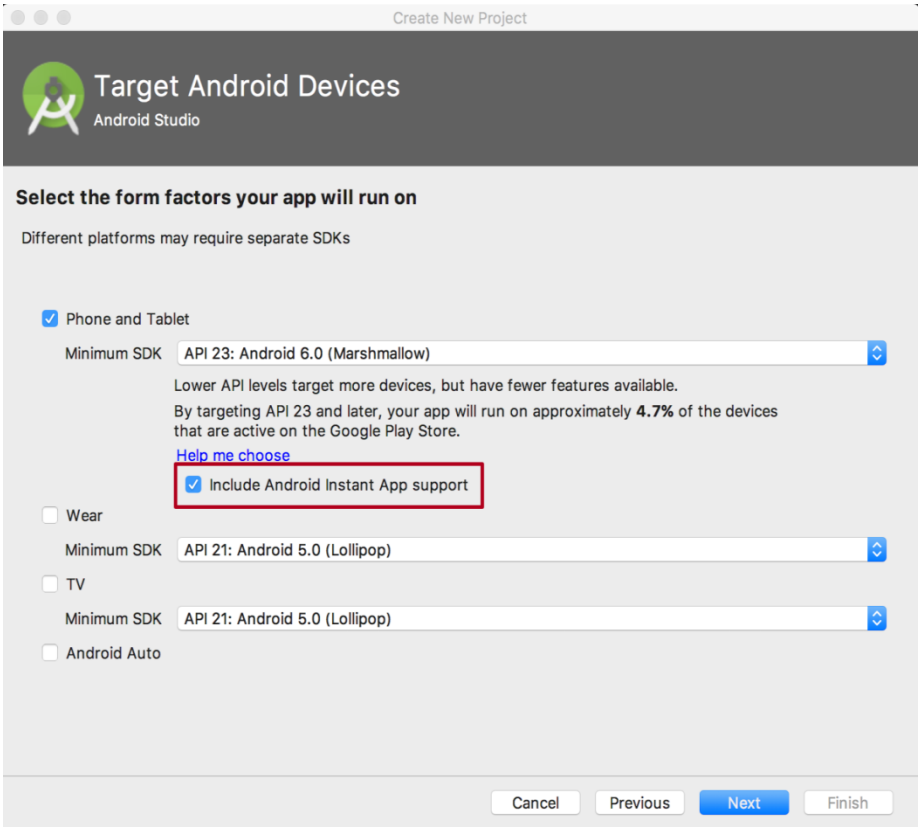


Figure : The **Target Android Devices** window.

5. Click **Next**.
6. In the **Customize Instant App Support** window, leave the default settings.
7. Click **Next**.
8. In the **Add an Activity to Phone and Tablet** window, select **Empty Activity**.
9. Click **Next**.
10. In the **Configure Activity** window, do the following:
    - In the **Instant App URL Host** box, enter 'myfirstinstantapp.example.com'.
    - In the **Instant App URL** route box, enter '/hello'.

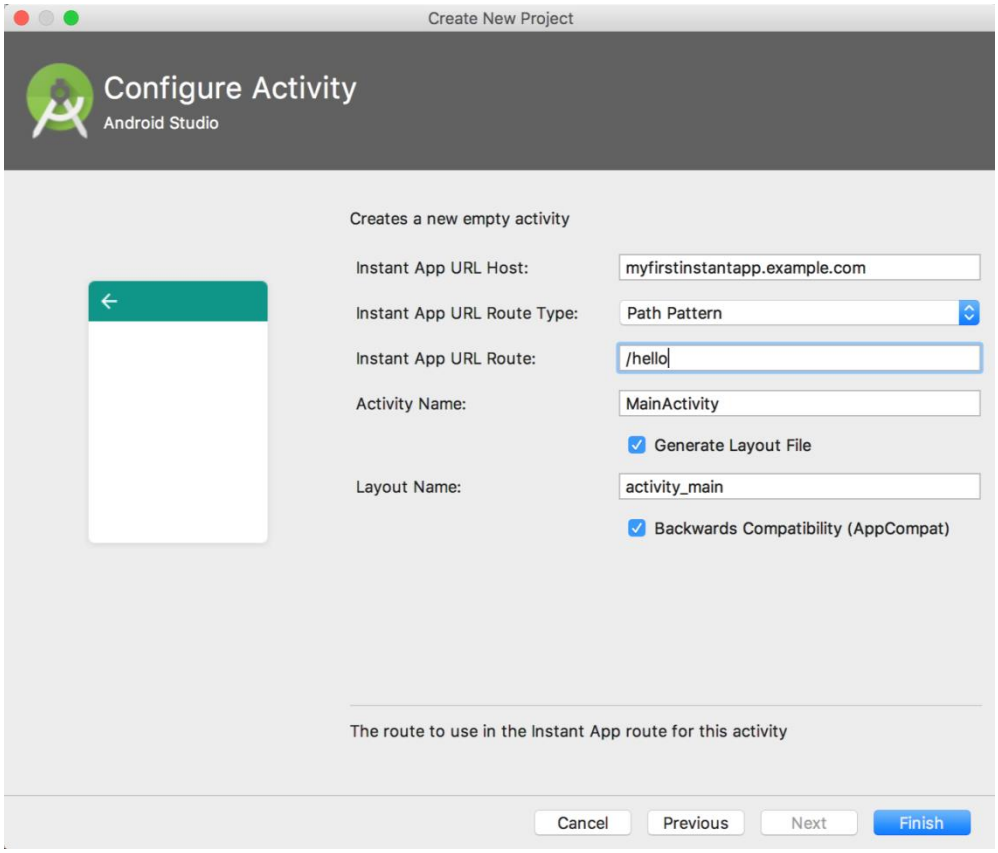


Figure: The **Configure Activity** window.

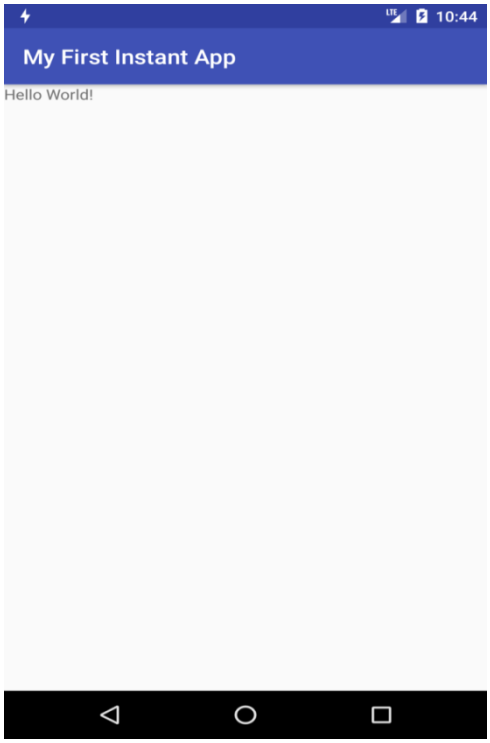
11. Click **Finish**.

After Android Studio has finished creating the project, you can run the instant app. Make sure that you have already created an emulator that can run instant apps, as described in Set up your device or emulator.

To run the project in Android Studio, do the following:

1. Click the the **instantapp** module in the **Project** window and then select **Run > Run 'instantapp'**.
2. In the **Select Deployment Target** window, select the emulator that you have set up for instant app development.

Android Studio builds and runs the app on the emulator as shown in figure



'My First Instant App' running.

EXPERIMENT 1

a) Create an android application to display RGMCET Text Message.

activity_main.xml:

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

<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Welcome to RGMCET"
android:textSize="40sp"
android:textColor="#F000" />
</LinearLayout>
```

MainActivity.java

```
package cubexsoft.helloworld;
import android.os.Bundle;
import android.support.annotation.Nullable;
public class MainActivity extends android.app.Activity
{
@Override
protected void onCreate(@Nullable Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
}
```

Output:

1.b) Create an android application to display RGMCET Message by using Button.

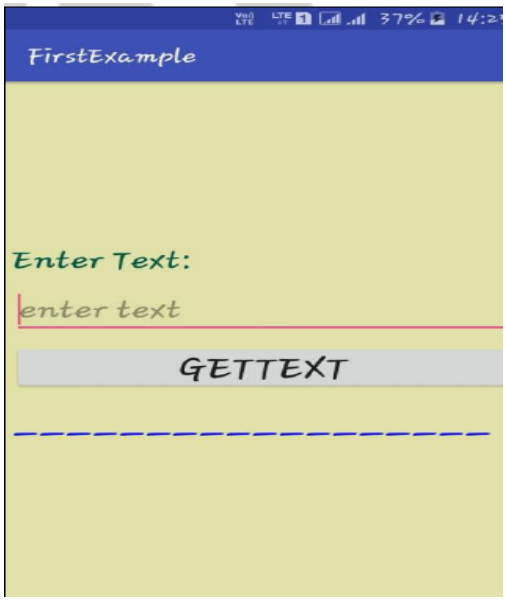
activity_main.xml

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

<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Enter Text:"
android:textSize="40sp"/>

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et1"/>

<Button
android:id="@+id/b1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="GetText"
android:textSize="40sp"/>

<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="_____"
android:textSize="40sp"
android:id="@+id/tv1"/>
</LinearLayout>
```

MainActivity.java

```
package com.example.hi.welcomeApp;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends android.app.Activity
{
        @Override
protected void onCreate(@Nullable Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Button b=(Button)findViewById(R.id.b1);
b.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
        EditText et1=(EditText)findViewById(R.id.et1);
        TextView tv1=(TextView)findViewById(R.id.tv1);
        tv1.setText(et1.getText());
                }
        });
}

}
```

OUTPUT:



EXPERIMENT 2

Create an android application to call different activities by using Implicit and Explicit Intents.

ActivityMain.xml File:

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

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Number"
    android:id="@+id/et1"
    android:inputType="phone"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="DIAL"
        android:onClick="dial"
        android:layout_gravity="center"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="DIAL1"
        android:onClick="dial1"
        android:layout_gravity="center"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="NEXT"
        android:onClick="next"
        android:layout_gravity="center"/>
```

```
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="WHATSAPP"
        android:onClick="whatsapp"
        android:layout_gravity="center"/>

</LinearLayout>
```

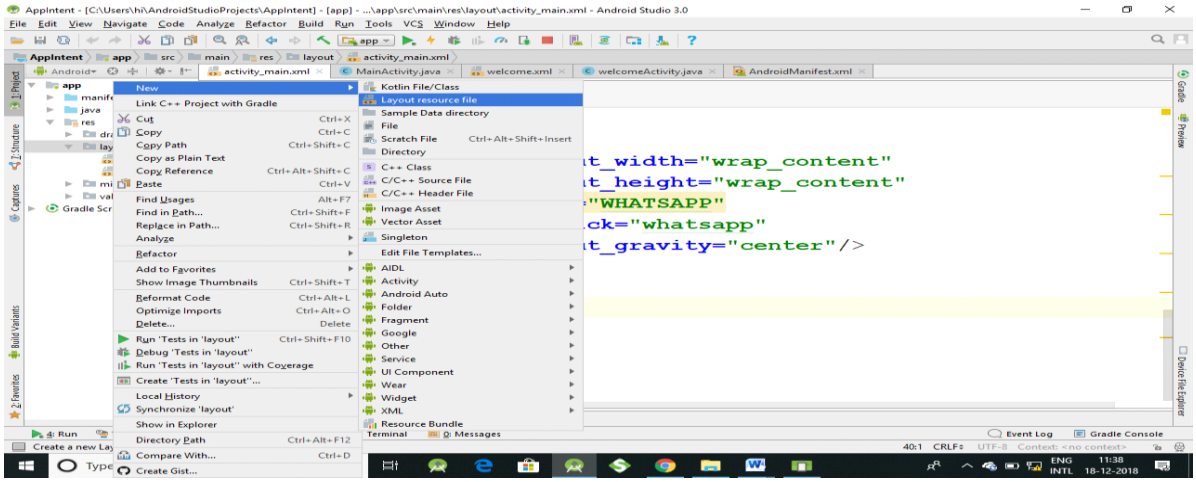
MainActivity.Java File:

```
package com.example.hi.appintent;
import android.content.ComponentName;
import android.content.Intent;
import android.net.Uri;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public  void dial(View v){
        Intent i=new Intent();
        i.setAction(Intent.ACTION_DIAL);
        EditText et1=(EditText)findViewById(R.id.et1);
        i.setData(Uri.parse("tel:"+et1.getText().toString()));
        startActivity(i);
    }

    public void dial1(View v){
      Intent i=new Intent();
      i.setAction(Intent.ACTION_GET_CONTENT);
      i.setType("Image/*");
      startActivity(i);
    }

    public void next(View v){
```

```
        Intent i=new Intent();
        i.setComponent(new ComponentName(this,welcomeActivity.class));
        startActivity(i);
    }

public void whatsapp(View v){
  Intent i=getPackageManager().getLaunchIntentForPackage("com.whatsapp");
        startActivity(i);

    }
}
```

Creating a New Layout:

Goto **res folder** >> **layoutfolder**. Now right click layoutfolder >> **new** >> **layout resoures file** and provide **name**(welcome)



Welcome.xml :

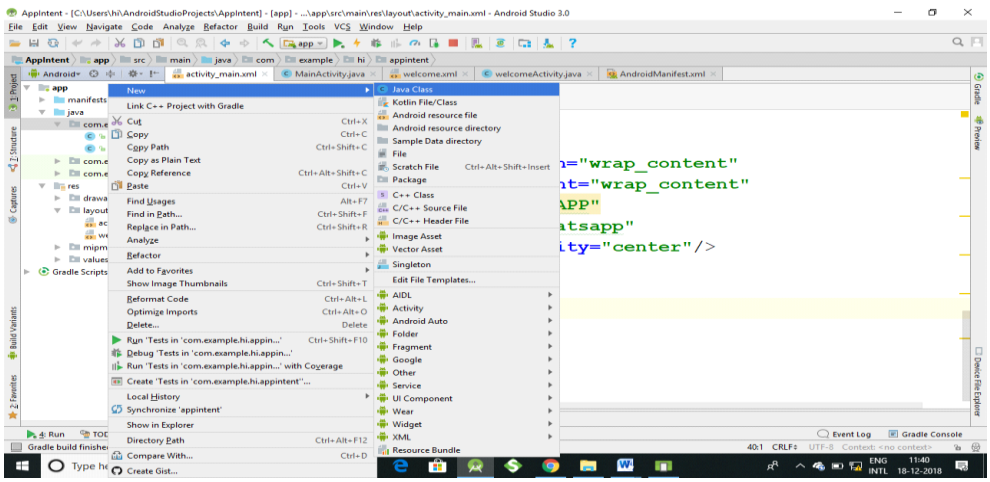
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
```

```
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="WELCOME TO CSE LAB2"
        android:textSize="30sp"
        android:textColor="#FF00"/>

</LinearLayout>
```

Creating a New Java File:

-Goto **Java folder >> package folder** >> **Now right click packagefolder** >>

new >> **java class** and provide **name**(welcomeActivity).



WelcomeActivity.java

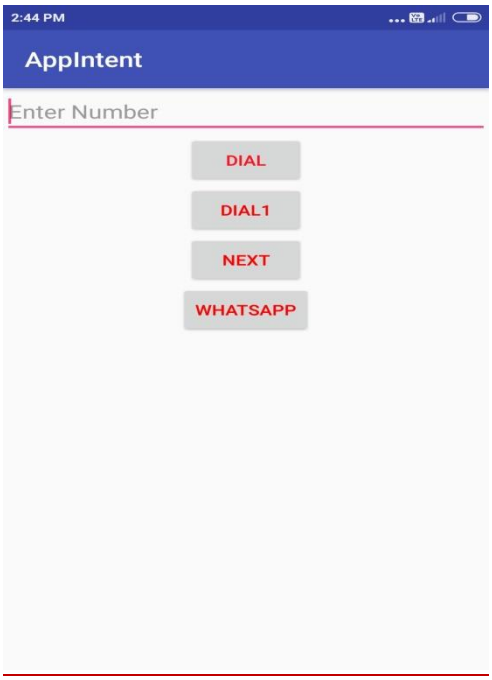
```
package com.example.hi.appintent;
import android.app.Activity;
import android.os.Bundle;
import android.support.annotation.Nullable;


public class welcomeActivity extends Activity {
    @Override
    protected void onCreate(@Nullable Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
        setContentView(R.layout.welcome);
    }
}
```

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.appintent">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>
```

OUTPUT:



EXPERIMENT 3

a) Create an android application to select item from given list by using AutoCompleteTextView (ACTV).

activity_main.xml:

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

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Enter Country"
      android:textSize="40sp"
      android:textColor="#f00" />


   <AutoCompleteTextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/actv"/>

</LinearLayout>
```

Strings.xml:

```
<resources>
   <string name="app_name">ACTCApp</string>
   <string-array name="country">
      <item>India</item>
      <item>Indonasia</item>
      <item>Ierland</item>
      <item>Srilanka</item>
      <item>SouthAfrica</item>
```

```
        <item>Pakisthan</item>
        <item>Bangladesh</item>
        <item>Brezil</item>
    </string-array>
</resources>
```

MainActivity.java:

```
package com.example.hi.actcapp;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;

public class MainActivity extends AppCompatActivity {

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

        AutoCompleteTextView
                actv=(AutoCompleteTextView)findViewById(R.id.actv);

        String[] values=getResources().getStringArray(R.array.country);

      //String[] values=new String[]{ “India”, “Srilanka”, “Arebia” };

      ArrayAdapter adapter=new
                        ArrayAdapter(MainActivity.this, android.R.layout.
                                simple_list_item_single_choice, values);


                                actv.setAdapter(adapter);
                                actv.setThreshold(1);
    }
}
```

OUTPUT:


15:03
ACTVExample
Enter Country Name:
India
Indonesia
Ierland
Sym
English (UK)

b) Create an android application to display dropdown menu items and pick one item by using Spinner Component.

Activity_main.xml

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

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="Select Country"
      android:textSize="40sp" />

<Spinner
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/sp1"
      android:entries="@array/countries">
   </Spinner>
   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="Select Gender"
      android:textSize="40sp" />

   <Spinner
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/sp2">
   </Spinner>

</LinearLayout>
```

Strings.xml

```
<resources>
   <string name="app_name">SPINNERapp</string>
   <string-array name="countries">
      <item>------Select------</item>
      <item>India</item>
      <item>Ireland</item>
      <item>Australia</item>
      <item>China</item>
      <item>Srilanka</item>
      <item>Bangladesh</item>
   </string-array>
</resources>
```

MainActivity.java

```
package com.example.hi.spinnerapp;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterViewAnimator;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;
import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

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

      final Spinner sp1 = (Spinner) findViewById(R.id.sp1);
        sp1.setOnItemSelectedListener(new
                              AdapterView.OnItemSelectedListener () {
         @Override
  public void onItemSelected (AdapterView<?> parent, View view, int
```

```
                                                        position, long id) {
                if (position > 0) {
                Toast.makeText(MainActivity.this, sp1.getSelectedItem().toString(),
                                                Toast.LENGTH_LONG).show();
                }

            }

            @Override
            public void onNothingSelected(AdapterView<?> parent) {

            }
        });

Spinner sp2 = (Spinner) findViewById(R.id.sp2);
        ArrayList<String> List = new ArrayList<>();
        List.add("Select");
        List.add("Male");
        List.add("Female");
        List.add("TransGender");
      ArrayAdapter<String> adapter = new
            ArrayAdapter<String>(MainActivity.this,
                    R.layout.support_simple_spinner_dropdown_item, List);
        sp2.setAdapter(adapter);
    }

}
```

OUTPUT:


12:27 PM
0.3KB/s
My Applicationspinner
Select Country
----Select----
Select Gender
Select


12:27 PM
0.1KB/s
My Applicationspinner
Select Country
----Select----
India
Ireland
Australia
China
Srilanka
Bangladesh

EXPERIMENT 4

a) Create an android application to display internal storage data using Array

Adapter.

activity_main.xml

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

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="First practise of android"
      android:textSize="40sp"  />

   <ListView
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/lview">
   </ListView>

</LinearLayout>
```

MainActivity.java:

```
package com.example.hi.listviewapp;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import java.io.File;
```

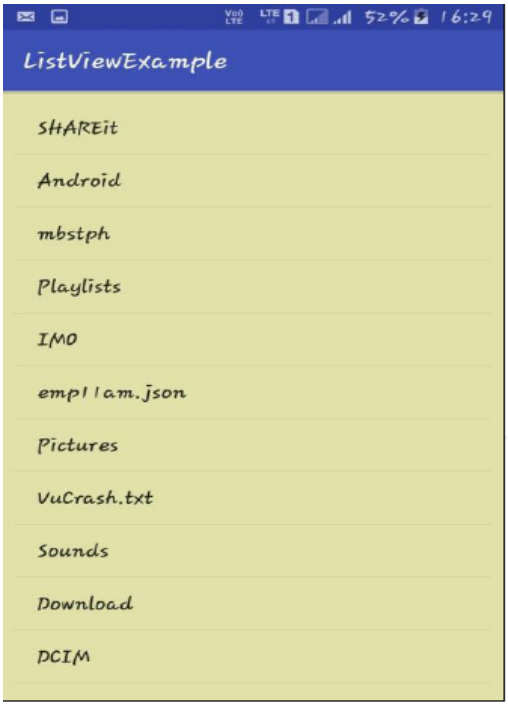
```
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ListView lview=(ListView)findViewById(R.id.lview);
        String path="/storage/emulated/0/";
        File f=new File(path);
        String[] files=f.list();
        ArrayAdapter<String> adapter=new
                                ArrayAdapter<String>(MainActivity.this,
                        R.layout.support_simple_spinner_dropdown_item, files);
        lview.setAdapter(adapter);
    }
}
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest  xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.listviewapp">
<uses-permission
      android:name="android.permission.READ_EXTERNAL_STORAGE"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
```

```
        </intent-filter>
    </activity>
  </application>
</manifest>
```

OUTPUT:



4 b) Create an android application to display internal storage data in vertical format by using Custom Adapter.

activity_main.xml:

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

   <ListView
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/lview">

   </ListView>
</LinearLayout>
```

Indiview.xml:

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

   <ImageView
      android:layout_width="0dp"
      android:layout_weight="0.2"
      android:layout_height="100dp"
      android:id="@+id/lview1"
      android:src="@drawable/ic_launcher_background" />

   <LinearLayout
```

```
        android:layout_width="0dp"
        android:layout_weight="0.6"
        android:layout_height="wrap_content"
        android:orientation="vertical">

        <TextView
           android:layout_width="match_parent"
           android:layout_height="wrap_content"
           android:id="@+id/tv1"
           android:text="File Name"
           android:textSize="20sp"
           android:textStyle="bold"
           android:textColor="#FF0000" />

        <TextView
           android:layout_width="match_parent"
           android:layout_height="wrap_content"
           android:id="@+id/tv2"
           android:text="File Size"
           android:textSize="20sp"
           android:textStyle="bold"
           android:textColor="#0000FF" />

</LinearLayout>

 <Button
        android:layout_width="0dp"
        android:layout_weight="0.2"
        android:layout_height="wrap_content"
        android:text="Del"
        android:id="@+id/b1"/>

    </LinearLayout>
```

MainActivity.java:

```
package com.example.hi.listview_customadapter;
import android.Manifest;
import android.content.pm.PackageManager;
import android.support.annotation.NonNull;
import android.support.v4.app.ActivityCompat;
import android.support.v4.content.ContextCompat;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ListView;
import java.io.File;

public class MainActivity extends AppCompatActivity {
   ListView lview;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      lview=(ListView)findViewById(R.id.lview);

      int status= ContextCompat.checkSelfPermission
            (this, Manifest.permission.WRITE_EXTERNAL_STORAGE);
      if(status== PackageManager.PERMISSION_GRANTED){
         readFiles();
      }else{
     ActivityCompat.requestPermissions(this, new
         String[]{Manifest.permission.WRITE_EXTERNAL_STORAGE}, 111);
      }

   }
   @Override
   public void onRequestPermissionsResult(int requestCode, @NonNull String[]
permissions, @NonNull int[] grantResults) {
      super.onRequestPermissionsResult(requestCode, permissions, grantResults);
      if(grantResults[0]==PackageManager.PERMISSION_GRANTED);
      readFiles();
   }
```

```
    public void readFiles( )
    {
        String path=
                "/storage/emulated/0/WhatsApp/Media/WhatsApp Images/";
        File f=new File(path);
        File[] files=f.listFiles();
        lview.setAdapter(new MyAdapter(this, files));

    }
}
```

MyAdapater.java:

```
package com.example.hi.listview_customadapter;
import android.net.Uri;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.TextView;

import java.io.File;

/**
 * Created by hi on 25-05-2021.
 */
public class MyAdapter extends BaseAdapter {
    MainActivity mActivity;
    File[] files;
    MyAdapter(MainActivity mActivity, File[] files){
        this.mActivity=mActivity;
```

```
    this.files=files;
}
@Override
public int getCount() {

    return files.length;
}

@Override
public Object getItem(int i) {
    return null;
}

@Override
public long getItemId(int i) {
    return 0;
}

@Override
public View getView(final int i, View view, ViewGroup viewGroup) {
    LayoutInflater inflater=LayoutInflater.from(mActivity);
    View v=inflater.inflate(R.layout.indiview,null);
    ImageView iview=v.findViewById(R.id.lview1);
    TextView tv1=v.findViewById(R.id.tv1);
    TextView tv2=v.findViewById(R.id.tv2);
    Button b1=v.findViewById(R.id.b1);
    Uri u=Uri.parse(files[i].getAbsolutePath());
    iview.setImageURI(u);
    tv1.setText(files[i].getName());
    tv2.setText(String.valueOf(files[i].length()));
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
```

```
        public void onClick(View view) {
            files[i].delete();
String path="/storage/emulated/0/WhatsApp/Media/WhatsApp Images/";
            File f=new File(path);
            files=f.listFiles();
            MyAdapter.this.notifyDataSetChanged();
        }
    });
    return v;
  }
}
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.example.hi.listview_customadapter">
<uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

<application
  android:allowBackup="true"
  android:icon="@mipmap/ic_launcher"
  android:label="@string/app_name"
  android:roundIcon="@mipmap/ic_launcher_round"
  android:supportsRtl="true"
  android:theme="@style/AppTheme">
  <activity android:name=".MainActivity">
    <intent-filter>
      <action android:name="android.intent.action.MAIN" />
     <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
  </activity>
</application>
</manifest>
```

OUTPUT:


30% 14:23
ListViewCustom
Sent
DEL
4096 bytes
IMG-20170609-WA0000.jpg
DEL
210928 bytes
IMG-20170620-WA0008.jpg
DEL
44205 bytes
IMG-20170618-WA0010.jpg
DEL
60935 bytes
IMG-20170613-WA0000.jpg
DEL
113595 bytes
IMG-20170601-WA0003.jpg
DEL

EXPERIMENT 5

Create an android application to display WhatsApp videos in grid view by using Custom Adapter.

activity_main.xml:

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

   <Gallery
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/gal" >
   </Gallery>
</LinearLayout>
```

indiview.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:orientation="vertical"
   android:layout_margin="10dp">

   <VideoView
      android:layout_width="120dp"
      android:layout_height="120dp"
      android:id="@+id/vview1"
      android:padding="10dp"/>
```

```
  <CheckBox
      android:layout_width="120dp"
      android:layout_height="wrap_content"
      android:textSize="20sp"
      android:text="FileName"
      android:id="@+id/cb1" />

</LinearLayout>
```

MyAdapter.java:

```
package cubexsoft.gallerytest;
import android.net.Uri;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.CheckBox;
import android.widget.CompoundButton;
import android.widget.VideoView;
import java.io.File;

public class MyAdapter extends BaseAdapter {
   MainActivity activity;
   File[] files;

   MyAdapter(MainActivity activity, File[] files)
   {
      this.activity=activity;
      this.files=files;
   }

   @Override
   public int getCount()
   {
```

```
        return files.length;
    }
    @Override
    public Object getItem(int i)
    {
        return null;
    }
    @Override
    public long getItemId(int i)
    {
        return 0;
    }

    @Override
    public View getView(int i, View view, ViewGroup viewGroup) {
        LayoutInflater inflater=LayoutInflater.from(activity);
        View v=inflater.inflate(R.layout.indiview,null);
        final VideoView vview=v.findViewById(R.id.vview1);
        CheckBox cb1=v.findViewById(R.id.cb1);
        Uri u=Uri.fromFile(files[i]);
        vview.setVideoURI(u);
         cb1.setText(files[i].getName());
         cb1.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton compoundButton, boolean
b) {
                if(b){
                  vview.start();
                }else{
                    vview.stopPlayback();
                }
            }
        });

        return v;
```

```
    }
}
```

MainActivity.java:

```
package com.example.hi.gallerytest;
import android.Manifest;
import android.content.pm.PackageManager;
import android.support.annotation.NonNull;
import android.support.v4.app.ActivityCompat;
import android.support.v4.content.ContextCompat;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Gallery;
import android.widget.GridView;
import java.io.File;

public class MainActivity extends AppCompatActivity {
    Gallery gal;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        gal=findViewById(R.id.gal);

        int status= ContextCompat.checkSelfPermission(this,
                Manifest.permission.WRITE_EXTERNAL_STORAGE);

        if(status== PackageManager.PERMISSION_GRANTED){
            readFiles( );
        }else{
            ActivityCompat.requestPermissions(this,
                    new String[]{Manifest.permission.READ_EXTERNAL_STORAGE},
                    111);
        }
    }
```

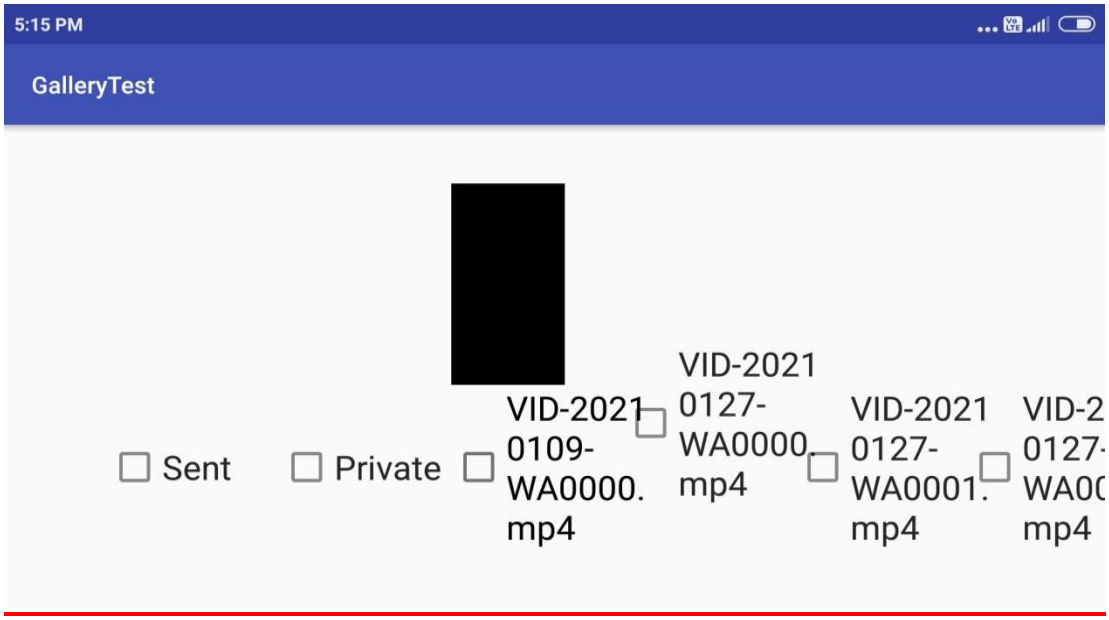
```
    @Override
    public void onRequestPermissionsResult(int requestCode, @NonNull String[]
permissions,
                                           @NonNull int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions, grantResults);
        if(grantResults[0]==PackageManager.PERMISSION_GRANTED){
            readFiles( );
        }
    }

    public void readFiles( )
    {
        String path=
                "/storage/emulated/0/WhatsApp/Media/WhatsApp Video/";
        File f=new File(path);
        File[] files=f.listFiles();
        gal.setAdapter(new MyAdapter(this,files));
    }
}
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.gallerytest">
    <uses-permission android:name=
                        "android.permission.READ_EXTERNAL_STORAGE"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
```

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

OUTPUT:



EXPREIMENT 6

Create an android application to display webpage by using Web view Component.

activity_main.xml:

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


   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.1"
      android:orientation="horizontal">

   <EditText
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.8"
      android:id="@+id/et1"
      android:hint="Enter URL:"/>
   <ImageView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.2"
      android:src="@drawable/magnifier"
      android:id="@+id/srch"
      android:onClick="load"
      android:layout_margin="5dp"/>
   </LinearLayout>

    <WebView
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.8"
```

```
    android:id="@+id/wview">
    </WebView>

  <LinearLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="0.1"
    android:orientation="horizontal">

    <ImageView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.25"
      android:src="@drawable/fb"
      android:id="@+id/fb"
      android:onClick="load" />

    <ImageView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.25"
      android:src="@drawable/google"
      android:id="@+id/google"
      android:onClick="load" />
    <ImageView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.25"
      android:src="@drawable/youtube"
      android:id="@+id/youtube"
      android:onClick="load" />

    <ImageView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.25"
      android:src="@drawable/html"
      android:id="@+id/html"
      android:onClick="load" />

  </LinearLayout>

</LinearLayout>
```

MainActivity.java:

```
package com.example.hi.webviewapp;
import android.graphics.Bitmap;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.webkit.JavascriptInterface;
import android.webkit.WebChromeClient;
import android.webkit.WebView;
import android.webkit.WebViewClient;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
WebView wview;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      wview=(WebView)findViewById(R.id.wview);
      wview.setWebViewClient(new WebViewClient(){
         @Override
         public void onPageStarted(WebView view, String url, Bitmap favicon) {
            super.onPageStarted(view, url, favicon);
    Toast.makeText(getApplicationContext(),"PAGE LOADING STARTED....",

                                          Toast.LENGTH_LONG).show();
         }
         @Override
         public boolean shouldOverrideUrlLoading(WebView view, String url) {
            Toast.makeText(getApplicationContext(),url,Toast.LENGTH_LONG).show();
            return super.shouldOverrideUrlLoading(view, url);
         }

         @Override
         public void onPageFinished(WebView view, String url) {
            super.onPageFinished(view, url);
Toast.makeText(getApplicationContext(),"PAGE LOADING FINISHED",
```

```
                                        Toast.LENGTH_LONG).show();
            }
        });

        wview.getSettings().setJavaScriptEnabled(true);
        wview.getSettings().setBuiltInZoomControls(true);
        wview.addJavascriptInterface(this,"myinterface");
        }
        @JavascriptInterface
        public void displayMsg(String name,String pass){
        Toast.makeText(this, name+ "\n" +pass, Toast.LENGTH_LONG).show();

        }

    public void load(View v)

{
        switch(v.getId())
        {
            case R.id.srch:
                EditText et1=(EditText)findViewById(R.id.et1);
                wview.loadUrl(et1.getText().toString());
                break;

            case R.id.fb:
                wview.loadUrl("http://www.facebook.com");
                break;


            case R.id.google:
                wview.loadUrl("http://www.google.com");
                break;

            case R.id.youtube:
                wview.loadUrl("http://www.youtube.com");
                break;
            case R.id.html:
                wview.loadUrl("file:///android_asset/login.html");
                break;
        }
    }
}
```

login.html:

```
<html>
<head>
   <script language="JavaScript">

      function login(){

      var name=document.getElementById("name").value;
      var pass=document.getElementById("pass").value;

      myinterface.displayMsg(name,pass);
      }
```

login.html:

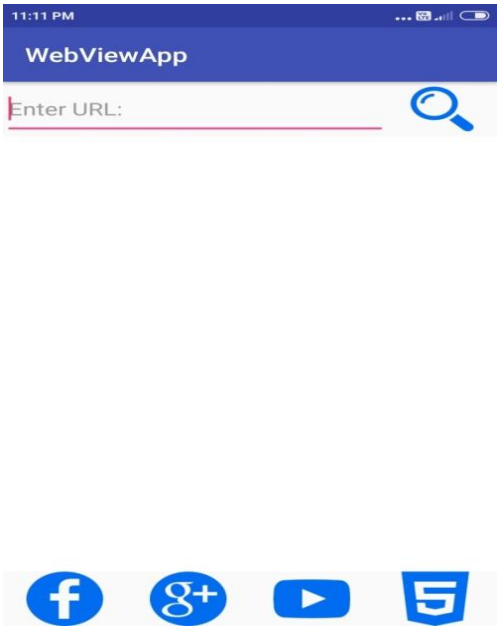
```
<html>
<head>
   <script language="JavaScript">

      function login(){
      var name=document.getElementById("name").value;
      var pass=document.getElementById("pass").value;
      myinterface.displayMsg(name,pass);
      }

   </script>
</head>
   <body bgcolor="#054" text="white">
      <center>
         <table border="1">
            <tr>
               <td colspan="2" align="center">
                  <h3>Login Form</h3>
               </td>
            </tr>
            <tr>
               <td>Enter Uname:</td>
               <td> <input type="text" id="name"/>
               </td>
            </tr>
            <tr>
               <td>Enter Pass</td>
```

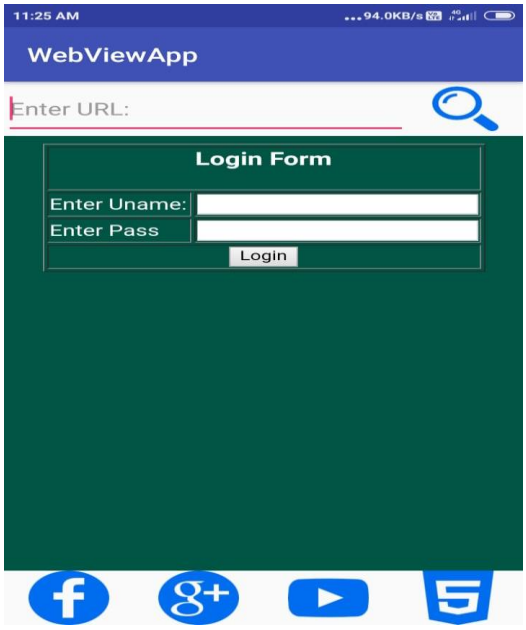
```
            <td>
              <input type="password" id="pass"/>
            </td>
          </tr>
          <tr>
            <td colspan="2" align="center">
              <input type="button" value="Login" onclick="login()"/>
            </td>
          </tr>
        </table>
      </center>
  </body>
</html>
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  package="com.example.hi.webviewapp">

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

  <application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".MainActivity">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />

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

OUTPUT:


11:11 PM
WebViewApp
Enter URL:


11:25 AM
94.0KB/s
WebViewApp
Enter URL:
Login Form
Enter Uname:
Enter Pass
Login

EXPERIMENT 7

Create an android application to display different webpages in fragments by using Fragments Component.

activity_main.xml:

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

   <TextView
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.1"
      android:text="RGMCET"
      android:textSize="30sp"
      android:gravity="center"
      android:textStyle="bold"
      android:textColor="#FFFFFF"
      android:background="#054"/>

   <FrameLayout
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.75"
      android:id="@+id/frag1" >
   </FrameLayout>

<HorizontalScrollView
   android:layout_width="match_parent"
```

```
android:layout_height="0dp"
android:layout_weight="0.15"
android:orientation="horizontal"   >

<LinearLayout
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="horizontal"
   android:background="#054" >

   <Button
      android:layout_width="wrap_content"
      android:layout_height="match_parent"
      android:textColor="#FFFFFF"
      android:text="HOME"
      android:onClick="home"
      android:layout_margin="5dp"/>

   <Button
      android:layout_width="wrap_content"
      android:layout_height="match_parent"
      android:textColor="#FFFFFF"
      android:text="COURSES"
      android:onClick="courses"
      android:layout_margin="5dp"/>

   <Button
      android:layout_width="wrap_content"
      android:layout_height="match_parent"
      android:textColor="#FFFFFF"
      android:text="PLACEMENTS"
      android:onClick="placements"
      android:layout_margin="5dp"/>
```

```
    <Button
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:textColor="#FFFFFF"
        android:text="FACULTIES"
        android:onClick="faculties"
        android:layout_margin="5dp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:textColor="#FFFFFF"
        android:text="RESULTS"
        android:onClick="results"
        android:layout_margin="5dp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:textColor="#FFFFFF"
        android:text="EVENTS"
        android:onClick="events"
        android:layout_margin="5dp"/>

  </LinearLayout>

</HorizontalScrollView>

</LinearLayout>
```

Home.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
```

```
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#098">


<TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:text="WELCOME TO RGMCET"/>

</LinearLayout>
```

HomeFragment.java

```
package com.example.hi.fragmentapp;
import android.app.Fragment;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

/**
 * Created by hi on 27-05-2021.
 */

public class HomeFragment extends Fragment {
    @Nullable
    @Override
    public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
        View v=inflater.inflate(R.layout.home, container, false);
        return v;
    }
}
```

courses.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:background="#FF0000">



   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:textSize="30sp"
      android:text="courses"
      android:gravity="center"/>

   <Spinner
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/sp1"
      android:entries="@array/courses"
      android:layout_gravity="center">
   </Spinner>

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="GET INFO"
      android:textSize="20sp"
      android:id="@+id/b1"
      android:textStyle="bold"
      android:layout_gravity="center"/>
```

```
</LinearLayout>
```

Strings.xml:

```
<resources>
    <string name="app_name">FragmentApp</string>
    <string-array name="courses">
        <item>-----Select-----</item>
        <item>CSE</item>
        <item>ECE</item>
        <item>EEE</item>
        <item>MCA</item>
        <item>IT</item>
        <item>CIVIL</item>
        <item>MECH</item>
        <item>MBA</item>
    </string-array>
</resources>
```

courseFragment:

```
package com.example.hi.fragmentapp;
import android.app.Fragment;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Spinner;
import android.widget.Toast;

/**
 * Created by hi on 27-05-2021.
 */
```

```
public class CoursesFragment extends Fragment {
    @Nullable
    @Override
    public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
        View v=inflater.inflate(R.layout.courses,container,false);
       final Spinner sp1=(Spinner)v.findViewById(R.id.sp1);
        Button b1=(Button)v.findViewById(R.id.b1);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

Toast.makeText(getActivity(),sp1.getSelectedItem().toString(),Toast.LENGTH_LON
G).show();

            }
        });
        return v;
    }
}
```

placements.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#941">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="placements"
        android:textSize="30sp"
```

```
    android:gravity="center"/>

</LinearLayout>
```

placementFragment:

```
package com.example.hi.fragmentapp;
import android.app.Fragment;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

/**
 * Created by hi on 27-05-2021.
 */

public class PlacementFragment extends Fragment {
   @Nullable
   @Override
   public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
       View v=inflater.inflate(R.layout.placements, container, false);
       return v;
   }
}
```

faculties.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:background="#f00">
```

```
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:text="faculties"
        android:gravity="center"/>

</LinearLayout>
```

FacultiesFragment:

```
package com.example.hi.fragmentapp;
import android.app.Fragment;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

/**
 * Created by hi on 27-05-2021.
 */

public class FacultyFragment extends Fragment {
    @Nullable
    @Override
    public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
        View v=inflater.inflate(R.layout.faculties, container, false);
        return  v;
    }
}
```

events.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:background="#054">

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:textSize="30sp"
      android:text="events"
      android:gravity="center"/>
</LinearLayout>
```

Eventsfragment.java

```
package com.example.hi.fragmentapp;
import android.app.Fragment;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
/**
 * Created by hi on 27-05-2021.
 */
public class EventsFragment extends Fragment {
   @Nullable
   @Override
   public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
                    container, Bundle savedInstanceState) {
      View v=inflater.inflate(R.layout.events, container, false);
      return  v;
```

```
    }
}
```

results.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#309">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="30sp"
        android:text="results"
        android:gravity="center"/>

</LinearLayout>
```

resultsFragment.java

```
package com.example.hi.fragmentapp;
import android.app.Fragment;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
/**
 * Created by hi on 27-05-2021.
 */
public class ResultsFragment extends Fragment {
    @Nullable
    @Override
```

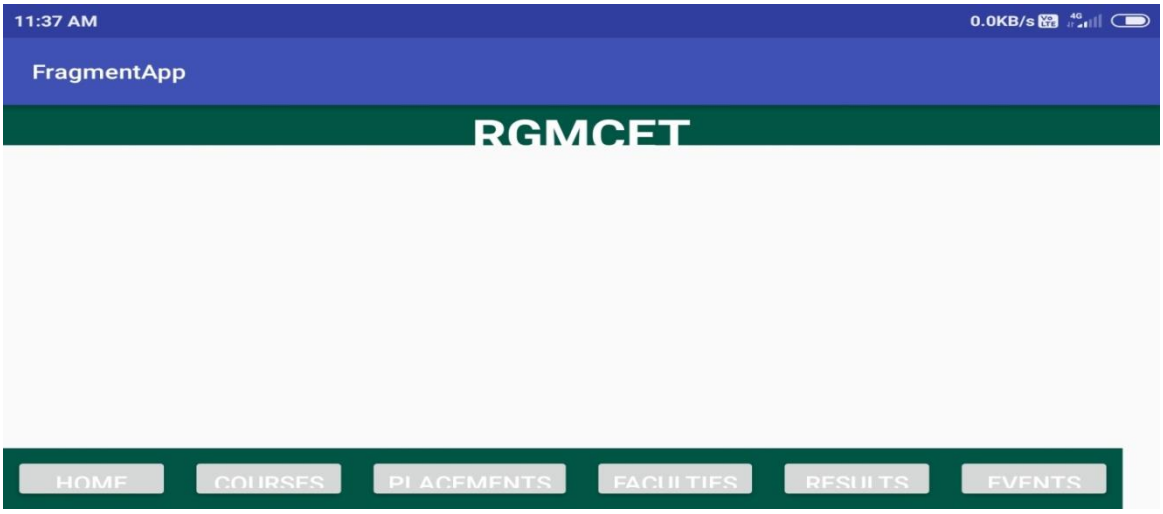
```
   public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {

        View v=inflater.inflate(R.layout.results,container,false);
        return v;
           }
}
```

mainActivity.java

```
package com.example.hi.fragmentapp;

import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends AppCompatActivity {
FragmentManager  fManager;
FragmentTransaction tx;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      fManager=getFragmentManager();
      /*tx=fManager.beginTransaction();
      tx.add(R.id.frag1, new HomeFragment());
      tx.commit();*/
   }

public void home(View v){
      tx=fManager.beginTransaction();
      tx.replace(R.id.frag1, new HomeFragment());
      tx.commit();
   }
```

```
public void courses(View v){
   tx=fManager.beginTransaction();
   tx.add(R.id.frag1, new CoursesFragment());
   tx.commit();
  }

public  void faculties(View v){
   tx=fManager.beginTransaction();
   tx.add(R.id.frag1, new FacultyFragment());
   tx.commit();
}
public void results(View v){
   tx=fManager.beginTransaction();
   tx.add(R.id.frag1, new ResultsFragment());
   tx.commit();
}
public void placements(View c){
   tx=fManager.beginTransaction();
   tx.add(R.id.frag1, new PlacementFragment());
   tx.commit();
}

public void events(View v)
{
   tx=fManager.beginTransaction();
   tx.add(R.id.frag1, new EventsFragment());
   tx.commit();
  }
}
```

OUTPUT:


11:37 AM
0.0KB/s
FragmentApp
RGMCET
HOME
COURSES
PLACEMENTS
FACULTIES
RESULTS
EVENTS

EXPERIMENT 8

Create an android application to store the data by using Shared Preferences.

activity_main.xml:

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

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

</LinearLayout>
```

Login.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginTop="5dp"
    android:layout_marginBottom="5dp"
    android:layout_marginRight="5dp"
    android:layout_marginLeft="5dp"   >

    <EditText
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
        android:hint="Enter username"
        android:id="@+id/l_uname" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter password"
        android:id="@+id/l_pwd"
        android:inputType="textPassword"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        android:textColor="#FFFFFF"
        android:background="#054"
        android:id="@+id/l_login"
        android:layout_gravity="center"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Register"
        android:textColor="#FFFFFF"
        android:background="#054"
        android:id="@+id/l_register"
        android:layout_gravity="center"
        android:layout_marginTop="5dp"/>

</LinearLayout>
```

LoginFragment:

```
package com.android.developer.spftest;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.content.Context;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
```

```
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;


public class LoginFragment extends android.app.Fragment {
    @Nullable
    @Override
    public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
        View v=inflater.inflate(R.layout.login,container,false);
        final EditText luname=(EditText)v.findViewById(R.id.l_uname);
        final EditText lupass=(EditText)v.findViewById(R.id.l_pwd);
        Button btn_login=(Button)v.findViewById(R.id.l_login);
        Button btn_register=(Button)v.findViewById(R.id.l_register);
        btn_login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
   SharedPreferences spf=getActivity().getSharedPreferences("myspf",
                                                        Context.MODE_PRIVATE);
                String username=spf.getString("uname",null);
                String userpwd=spf.getString("upass",null);

 if(luname.getText().toString().equals(username) &&
                                        lupass.getText().toString().equals(userpwd)) {
                    FragmentManager fManager=getFragmentManager();
                    FragmentTransaction tx=fManager.beginTransaction();
                    tx.replace(R.id.flayout,new WelcomeFragment());
                    tx.commit();

                }
                else {
   Toast.makeText(getActivity(),"Invalid credentials", Toast.LENGTH_LONG).show();
                }

            }
        });

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

```
                FragmentManager fManager=getFragmentManager();
                FragmentTransaction tx=fManager.beginTransaction();
                tx.replace(R.id.flayout,new RegisterFragment());
                tx.addToBackStack("true");
                tx.commit();
            }
        });
        return v;
        //return super.onCreateView(inflater, container, savedInstanceState);
    }
}
```

register.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginTop="5dp"
    android:layout_marginBottom="5dp"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter username"
        android:id="@+id/r_uname"
        android:textColorHint="#054"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter password"
        android:inputType="textPassword"
        android:id="@+id/r_upass"
        android:textColorHint="#054"/>

    <EditText
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
        android:hint="Enter email address"
        android:inputType="textEmailAddress"
        android:id="@+id/r_email"
        android:textColorHint="#054"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter mobile number"
        android:inputType="phone"
        android:id="@+id/r_mobno"
        android:textColorHint="#054"/>


<Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Register"
        android:id="@+id/btn_r_register"
        android:layout_gravity="center"
        android:background="#054"
        android:textColor="#FFFFFF"/>
</LinearLayout>
```

registerFragment:

```
package com.android.developer.spftest;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.content.Context;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;

public class RegisterFragment extends android.app.Fragment {
    @Nullable
```

```
    @Override
    public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
        View v=inflater.inflate(R.layout.register,container,false);
        final EditText r_uname=(EditText)v.findViewById(R.id.r_uname);
        final EditText r_upass=(EditText)v.findViewById(R.id.r_upass);
        final EditText r_email=(EditText)v.findViewById(R.id.r_email);
        final EditText r_mobno=(EditText)v.findViewById(R.id.r_mobno);
        Button btn_register=(Button)v.findViewById(R.id.btn_r_register);
        btn_register.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
 SharedPreferences spf=getActivity().getSharedPreferences("myspf",
                                                    Context.MODE_PRIVATE);
                SharedPreferences.Editor spe=spf.edit();
                spe.putString("uname",r_uname.getText().toString());
                spe.putString("upass",r_upass.getText().toString());
                spe.putString("email",r_email.getText().toString());
               spe.putLong("mno", Long.parseLong(r_mobno.getText().toString()));
                spe.commit();
                FragmentManager fManager=getFragmentManager();
                FragmentTransaction tx=fManager.beginTransaction();
                tx.replace(R.id.flayout,new LoginFragment());
                tx.commit();
            }
        });
        return v;
        //return super.onCreateView(inflater, container, savedInstanceState);
    }
}
```

Welcome.xml:

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```
        android:text="WELCOME TO"
        android:textSize="40sp"
        android:textColor="#FF00"
        android:layout_gravity="left" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="RGMCSE DEPT"
        android:gravity="right"
        android:textSize="40sp"
        android:textColor="#708090"/>

</LinearLayout>
```

WelcomeFragment:

```
package com.android.developer.spftest;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;


public class WelcomeFragment extends android.app.Fragment {
    @Nullable
    @Override
    public View onCreateView(LayoutInflater inflater, @Nullable ViewGroup
container, Bundle savedInstanceState) {
        View v=inflater.inflate(R.layout.welcome,container,false);
        return v;
        //return super.onCreateView(inflater, container, savedInstanceState);
    }
}
```

MainActivity.java:

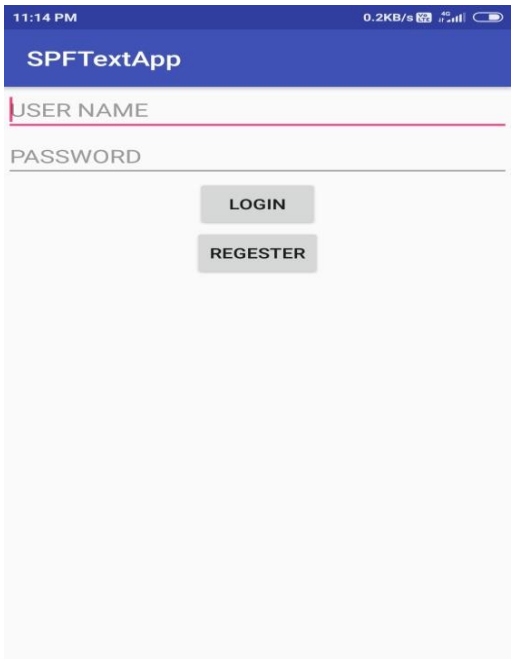
```
package com.example.hi.spftest;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
```

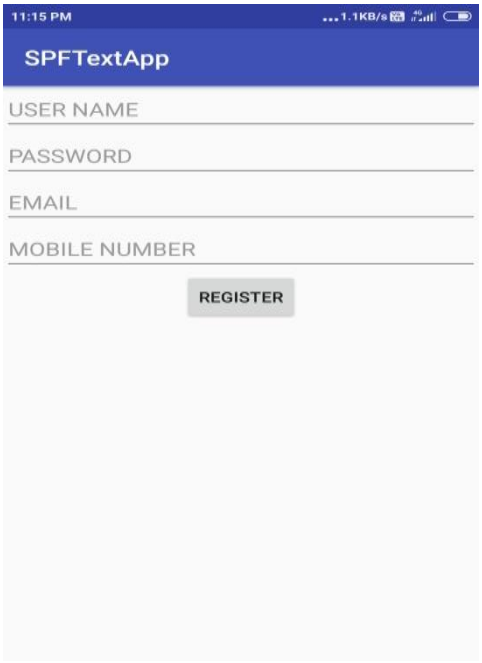
```
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        FragmentManager fManager=getFragmentManager();
        FragmentTransaction tx=fManager.beginTransaction();
        tx.add(R.id.flayout,new LoginFragment());
        tx.commit();
    }
}
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.android.developer.spftest">
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category
                    android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

OUTPUT:


11:14 PM
0.2KB/s
SPFTextApp
USER NAME
PASSWORD
LOGIN
REGESTER


11:15 PM
1.1KB/s
SPFTextApp
USER NAME
PASSWORD
EMAIL
MOBILE NUMBER
REGISTER

EXPERIMENT 9

Create an android application to demonstrate concept of SQLite Database Storage method.

activity_main.xml file:

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


<EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Enter ID"
      android:id="@+id/et1" />

   <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="ENTER NAME"
      android:id="@+id/et2" />

   <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="DESIG"
      android:id="@+id/et3" />
```

```
<EditText
   android:layout_width="match_parent"
   android:layout_height="wrap_content"
   android:hint="DEPT"
   android:id="@+id/et4"/>

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

   <Button
      android:layout_width="0dp"
      android:layout_height="wrap_content"
      android:text="INSERT"
      android:onClick="insert"
      android:layout_weight="0.5"/>

   <Button
      android:layout_width="0dp"
      android:layout_height="wrap_content"
      android:text="READ"
      android:onClick="read"
      android:layout_weight="0.5"/>

</LinearLayout>


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

```
        <Button
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:text="UPDATE"
            android:onClick="update"
            android:layout_weight="0.5"/>

         <Button
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:text="DELETE"
            android:onClick="delete"
            android:layout_weight="0.5"/>

         </LinearLayout>

    <ListView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/lview">

</ListView>

</LinearLayout>
```

mainActivity.java:

```
package com.example.hi.sqlitedbapp;

import android.content.ContentValues;
import android.content.Context;
```

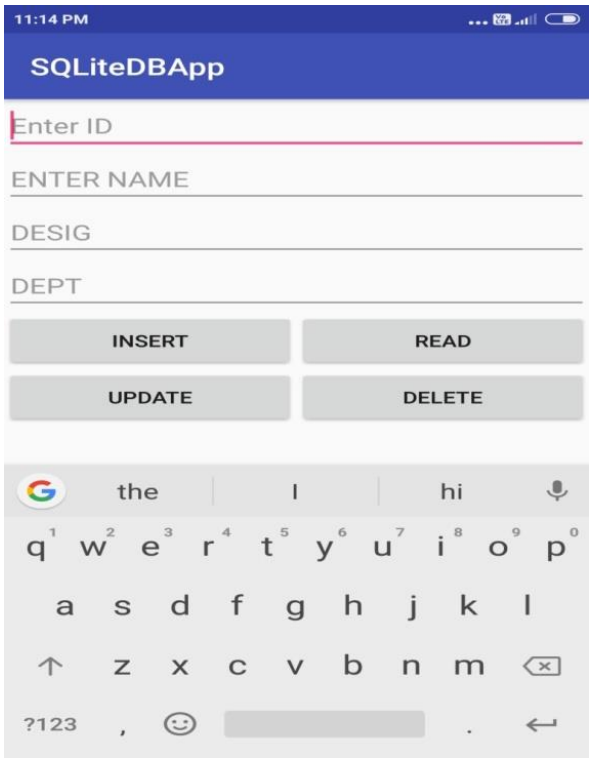
```
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.AsyncTask;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.EditText;
import android.widget.ListView;
import android.widget.Toast;
import org.w3c.dom.Text;
import java.util.ArrayList;
import static android.content.Context.MODE_PRIVATE;

public class MainActivity extends AppCompatActivity {
    EditText et1, et2, et3, et4;
    SQLiteDatabase dBase;
    ListView lview;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        et1 = (EditText) findViewById(R.id.et1);
        et2 = (EditText) findViewById(R.id.et2);
        et3 = (EditText) findViewById(R.id.et3);
        et4 = (EditText) findViewById(R.id.et4);

        dBase = openOrCreateDatabase("empdb",
Context.MODE_PRIVATE, null);
        dBase.execSQL("create table if not exists tbemp (empid number,
empname varchar(100),empdesig varchar(100),empdept
```

```
varchar(100))");
        lview = (ListView) findViewById(R.id.lview);
    }
    public void insert(View v) {
        ContentValues cv = new ContentValues();
        //
dBase.insert("employee",null,Integer.parseInt(et1.getText().toString());

        cv.put("empid", et1.getText().toString());
        cv.put("empname", et2.getText().toString());
        cv.put("empdesig", et3.getText().toString());
        cv.put("empdept", et4.getText().toString());        long status =
dBase.insert("tbemp", null, cv);
        if (status != -1) {
            Toast.makeText(MainActivity.this, "Data Insereted",
Toast.LENGTH_LONG).show();
            et1.setText("");
            et2.setText("");
            et3.setText("");
            et4.setText("");
            read(v);
        } else {
            Toast.makeText(MainActivity.this, "Fails To Inserted",
Toast.LENGTH_LONG).show();
        }
    }
    public void read(View v) {
        Cursor c = dBase.query("tbemp", null, null, null, null, null, null);
        ArrayList<String> list = new ArrayList<>();
        while (c.moveToNext()) {
            String msg = c.getInt(0) + "|" + c.getString(1) + "|" +
c.getString(2) + "|" + c.getString(3);
```

```
            list.add(msg);
        }
        ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_single_choice, list);

        lview.setAdapter(adapter);
    }

    public void update(View v) {
        ContentValues cv = new ContentValues();
        cv.put("empname", et2.getText().toString());
        cv.put("empdesig", et3.getText().toString());
        cv.put("empdept",et4.getText().toString());

        int status = dBase.update("tbemp", cv, "empid=?", new
String[]{et1.getText().toString()});
        if(status > 0) {
            Toast.makeText(MainActivity.this, "Success",
Toast.LENGTH_LONG).show();
        } else {
            Toast.makeText(MainActivity.this, "FAIL",
Toast.LENGTH_LONG).show();
        }
    }

    public  void delete(View v){
        int status = dBase.delete("tbemp", "empid=?", new
String[]{et1.getText().toString()});
        if(status > 0){

Toast.makeText(MainActivity.this,"SUCCESS",Toast.LENGTH_LONG).
show();
```

```
        }else{
            Toast.makeText(MainActivity.this,
"UNSUCCEFUL",Toast.LENGTH_LONG).show();
        }
    }
}
```

OUTPUT:



EXPERIMENT 10

Create an android application to perform different types of operations (send SMS, Making call and sending email) by using Telephony app.

First add these permissions in Manifest File:

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

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

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

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

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

Go to Activity_main.XML file:

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

<EditText
   android:layout_width="match_parent"
   android:layout_height="wrap_content"
   android:hint="Enter Mobile Num"
   android:id="@+id/et1"/>

  <EditText
     android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:hint="Enter Message"
    android:id="@+id/et2" />

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

    <Button
      android:layout_width="0dp"
      android:layout_height="wrap_content"
      android:layout_weight="0.5"
      android:text="SEND SMS"
      android:onClick="sendSms" />

    <Button
      android:layout_width="0dp"
      android:layout_height="wrap_content"
      android:layout_weight="0.5"
      android:text="CALL"
      android:onClick="call" />
  </LinearLayout>

  <EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/et3"
    android:hint="Enter Mail id"/>

 <EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/et4"
    android:hint="Enter Subject" />
```

```
 <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/et5"
      android:hint="Enter Message"/>

<Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="ATTACH"
      android:onClick="attach"
      android:layout_gravity="right"/>

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

      <Button
         android:layout_width="0dp"
         android:layout_height="wrap_content"
         android:layout_weight="0.5"
         android:text="SEND MAIL"
         android:onClick="send_mail"/>

      <Button
         android:layout_width="0dp"
         android:layout_height="wrap_content"
         android:layout_weight="0.5"
         android:text="JAVA MAIL"
         android:onClick="java_mail"/>

       </LinearLayout>
</LinearLayout>
```

Now create two Activity XML files.

1) **Goto java folder and rightclick on folder →new →Activity →select Empty Activity and provide name**

Activity_delivary.xml file:

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

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="Message Delivered"
      android:textSize="30sp"/>

</LinearLayout>
```

DelivaryActivity.java:

```
package com.example.hi.telephonetextapp;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class DelivaryActivity extends AppCompatActivity {

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

Goto java folder and rightclick on folder →new →Activity →select Empty Activity and provide name

Activity_send.xml file:

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

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="Message Send"
      android:textSize="30sp"/>

</LinearLayout>
```

SendActivity.java:

```
package com.example.hi.telephonetextapp;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class sendActivity extends AppCompatActivity {

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

MainActivity.Java

```
package com.example.hi.telephonetextapp;
import android.app.PendingIntent;
import android.content.Intent;
import android.net.Uri;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
   EditText et1,et2;

      @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      et1=(EditText)findViewById(R.id.et1);
      et2=(EditText)findViewById(R.id.et2);
   }

  public void sendSms(View  v)
   {
      SmsManager sManager=SmsManager.getDefault();
      Intent send_intent=new Intent(this,sendActivity.class);
      Intent del_intent=new Intent(this,DelivaryActivity.class);
      PendingIntent
                  P_Send_Intent=PendingIntent.getActivity(this,0,send_intent,0);
      PendingIntent  P_Del_Intent=PendingIntent.getActivity(this,0,del_intent,0);
   sManager.sendTextMessage(et1.getText().toString(),null,et2.getText().toString(),
                                                   P_Send_Intent, P_Del_Intent);
   }

  public void call(View  v)
   {
      Intent i=new Intent();
```

```
        i.setAction(Intent.ACTION_CALL);
        i.setData(Uri.parse("tel:"+et1.getText().toString()));
        startActivity(i);
    }
    public void  attach(View  v){
        Intent i=new Intent();
        i.setAction(Intent.ACTION_GET_CONTENT);
        i.setType("*/*");
        startActivityForResult(i,123);

    }
        Uri u;
    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(resultCode==RESULT_OK){
            u=data.getData();
        }
    }
    public void send_mail(View v){
        EditText et3=(EditText)findViewById(R.id.et3);
        EditText et4=(EditText)findViewById(R.id.et4);
        EditText et5=(EditText)findViewById(R.id.et5);
        Intent i=new Intent();
        i.setAction(Intent.ACTION_SEND);
        i.putExtra(Intent.EXTRA_EMAIL,new String[]{et3.getText().toString()});
        i.putExtra(Intent.EXTRA_SUBJECT,et4.getText().toString());
        i.putExtra(Intent.EXTRA_TEXT, et5.getText().toString());
        i.putExtra(Intent.EXTRA_STREAM, u);
        i.setType("message/rfc822");
        startActivity(i.createChooser(i,"Select any Email Client"));
    }
}
```

OUTPUT:


11:13 PM
TelephoneTextApp
Enter Mobile Num
Enter Message
SEND SMS
CALL
Enter Mail id
Enter Subject
Enter Message
ATTACH
SEND MAIL
JAVA MAIL

EXPERIMENT 11

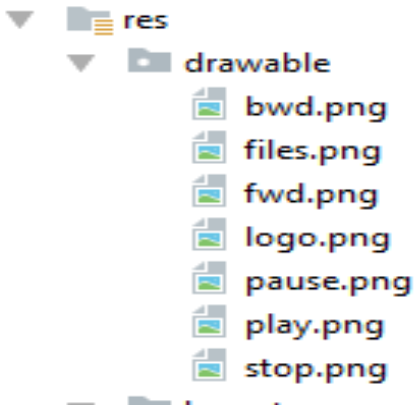
Write an android program to develop Media player application.

Setting Image:

MediaMetadataRetriever mr=new MediaMetadataRetriever();

```
Uri u= Uri.parse("android.resource://com.example.hi.mediaplayer/raw/dj"));
        byte[] im_data=mr.getEmbeddedPicture();
  Bitmap bmp= BitmapFactory.decodeByteArray(im_data, 0, im_data.length);
        iview.setImageBitmap(bmp);
```

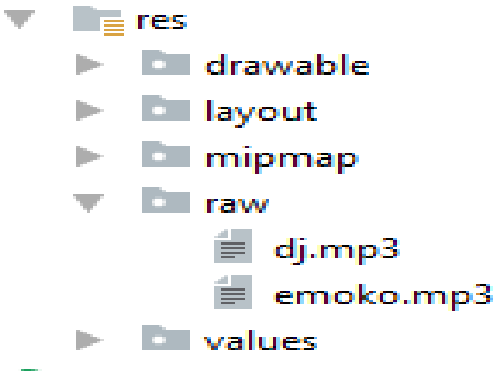
--First download the all media player images like **logo image, backword image, play image, forward image, pause image, stop image and files image. These images download with png format.**



-Next you create one folder, the folder name is"**raw**"

-Go to **res folder** >> **new** >> **Android resource directory** >> **now open dialogue box come** >> choose resource type to raw folder give directory name to "**raw**" then click on **Ok** Button.

-After **creating raw** folder you can copy any one mp3 file in your device and place with in raw folder.



activity_main.xml

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


  <ImageView
     android:layout_width="match_parent"
     android:layout_height="0dp"
     android:layout_weight="0.6"
     android:src="@drawable/logo"
     android:id="@+id/iview1"/>

     <LinearLayout
     android:layout_width="match_parent"
     android:layout_height="0dp"
     android:layout_weight="0.1"
     android:orientation="horizontal">

     <TextView
        android:layout_width="0dp"
        android:layout_height="match_parent"
```

```
        android:text="Cur Pos:"
        android:textSize="15sp"
        android:gravity="left"
        android:id="@+id/cp"
        android:textStyle="bold"
        android:layout_weight="0.5" />

    <TextView
        android:textStyle="bold"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:text="Tot Dur:"
        android:textSize="15sp"
        android:gravity="right"
        android:id="@+id/td"
        android:layout_weight="0.5"/>
</LinearLayout>

<SeekBar
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="0.1"
    android:id="@+id/s1" />

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="0.2"
    android:orientation="horizontal">

    <ImageView
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="0.16"
        android:src="@drawable/bwd"
        android:id="@+id/bwd"
        android:onClick="media"
```

```
    android:padding="5dp" />

<ImageView
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="0.16"
    android:src="@drawable/play"
    android:id="@+id/play"
    android:onClick="media"
    android:padding="5dp" />

<ImageView
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="0.16"
    android:src="@drawable/pause"
    android:id="@+id/pause"
    android:onClick="media"
    android:padding="5dp"  />

<ImageView
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="0.16"
    android:src="@drawable/stop"
    android:id="@+id/stop"
    android:onClick="media"
    android:padding="5dp" />

<ImageView
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="0.16"
    android:src="@drawable/fwd"
    android:id="@+id/fwd"
    android:onClick="media"
    android:padding="5dp"  />
```

```
 <ImageView
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="0.16"
        android:src="@drawable/files"
        android:id="@+id/files"
        android:onClick="media"
        android:padding="5dp" />

   </LinearLayout>

</LinearLayout>
```

MainActivity.java

```
package com.example.hi.mediaplayer;
import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.media.MediaMetadata;
import android.media.MediaMetadataRetriever;
import android.media.MediaPlayer;
import android.net.Uri;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.SeekBar;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
   SeekBar s1;
   TextView cp,td;
   MediaPlayer mPlayer;
   Uri u;
   ImageView   iview;
```

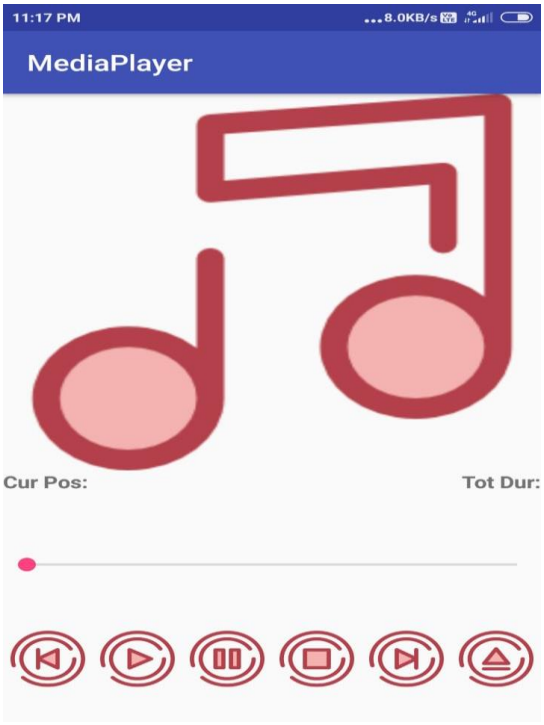
```
@Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      s1=(SeekBar)findViewById(R.id.s1);
      cp=(TextView)findViewById(R.id.cp);
      td=(TextView)findViewById(R.id.td);
      iview=(ImageView)findViewById(R.id.iview1);
   }

   void  init(){
      if(mPlayer==null) {
         if(u==null) {
            mPlayer = MediaPlayer.create(MainActivity.this,R.raw.dj);

            MediaMetadataRetriever mr=new MediaMetadataRetriever();
            mr.setDataSource(MainActivity.this,Uri.parse("android.resource://com.ex
ample.hi.mediaplayer/raw/dj"));
            byte[] im_data=mr.getEmbeddedPicture();
  Bitmap bmp= BitmapFactory.decodeByteArray(im_data, 0, im_data.length);
            iview.setImageBitmap(bmp);
         }else{
            try{
               mPlayer = new MediaPlayer();
               mPlayer.setDataSource(MainActivity.this, u);
               MediaMetadataRetriever mr=new MediaMetadataRetriever();
               mr.setDataSource(MainActivity.this,u);
               byte[] im_data=mr.getEmbeddedPicture();
               Bitmap bmp=
BitmapFactory.decodeByteArray(im_data,0,im_data.length);
               iview.setImageBitmap(bmp);
               mPlayer.prepare();
            }
            catch(Exception e){
               e.printStackTrace();
            }
         }
```

```
        td.setText("Tot Dur :" + mPlayer.getDuration());
        s1.setMax(mPlayer.getDuration());
        s1.setProgress(0);
s1.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {
                @Override
        public void onProgressChanged(SeekBar seekBar, int  i, boolean b) {
                   mPlayer.seekTo(i);
                   cp.setText("Cur pos:"+i);

                }
                @Override
                public void onStartTrackingTouch(SeekBar seekBar) {
                }


                @Override
                public void onStopTrackingTouch(SeekBar seekBar) {
                }   });

        final Handler handler=new Handler();
        handler.postDelayed(new Runnable() {
           @Override
           public void run() {
              s1.setProgress(mPlayer.getCurrentPosition());
              cp.setText("Cur Pos:"+mPlayer.getCurrentPosition());
              handler.postDelayed(this,5000);
           }
        },5000);
     }
  }

  public void media(View v){
     switch (v.getId()){
        case R.id.bwd:
     mPlayer.seekTo(mPlayer.getCurrentPosition()-mPlayer.getDuration()/10);
           cp.setText("Cur Pos:"+mPlayer.getCurrentPosition());
           break;
```

```
            case R.id.play:
                init();
                mPlayer.start();
                break;

            case R.id.pause:
                mPlayer.pause();
                break;

            case R.id.stop:
                mPlayer.stop();
                mPlayer=null;
                init();
                break;

            case R.id.fwd:
mPlayer.seekTo(mPlayer.getCurrentPosition()+mPlayer.getDuration()/10);
                cp.setText("Cur Pos:"+mPlayer.getCurrentPosition());
                break;

            case R.id.files:
                Intent i=new Intent();
                i.setAction(Intent.ACTION_GET_CONTENT);
                i.setType("audio/*");
                startActivityForResult(i,123);
                break;

        }

    }
    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        super.onActivityResult(requestCode, resultCode, data);

        if(resultCode==RESULT_OK && mPlayer!=null) {
            mPlayer.stop();
```

```
            mPlayer = null;
            u=data.getData();
            init();
            mPlayer.start();
        }

    }
}
```

OUTPUT:



EXPERIMENT 12

a) Write an android program to develop Video view application

Activity_main.XML File:

-Initially we select Landscap(this is available on xml design page with orientation editor icon).

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

  <VideoView
     android:layout_width="0dp"
     android:layout_height="match_parent"
     android:layout_weight="0.8"
     android:id="@+id/Vview"/>

   <LinearLayout
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.2"
      android:orientation="vertical">
      <Button
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:text="LIST"
         android:onClick="list"/>

      <Button
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
```

```
        android:text="START"
        android:onClick="start"/>

    </LinearLayout>

</LinearLayout>
```

MainActivity.Java:

```
package com.example.hi.videoviewapp;
import android.content.Intent;
import android.net.Uri;
import android.provider.MediaStore;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.MediaController;
import android.widget.VideoView;

public class MainActivity extends AppCompatActivity {
    VideoView Vview;
     Uri u;


 @Override
   protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity_main);
       Vview=(VideoView)findViewById(R.id.Vview);
       Vview.setMediaController(new MediaController(this));
    }
```

```
public void list(View v){
        Intent i=new Intent();
        i.setAction(Intent.ACTION_GET_CONTENT);
        i.setType("video/*");
        startActivityForResult(i,111);

         }

    @Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {

super.onActivityResult(requestCode, resultCode, data);
        if(requestCode==RESULT_OK);
        {
           u=data.getData();
          // Vview.setVideoURI(u);
           //Vview.start();

        }
    }

    public void start(View v){
        Vview.setVideoURI(u);
        Vview.start();
    }
}
```

Manifestfile.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest
    xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.videoviewapp">
<uses-permission
android:name="android.permission.READ_EXTERNAL_STORAGE"/>
   <application
        android:allowBackup="true"
```

```
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">

        <activity android:name=".MainActivity"
                  android:screenOrientation="landscape">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

OUTPUT:

12.b) Write an android program to develop Audio Recording application.

Activity_main.XML File:

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

<ImageView
   android:layout_width="match_parent"
   android:layout_height="0dp"
   android:layout_weight="0.7"
   android:src="@drawable/ic_keyboard_voice_black_24dp" />


<TextView
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.1"
      android:id="@+id/status"
      android:text="Recording status"
      android:textSize="30sp"
      android:gravity="center"
      android:textStyle="bold"
      android:textColor="#0000FF"/>

   <ImageView
      android:id="@+id/r_ivew"
      android:layout_width="60dp"
      android:layout_height="0dp"
      android:layout_weight="0.2"
      android:layout_gravity="center"
      android:src="@drawable/ic_radio_button_checked_black_24dp"
```

```
        android:onClick="record"/>

</LinearLayout>
```

MainActivity.java File:

```
import android.media.MediaRecorder;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    MediaRecorder recorder;
    ImageView iview;
    TextView tv1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        iview=(ImageView)findViewById(R.id.r_ivew);
        tv1=(TextView)findViewById(R.id.status);
    }

    public void init(){
        recorder =new MediaRecorder();
        recorder.setAudioSource(MediaRecorder.AudioSource.MIC);
        recorder.setOutputFormat(MediaRecorder.OutputFormat.AMR_NB);
        recorder.setAudioEncoder(MediaRecorder.AudioEncoder.AMR_NB);
        recorder.setOutputFile("/storage/emulated/0/cse"+
                                        System.currentTimeMillis()+".amr");
        try {
            recorder.prepare();
        }catch (Exception  e){
```

```
            e.printStackTrace();
        }
    }
    public void record(View v){
        if(recorder==null){
            init();
          iview.setImageResource(R.drawable.ic_radio_button_checked_black_24dp);
            tv1.setText("Recording is started");
            try{
                recorder.start();
            }
            catch (Exception e) {
                e.printStackTrace();
            }
        }else{
            iview.setImageResource(R.drawable.ic_brightness_1_black_24dp);
            tv1.setText("Record is stoped..");
            recorder.stop();
            recorder=null;
        }

    }
}
```

Next go to APP Folder click on right -→new-→select vectorAsset

Now create three icons and paste drawable folder.

```
1 <vector xmlns:android="http://schemas.android.com/apk/res/android"
      android:width="24dp"
      android:height="24dp"
      android:viewportWidth="24.0"
      android:viewportHeight="24.0">
<path
  android:fillColor="#CC0000"
 android:pathData="M12,12m-10,0a10,10 0,1 1,20 0a10,10 0,1 1,-20 0"/>
</vector>
```

2
```
<vector xmlns:android="http://schemas.android.com/apk/res/android"
    android:width="24dp"
    android:height="24dp"
    android:viewportWidth="24.0"
    android:viewportHeight="24.0">
  <path
    android:fillColor="#0000FF"
    android:pathData="M12,15c1.66,0 2.99,-1.34 2.99,-3L15,6c0,-1.66 -1.34,-3 -3,-3S9,4.34 9,6v6c0,1.66 1.34,3 3,3zM17.3,12c0,3 -2.54,5.1 -5.3,5.1S6.7,15 6.7,12L5,12c0,3.42 2.72,6.23 6,6.72L11,22h2v-3.28c3.28,-0.48 6,-3.3 6,-6.72h-1.7z"/>
</vector>
```

3
```
<vector xmlns:android="http://schemas.android.com/apk/res/android"
    android:width="24dp"
    android:height="24dp"
    android:viewportWidth="24.0"
    android:viewportHeight="24.0">
  <path
    android:fillColor="#38f820"
    android:pathData="M12,7c-2.76,0 -5,2.24 -5,5s2.24,5 5,5 5,-2.24 5,-5 -2.24,-5 -5,-5zM12,2C6.48,2 2,6.48 2,12s4.48,10 10,10 10,-4.48 10,-10S17.52,2 12,2zM12,20c-4.42,0 -8,-3.58 -8,-8s3.58,-8 8,-8 8,3.58 8,8 -3.58,8 -8,8z"/>
</vector>
```

Next add two permissions in Manifest FILE

1) `<uses-permission android:name="android.permission.RECORD_AUDIO"/>`

2) `<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>`

OUTPUT:

EXPERIMENT 13

a) Write an android program to develop Video Recording application.

Activity_main.xml file:

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

   <SurfaceView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.8"
      android:id="@+id/sview1" />
   <LinearLayout
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.2"
      android:orientation="vertical">

      <Button
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:text="START"
         android:onClick="start" />

      <Button
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:text="STOP"
         android:onClick="stop" />

   </LinearLayout>
```

</LinearLayout>

MainActivity.java file:

```
package com.example.hi.videorecordingapp;
import android.media.CamcorderProfile;
import android.media.MediaRecorder;
import android.provider.Settings;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Surface;
import android.view.SurfaceHolder;
import android.view.SurfaceView;
import android.view.View;

public class MainActivity extends AppCompatActivity {
   MediaRecorder recorder;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
   }

   public void init() {
      recorder = new MediaRecorder();

      recorder.setAudioSource(MediaRecorder.AudioSource.MIC);

      recorder.setVideoSource(MediaRecorder.VideoSource.CAMERA);

CamcorderProfile profile =
                  CamcorderProfile.get(CamcorderProfile.QUALITY_HIGH);

      recorder.setProfile(profile);
      recorder.setOutputFile("/storage/emulated/0/cse"+System.currentTimeMillis()
                                                      +".mp4");
```

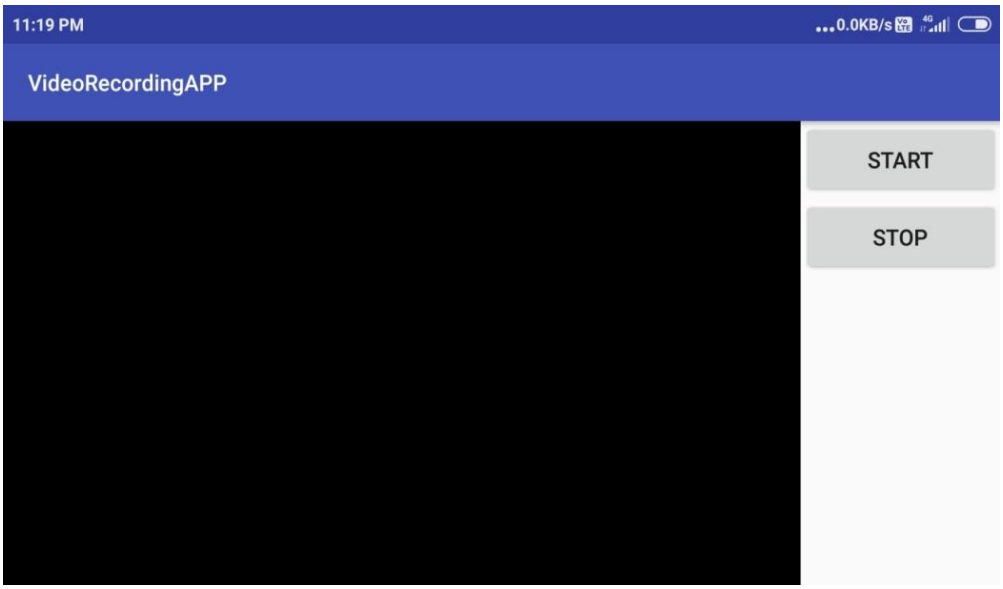
```
SurfaceView sview=(SurfaceView)findViewById(R.id.sview1);

        SurfaceHolder sholder=sview.getHolder();

        recorder.setPreviewDisplay(sholder.getSurface());


try {
            recorder.prepare();
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

 public void start(View v)
    {
        init();
        recorder.start();
    }

    public void stop(View  v)
    {
      recorder.stop();
    }
}
```

AndroidMainifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.videorecordingapp">

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

```
            android:name="android.permission.RECORD_AUDIO"/>
    <uses-permission
        android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity"
          android:screenOrientation="landscape">
          <intent-filter>
             <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
          </intent-filter>
        </activity>
    </application>
</manifest>
```

OUTPUT:



b) Write an android program to develop Camera and Gallery application.

activity_main.xml file

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

   <ImageView
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.9"
      android:id="@+id/ivew1"
      android:src="@mipmap/ic_launcher_round"/>

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.1"
      android:orientation="horizontal">

      <Button
         android:layout_width="0dp"
         android:layout_height="match_parent"
         android:layout_weight="0.5"
         android:text="CAMERA"
         android:onClick="camera"/>

      <Button
         android:layout_width="0dp"
         android:layout_height="match_parent"
         android:layout_weight="0.5"
         android:text="GALLERY"
         android:onClick="gallery"/>
```

```
    </LinearLayout>

</LinearLayout>
```

MainActivity.java file:

```
package com.example.hi.camera_galleryapp;
import android.content.Intent;
import android.graphics.Bitmap;
import android.net.Uri;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

ImageView iview;

@Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        iview=(ImageView)findViewById(R.id.ivew1);
    }

public void camera(View v){
        Intent i=new Intent("android.media.action.IMAGE_CAPTURE");
        startActivityForResult(i, 111);
    }

public void gallery(View  v){
        Intent i=new Intent();
        i.setAction(Intent.ACTION_GET_CONTENT);
        i.setType("image/*");
        startActivityForResult(i,123);
    }
```

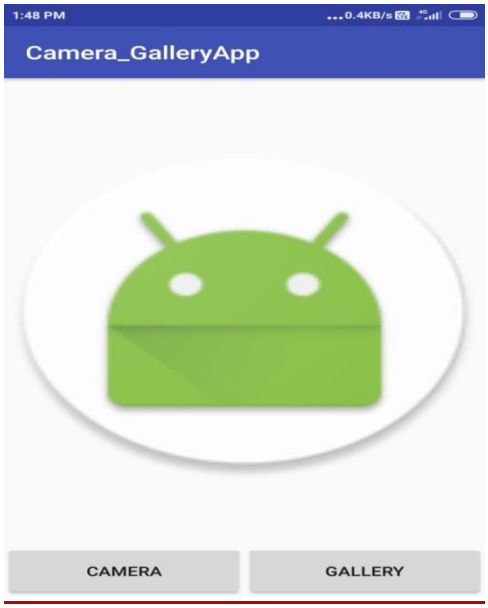
```
    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(requestCode==111 && resultCode==RESULT_OK){
            Object  ob= data.getExtras().get("data");
            Bitmap bmp=(Bitmap)ob;
            iview.setImageBitmap(bmp);
        }else if(requestCode==123 && resultCode==RESULT_OK){

             Uri u=data.getData();
            iview.setImageURI(u);
        }
    }
}
```

AndroidMainifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.camera_galleryapp">
    <uses-permission android:name="android.permission.CAMERA"/>
    <uses-permission
        android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
```

```
    </application>
</manifest>
```

OUTPUT:



EXPERIMENT 14

a) Create an android application to get latitude and longitude value by using Location Service.

Activity_Main.xml file:

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

   <TextView
      android:id="@+id/tv1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="TextView"
      android:textStyle="bold"
      android:textSize="30sp"
      android:gravity="center"
      android:layout_alignParentLeft="true"
      android:layout_alignParentStart="true"
      android:layout_marginLeft="113dp"
      android:layout_marginStart="113dp"
      android:layout_marginTop="40dp" />

   <TextView
      android:id="@+id/tv2"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="TextView"
      android:gravity="center"
      android:textSize="30sp"
      android:textStyle="bold"
```

```
        android:layout_marginTop="143dp"
        android:layout_alignParentTop="true"
        android:layout_alignLeft="@+id/tv1"
        android:layout_alignStart="@+id/tv1" />
</RelativeLayout>
```

MainActivity.java:

```
package com.example.hi.locationserviceapp;
import android.content.Context;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
   TextView tv1, tv2;

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      tv1 = (TextView) findViewById(R.id.tv1);
      tv2 = (TextView) findViewById(R.id.tv2);

      LocationManager lManager = (LocationManager)
                        getSystemService(Context.LOCATION_SERVICE);

lManager.getLastKnownLocation(LocationManager.NETWORK_PROVIDER);

lManager.requestLocationUpdates(LocationManager.NETWORK_PROVIDER,
                                        1000, 1, new LocationListener() {
      @Override
      public void onLocationChanged(Location location) {
         double lati=location.getLatitude();
         double longi=location.getLongitude();
```

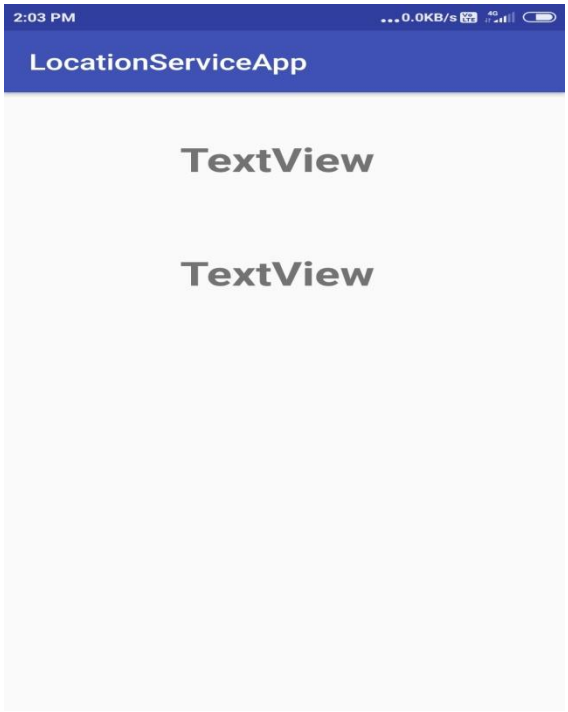
```
            tv1.setText(String.valueOf(lati));
            tv2.setText(String.valueOf(longi));
        }

        @Override
        public void onStatusChanged(String s, int i, Bundle bundle) {

        }

        @Override
        public void onProviderEnabled(String s) {

        }
        @Override
        public void onProviderDisabled(String s) {

        }
    });
    }
}
```

androidManifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.locationserviceapp">
<uses-permission

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

android:name="android.permission.ACCESS_FINE_LOCATION"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
```

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

OUTPUT:



14.b) Create an android application to display X, Y Sensor values by using Sensor Service.

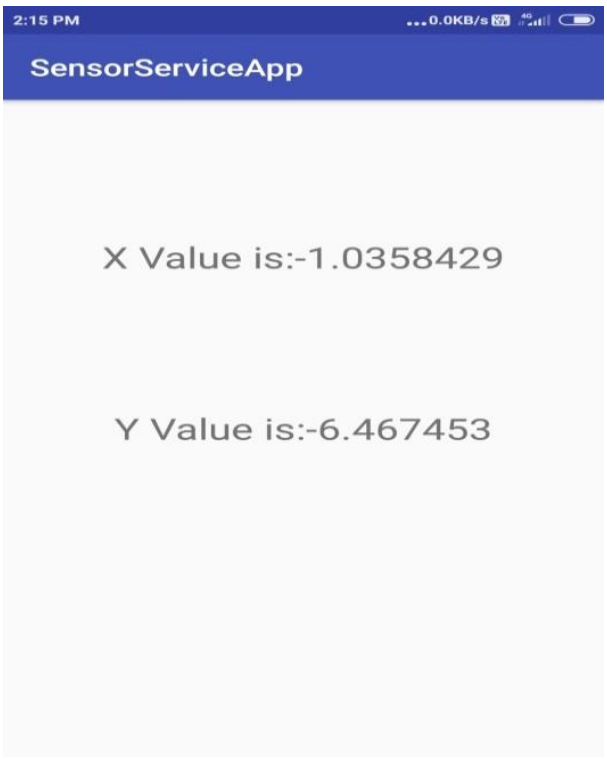
Activity_Main.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context="com.example.hi.sensorserviceapp.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_marginTop="117dp"
      android:text="TextView"
      android:textSize="25sp"/>

   <TextView
      android:id="@+id/textView2"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_centerHorizontal="true"
      android:layout_centerVertical="true"
      android:text="TextView"
      android:textSize="25sp"/>
</RelativeLayout>
```

MainActivity.java file:

```
package com.example.hi.sensorserviceapp;
import android.content.Context;
import android.hardware.Sensor;
import android.hardware.SensorEvent;
import android.hardware.SensorEventListener;
import android.hardware.SensorListener;
import android.hardware.SensorManager;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    TextView tv1, tv2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        tv1 = (TextView) findViewById(R.id.textView);
        tv2 = (TextView) findViewById(R.id.textView2);

SensorManager  sManager=(SensorManager)
getSystemService(Context.SENSOR_SERVICE);
        sManager.registerListener(new SensorListener() {
            @Override
            public void onSensorChanged(int i, float[] floats) {
                tv1.setText("X Value is:"+String.valueOf(floats[0]));
                tv2.setText("Y Value is:"+String.valueOf(floats[1]));
            }
            @Override
            public void onAccuracyChanged(int i, int i1) {

            }
        },SensorManager.SENSOR_ACCELEROMETER);
            }
    }
```

OUTPUT:


2:15 PM
...0.0KB/s
SensorServiceApp
X Value is:-1.0358429
Y Value is:-6.467453

EXPERIMENT 15

15.a. Create an android application to get the notifications on Notification Bar by Using Notification Service

ActivityMain.xml:

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

      <Button
      android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_centerHorizontal="true"
      android:layout_centerVertical="true"
      android:text="NOTIFY"
      android:onClick="notify"/>

</RelativeLayout>
```

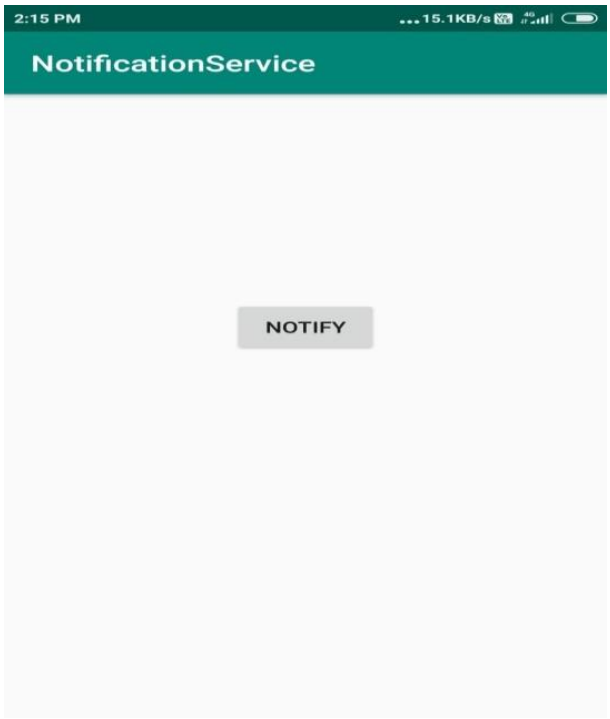
ManiActivity.java:

```
package com.example.hi.notificationserviceapp;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.support.v7.app.AppCompatActivity;
```

```
import android.os.Bundle;
import android.support.v7.app.NotificationCompat;
import android.view.View;
public  class MainActivity extends AppCompatActivity {

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

public  void notify(View v){
   NotificationManager nManager=(NotificationManager)

 getSystemService(Context.NOTIFICATION_SERVICE);

        NotificationCompat.Builder builder=new
 NotificationCompat.Builder(this);

         builder.setTicker("SAMPLE NOTIFICATION");
        builder.setSmallIcon(R.drawable.ic_beach_access_black_24dp);
        builder.setContentTitle("SAMPLE NOTIFICATION");
        builder.setContentText("sample notification for RGMCET");

        Bitmap bmp=
 BitmapFactory.decodeResource(getResources(),R.drawable.ic_beach_access_bl
 ack_24dp);

        builder.setLargeIcon(bmp);
        Intent i=new Intent(this,MainActivity.class);
        PendingIntent pIntent=PendingIntent.getActivity(this,0,i,0);
        builder.setContentIntent(pIntent);
        builder.setAutoCancel(true);
        //nManager.notify(1,builder.build());
        nManager.notify((int)System.currentTimeMillis(),builder.build());
```

```
    }
}
```

OUTPUT:



15.b. Create an android application to display available Wi-Fi devices and Paired Wi-Fi devices by using Wi-Fi Service.

Activity_Main.xml file:

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

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

        <TextView
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"
            android:text="WIFI"
            android:gravity="center"
            android:textSize="25sp"/>

        <Switch
            android:id="@+id/sw_wifi"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"/>

    </LinearLayout>

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

       <Button
           android:layout_width="0dp"
```

```
        android:layout_height="wrap_content"
        android:layout_weight="0.5"
        android:id="@+id/btn_get_wifi_device"
        android:text="GET_WIFI_DEVICE"
        android:onClick="getWifiDevice"/>
    <Button
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="0.5"
        android:id="@+id/btn_get_paired_wifi"
        android:text="PAIRED_WIFI_DEVICE"
        android:onClick="getPairedWifiDevice"/>
  </LinearLayout>

   <ListView
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/lview">
       </ListView>

</LinearLayout>
```

MainActivity.java file:

```
package com.example.hi.wifiapp;
import android.content.Context;
import android.net.wifi.ScanResult;
import android.net.wifi.WifiConfiguration;
import android.net.wifi.WifiManager;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.CompoundButton;
import android.widget.ListView;
import android.widget.Switch;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {
  Switch sw1;
```

```
    ListView lview;
    WifiManager wManager;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        sw1=(Switch)findViewById(R.id.sw_wifi);
        lview=(ListView)findViewById(R.id.lview);
        wManager=(WifiManager)getApplicationContext().getSystemService(Context.
                                                                WIFI_SERVICE);
        int wifi_status=wManager.getWifiState();
        if(wifi_status== 0 || wifi_status== 1){
            sw1.setChecked(false);
        }
        else if(wifi_status== 2 || wifi_status== 3){
            sw1.setChecked(true);
            }

 sw1.setOnCheckedChangeListener(new
                                CompoundButton.OnCheckedChangeListener() {
            @Override
      public void onCheckedChanged(CompoundButton buttonView,
                                                        boolean isChecked) {
                if(isChecked){
                    wManager.setWifiEnabled(true);
                }
                else {
                    wManager.setWifiEnabled(false);
                }
            }
        });
    }
    public void getWifiDevice(View v){
        ArrayList<String> list=new ArrayList<>();
     ArrayAdapter adapter=new
ArrayAdapter(this,android.R.layout.simple_list_item_single_choice, list);
        lview.setAdapter(adapter);
        List<ScanResult>sResult=wManager.getScanResults();
        for (ScanResult  item :sResult){
            list.add(item.SSID +"\t\t"+ item.frequency);
            adapter.notifyDataSetChanged();
        }
```

```
    }
    public void getPairedWifiDevice(View v){
        ArrayList<String>list=new ArrayList<>();
        ArrayAdapter adapter=new ArrayAdapter(this,
                            android.R.layout.simple_list_item_single_choice, list);
                    lview.setAdapter(adapter);
        List<WifiConfiguration>wifiConfigurationList=wManager.getConfiguredNetworks();
        for (WifiConfiguration item:wifiConfigurationList){
            list.add(item.SSID +"\t\t"+item.status);
            adapter.notifyDataSetChanged();
        }
    }
}
```

String.xml file:

```
<resources>
    <string name="app_name">WifiApp</string>
    <string name="wifi_name">Wifi</string>
    <string name="get_wifi_device"></string>
    <string name="paired_wifi_device"></string>
</resources>
```

androidManifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.wifiapp">

    <uses-permission
android:name="android.permission.ACCESS_WIFI_STATE"/>
    <uses-permission
android:name="android.permission.CHANGE_WIFI_STATE"/>
    <uses-permission
android:name="android.permission.ACCESS_COARSE_LOCATION"/>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
```

```
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER">
            </intent-filter>
        </activity>
    </application>
</manifest>
```

OUTPUT:

EXPERIMENT 16

16.A. Create an android application to get the Bluetooth devices and list of devices using Bluetooth and Vibrator Service.

activity_Main.xml file:

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

   <Switch
      android:id="@+id/s1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_gravity="center"
      android:text="BLUETOOTH"
      android:textSize="25sp" />

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="GETBTDEVICES"
      android:onClick="getBTDevices"
      android:layout_gravity="center"
      android:textSize="25sp"/>

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="VIBRATE"
      android:onClick="vibrate"
      android:layout_gravity="center"
      android:textSize="25sp"/>
```

```
    <ListView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/lview">

    </ListView>

</LinearLayout>
```

MainActivity.java file

```
package com.example.hi.btservicesapp;
import android.bluetooth.BluetoothAdapter;
import android.bluetooth.BluetoothDevice;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.content.IntentFilter;
import android.os.Vibrator;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.CompoundButton;
import android.widget.ListView;
import android.widget.Switch;
import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {
    Switch s1;
    ListView lview;
    BluetoothAdapter bAdapter;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```
        s1=(Switch)findViewById(R.id.s1);
        lview=(ListView)findViewById(R.id.lview);
        bAdapter=BluetoothAdapter.getDefaultAdapter();
        s1.setChecked(bAdapter.isEnabled());
        s1.setOnCheckedChangeListener(new
                                CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton
                                                compoundButton, boolean b) {
                if(b) {
                    bAdapter.enable();
                }else{
                    bAdapter.disable();
                }
            }
        });
    }

    public void getBTDevices(View v){
        final ArrayList<String>list=new ArrayList<>();
        final ArrayAdapter<String>adapter=new ArrayAdapter<String>(this,
                            android.R.layout.simple_spinner_dropdown_item,list);
             lview.setAdapter(adapter);
             bAdapter.startDiscovery();
        IntentFilter filter=new IntentFilter();
        filter.addAction(BluetoothDevice.ACTION_FOUND);
        registerReceiver(new BroadcastReceiver() {
            @Override
            public void onReceive(Context context, Intent intent) {
BluetoothDevice
                    device=intent.getParcelableExtra(BluetoothDevice.EXTRA_DEVICE);
                list.add(device.getName()+"\n"+device.getAddress());
                adapter.notifyDataSetChanged();
            }
        },filter);
    }
```

```
    public void vibrate(View v){
        Vibrator vib=(Vibrator)getSystemService(Context.VIBRATOR_SERVICE);
        vib.vibrate(10000);
    }
}
```

androidManifest.xml file

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.btservicesapp">

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

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

OUTPUT:


2:20 PM
0.0KB/s
BTServicesApp
BLUETOOTH
GETBTDEVICES
VIBRATE

16.B. Create an android application to get the System Announcements by using Broadcast Receiver.

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent" >

   <TextView
      android:id="@+id/tv1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="TEXTVIEW"
      android:textSize="40sp"
      android:textColor="#FF0000"
      tools:layout_editor_absoluteY="-2dp"
      tools:layout_editor_absoluteX="32dp" />

</android.support.constraint.ConstraintLayout>
```

MyReceiver.java:

```
package com.example.hi.broadcastreceiverapp;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.widget.TextView;

public class MyReceiver extends BroadcastReceiver {
   @Override
   public void onReceive(Context context, Intent intent) {
      MainActivity mActivity = (MainActivity) context;
      TextView tv = (TextView) mActivity.findViewById(R.id.tv1);
```

```
        if (intent.getAction().equals(Intent.ACTION_POWER_CONNECTED)) {
                    tv.setText("POWER CONNECTED");

        } else if
(intent.getAction().equals(Intent.ACTION_POWER_DISCONNECTED)) {
                    tv.setText("POWER DISCONNECTED");

        } else if (intent.getAction().equals(Intent.ACTION_SCREEN_ON)) {
                    tv.setText("SCREEN ON");

        } else if (intent.getAction().equals(Intent.ACTION_SCREEN_OFF)) {
                    tv.setText("SCREEN OF");

        } else if
(intent.getAction().equals(Intent.ACTION_AIRPLANE_MODE_CHANGED)) {
                    tv.setText("AIRPLANE MODE CHANGED");

        } else if (intent.getAction().equals(Intent.ACTION_HEADSET_PLUG)) {
                    tv.setText("HEADSET PLUGIN");
        }
    }
}
```

MainActivity.java:

```
package com.example.hi.broadcastreceiverapp;
import android.content.Intent;
import android.content.IntentFilter;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
   TextView tv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

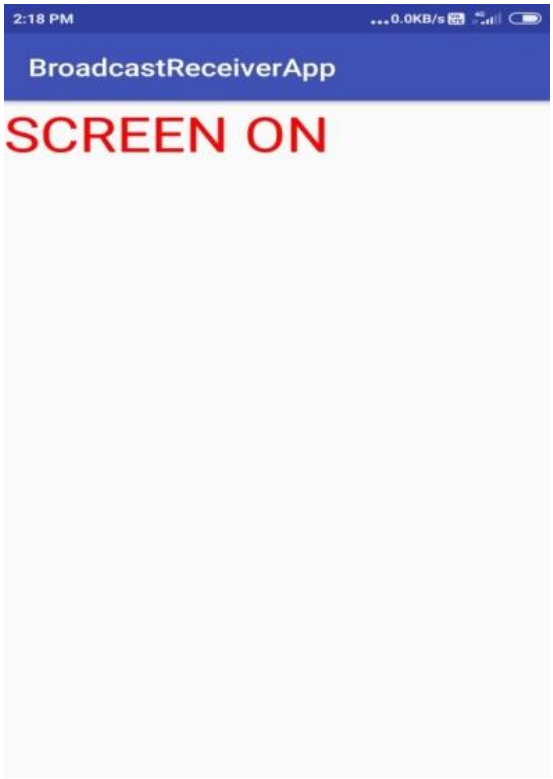
```
        setContentView(R.layout.activity_main);
        tv=(TextView)findViewById(R.id.tv1);

        IntentFilter filter=new IntentFilter();

        filter.addAction(Intent.ACTION_HEADSET_PLUG);

        filter.addAction(Intent.ACTION_POWER_CONNECTED)
;
        filter.addAction(Intent.ACTION_POWER_DISCONNECTED);

        filter.addAction(Intent.ACTION_SCREEN_ON);

        filter.addAction(Intent.ACTION_SCREEN_OFF);

        filter.addAction(Intent.ACTION_AIRPLANE_MODE_CHANGED);

        registerReceiver(new MyReceiver(), filter);
        // registerReceiver(new MyReceiver,filter);
    }
}
```

androidManifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.broadcastreceiverapp">
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <receiver android:name="MyReceiver"/>
            <intent-filter>
```

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

OUTPUT:



EXPERIMENT 17

Create an android application to share the data between multiple applications by using Content Provider.

activity_Main.xml file:

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

<ListView
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:id="@+id/lview">

</ListView>

</LinearLayout>
```

Indiview.xml file:

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

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="NAME"
```

```
        android:id="@+id/tv1"
        android:textSize="25sp"
        android:textStyle="bold"
        android:textColor="#FF0000"
        android:gravity="center"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="NUMBER"
        android:id="@+id/tv2"
        android:textSize="25sp"
        android:textStyle="bold"
        android:textColor="#F0FF"
        android:gravity="center"/>

</LinearLayout>
```

MainActivity.java file:

```
package com.example.hi.contentproviderapp;
import android.content.ContentResolver;
import android.database.Cursor;
import android.provider.ContactsContract;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ListView;
import android.widget.SimpleCursorAdapter;

public class MainActivity extends AppCompatActivity {
    ListView lview;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        lview =(ListView)findViewById(R.id.lview);
```

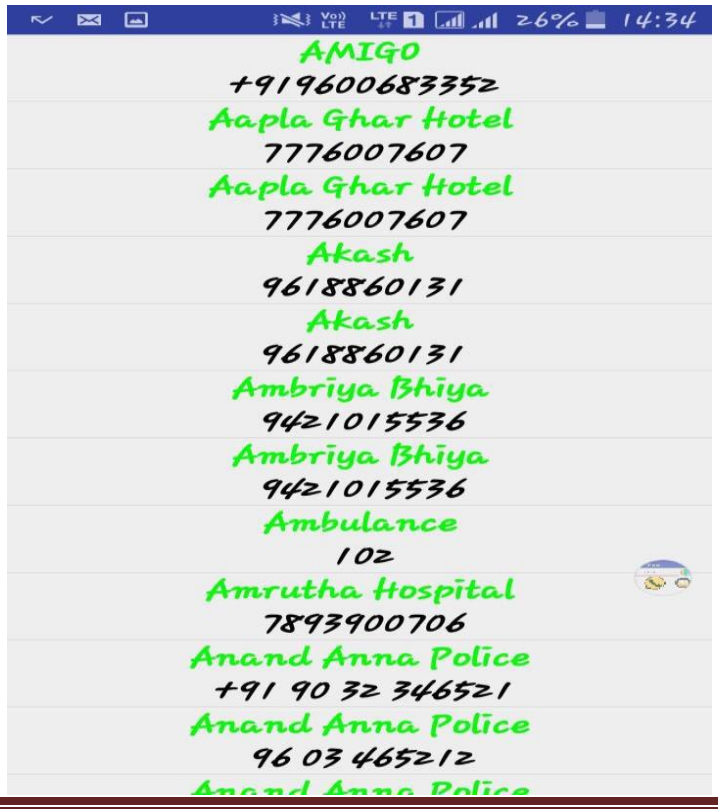
```
        ContentResolver resolver=getContentResolver();
        int[] to=new int[]{R.id.tv1,R.id.tv2};
        //Cursor
c=resolver.query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI,null,n
ull,null,null);
        //you can test first above statement and  second  below statement
Cursor
c=resolver.query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI, null,
null,
                                    null,
ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME);

 String[] from=new
String[]{ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME,

ContactsContract.CommonDataKinds.Phone.NUMBER};

 SimpleCursorAdapter adapter=new  SimpleCursorAdapter(this, R.layout.indiview, c,
from, to);

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

androidManifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.hi.contentproviderapp">
<uses-permission android:name="android.permission.READ_CONTACTS"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
```

```
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

OUTPUT:



EXPERIMENT 18

Create an android application to display different Dialog Boxes.

activity_Main.xml file:

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

  <Button
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="CUSTOM DIALOG"
     android:onClick="CustomDailog"
     android:layout_gravity="center"/>

  <Button
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="ALERT DIALOG"
     android:onClick="AlertDialog"
     android:layout_gravity="center"/>

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

    <Button
       android:layout_width="wrap_content"
       android:layout_height="wrap_content"
       android:text="Date Picker Dailog"
       android:onClick="datepickerdailog"/>
```

```
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/datepicker"
        android:editable="false"/>
</LinearLayout>

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

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Time Picker Dailog"
        android:onClick="timepickerdailog"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/timepicker"
        android:editable="false"/>
</LinearLayout>

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Indeterminant Progress Dailog"
    android:onClick="indeterminent"
    android:layout_gravity="center"/>

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Determinant Progress dailog"
```

```
    android:onClick="determinent"
    android:layout_gravity="center"/>
</LinearLayout>
```

customDailog.xml:

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

  <TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Are You Sure To Exit"
    android:textSize="25sp"/>

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

    <Button
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.2"
      android:id="@+id/btn_yes"
      android:text="Yes"/>

    <TextView
      android:layout_width="0dp"
      android:layout_height="match_parent"
      android:layout_weight="0.6"/>
```

```
    <Button
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="0.2"
        android:text="No"
        android:id="@+id/btn_no"/>
  </LinearLayout>

</LinearLayout>
```

MainActivity.java

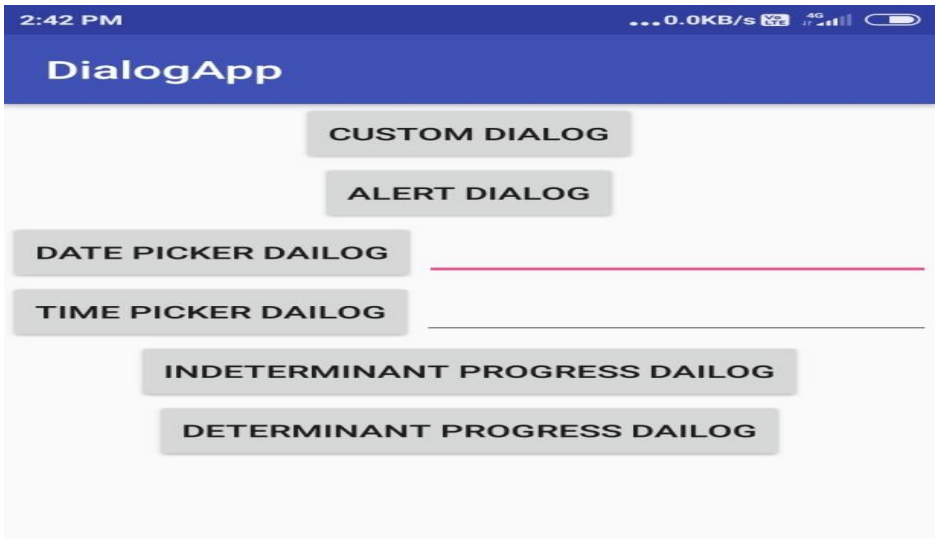
```
package com.example.hi.dialogapp;
import android.app.DatePickerDialog;
import android.app.Dialog;
import android.app.ProgressDialog;
import android.app.TimePickerDialog;
import android.content.Context;
import android.icu.util.Calendar;
import android.os.Vibrator;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.TimePicker;

import java.sql.Time;

public class MainActivity extends AppCompatActivity {

  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
```

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

    public void CustomDailog(View view){
        final Dialog d=new Dialog(MainActivity.this);
        d.setTitle("Message");
        d.setContentView(R.layout.customdailog);
        d.show();

        Button yes_btn=(Button)d.findViewById(R.id.btn_yes);
        Button no_btn=(Button)d.findViewById(R.id.btn_no);

        yes_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                d.dismiss();
                System.exit(0);
            }
        });

        no_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                d.dismiss();
            }
        });
    }


   public void  AlertDialog(View view){
       AlertDialog.Builder builder=new AlertDialog.Builder(this);
       builder.setTitle("Message");
       builder.setMessage("Are You Suer To Exit");
       builder.setIcon(R.mipmap.ic_launcher_round);
AlertDialog.OnClickListener listener= new AlertDialog.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialogInterface, int which) {
```

```
        if(which== dialogInterface.BUTTON_POSITIVE){
            dialogInterface.dismiss();
            finish();
        }else if(which== dialogInterface.BUTTON_NEGATIVE) {
            dialogInterface.dismiss();
        }
    }
};
            builder.setPositiveButton("YES",listener);
            builder.setNegativeButton("NO",listener);
            builder.show();

    }

  public void datepickerdailog(View view) {
DatePickerDialog.OnDateSetListener listener= new
                                        DatePickerDialog.OnDateSetListener() {
        @Overrid
 public void onDateSet(DatePicker datePicker, int year,
                                       int monthofyear, int dayofmonth) {

            EditText et=(EditText)findViewById(R.id.datepicker);
            et.setText(dayofmonth + "-" + monthofyear + "-" + year);
        }
    };

 DatePickerDialog dpd=new
                        DatePickerDialog(MainActivity.this, listener,2020,4,20);
     dpd.show();
 }
 public void timepickerdailog(View view){
     java.util.Calendar cal=java.util.Calendar.getInstance();
     final int hour=cal.get(java.util.Calendar.HOUR);
     final int min=cal.get(java.util.Calendar.MINUTE);
     TimePickerDialog tpd=new TimePickerDialog(this, new
                                       TimePickerDialog.OnTimeSetListener() {
         @Override
```

```
        public void onTimeSet(TimePicker timePicker, int i, int i1) {
            EditText editText2=(EditText)findViewById(R.id.timepicker);
            editText2.setText(i + ":" + i1 );

        }
      },hour,min,false);
      tpd.show();
    }


    public void indeterminent(View view){
        ProgressDialog pDailog=new ProgressDialog(MainActivity.this);
        pDailog.setTitle("Message");
        pDailog.setMessage("Please Wait while page is loading");
        pDailog.setIcon(R.mipmap.ic_launcher_round);
        pDailog.setProgressStyle(ProgressDialog.STYLE_SPINNER);
        pDailog.show();
    }

    public void determinent(View view){
        ProgressDialog pDailog=new ProgressDialog(MainActivity.this);
        pDailog.setTitle("Message");
        pDailog.setMessage("Downloading");
        pDailog.setIcon(R.mipmap.ic_launcher_round);
        pDailog.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
        pDailog.show();
    }
}
```

OUTPUT:


2:42 PM
...0.0KB/s
DialogApp
CUSTOM DIALOG
ALERT DIALOG
DATE PICKER DAILOG
TIME PICKER DAILOG
INDETERMINANT PROGRESS DAILOG
DETERMINANT PROGRESS DAILOG

EXPERIMENT 19

Create an android application to display current location on Google maps by using Google-Maps Service.

1) Create a project, add google-play-services:maps as a library project.

Right click APP folder-→openmoduleSetting-→dependacy, select(+) symbol.
Click on + symbol and choose (Library dependency) select
"com.google.android.gms:play-service-maps:16.1.0"

2) Create a fragment UI component in Activity xml with the following name.

```
<fragment
android:name="com.google.android.gms.maps.SupportMapFragment"
……./>
```

3) Use the following code in Activity to get the SupportMapFragment into Activity.

```
SupportMapFragment  frag=(SupportMapFragment)
                    getSupportFragmentManager().findFragmentById(R.id.XXX);
```

4) Get the GoogleMap object from SupportMapFragment.

```
frag.getMapAsync(new OnMapReadyCallback() {
    @Override
public void onMapReady(GoogleMap googleMap) {
    //write the logic, what you want to perform on GoogleMap
    }
});
```

5) To work with any Google-API we have to get an API key from Google, go through the following URL to get an API key.

http://code.google.com/apis/console

API Key:

Example Like:

AIzaSyAOeIcUosQIJD-FuZNCU0TkA-oQNWSfeZg

AIzaSyAXQpjHUvOxg97SutBJN2itPpcCBd7IwkY

6) Configure the API in manifest.xml with the following tag inside <application> tag.

```
<meta-data
    android:name=“”
android:value=“AIzaSyAOeIcUosQIJD-FuZNCU0TkA-oQNWSfeZg”/>
```

7) Set the following method to GoogleMap to change the Map style.

```
googleMap.setMapType(GoogleMap.MAP_TYPE_SATELLITE);
```

8) Use the following code to place a marker (location) on a Map.

```
MarkerOptions   mOption=new MarkerOptions();
  mOption.position(new LatLng(lati, longi));
   googleMap.addMarker(mOption);
```

9) Use the following method to apply Zoom & move the goole map to a specific location.

```
googleMap.animateCamera(CameraUpdateFactory.newLatLngZoom(new
                LatLng(lati, longi),15f));
```

10) Use the following code to customize the icon, set the title

```
mOption.icon (BitmapDescriptorFactory.fromResource(R.drawable.car));
  mOption.title(“title here”);
```

Activity_main.xml file:

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

<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical">

   <fragment
```

```
      android:id="@+id/fragment"
android:name="com.google.android.gms.maps.SupportMapFragment"
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.9"/>

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="0dp"
      android:layout_weight="0.1"
      android:orientation="horizontal">

 <TextView
         android:id="@+id/tv_latitude"
         android:layout_width="0dp"
         android:layout_height="match_parent"
         android:layout_weight="0.5"
         android:text="Latitude"
         android:gravity="center"/>

      <TextView
         android:id="@+id/tv_longitude"
         android:layout_width="0dp"
         android:layout_height="match_parent"
         android:layout_weight="0.5"
         android:text="Longitude"
         android:gravity="center"/>

   </LinearLayout>

</LinearLayout>
```

MainActivity.java:

```
package com.example.hi.googlemaptest;
import android.Manifest;
import android.content.Context;
```

```
import android.content.pm.PackageManager;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.support.v4.app.ActivityCompat;
import android.support.v4.content.ContextCompat;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
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.BitmapDescriptorFactory;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;
import org.w3c.dom.Text;
public class MainActivity extends AppCompatActivity {
   SupportMapFragment smFragment;
   TextView latitude, longitude;

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

      latitude=(TextView)findViewById(R.id.tv_latitude);
      longitude=(TextView)findViewById(R.id.tv_longitude);

      int coarse_loc_status=
                  ContextCompat.checkSelfPermission(MainActivity.this,
                     Manifest.permission.ACCESS_COARSE_LOCATION);

  int fine_loc_status=ContextCompat.checkSelfPermission(MainActivity.this,
                        Manifest.permission.ACCESS_FINE_LOCATION);

  if(coarse_loc_status== PackageManager.PERMISSION_GRANTED &&
```

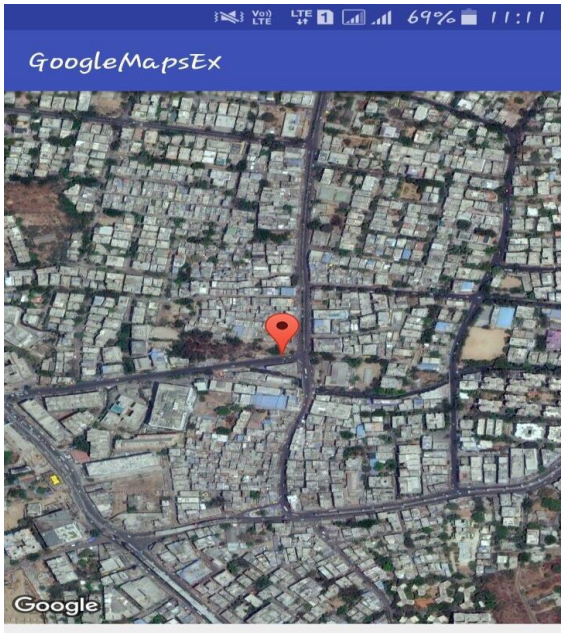
```
            fine_loc_status==PackageManager.PERMISSION_GRANTED) {

    }
    else {
  ActivityCompat.requestPermissions(MainActivity.this,
          new String[] {Manifest.permission.ACCESS_COARSE_LOCATION,
                  Manifest.permission.ACCESS_FINE_LOCATION}, 123);
    }

    smFragment=(SupportMapFragment) getSupportFragmentManager().
                                    findFragmentById(R.id.fragment);

    smFragment.getMapAsync(new OnMapReadyCallback() {
      @Override
      public void onMapReady(final GoogleMap googleMap) {
 final LocationManager lManager=(LocationManager)
                        getSystemService(Context.LOCATION_SERVICE);

lManager.getLastKnownLocation(LocationManager.NETWORK_PROVIDER);

lManager.requestLocationUpdates(LocationManager.NETWORK_PROVIDER,
                1000, 1, new LocationListener() {
              @Override
    public void onLocationChanged(Location location) {
        double lati=location.getLatitude();
        double longi=location.getLongitude();
         latitude.setText(String.valueOf(lati));
         longitude.setText(String.valueOf(longi));

   MarkerOptions mOption=new MarkerOptions();
        mOption.position(new LatLng(lati, longi));

   mOption.icon(BitmapDescriptorFactory.fromResource(R.drawable.car));
         mOption.title("Simha-9000666090");
        googleMap.addMarker(mOption);

   googleMap.animateCamera(CameraUpdateFactory.newLatLngZoom(new
```

```
                                        LatLng(lati, longi),15f));

// googleMap.setMapType(GoogleMap.MAP_TYPE_SATELLITE);

                }

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

                }

   @Override
    public void onProviderEnabled(String provider) {

                }

     @Override
      public void onProviderDisabled(String provider) {

                }
             });
          }
       });
    }
}
```

androidManifest.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.android.developer.googlemaptest">
 <uses-permission
     android:name="android.permission.ACCESS_COARSE_LOCATION"/>
<uses-permission
       android:name="android.permission.ACCESS_FINE_LOCATION"/>
   <uses-permission android:name="android.permission.INTERNET"/>
   <application
      android:allowBackup="true"
      android:icon="@mipmap/ic_launcher"
      android:label="@string/app_name"
      android:roundIcon="@mipmap/ic_launcher_round"
      android:supportsRtl="true"
      android:theme="@style/AppTheme">
      <activity android:name=".MainActivity">
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category
                android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
      <meta-data
          android:name="com.google.android.geo.API_KEY"
      android:value="AIzaSyC3nGvEpq5bBVvj7ozUYx1blxFFAgY2W3Y"/>
   </application>

</manifest>
```

OUTPUT:


69%
11:11
GoogleMapsEx
Google

Evaluation Procedure for Internal Laboratory Examinations:

1. Of the 25 marks for internal, 10 marks will be awarded for day-to-day work and 10 marks to be awarded for the Record work and 5 marks to be awarded by conducting an internal laboratory test.
2. Concerned Teachers have to do necessary corrections with explanations.
3. Concerned Lab teachers should enter marks in index page.
4. Internal exam will be conducted by two Staff members.

Dr.K. Subba Reddy

Professor & Head Dept. of CSE.

Evaluation Procedure for External Laboratory Examinations:

1. For Practical subjects there is a continuous evaluation during the semester for 25 Sessional marks and 50 end examination marks.
2. The end examination shall be conducted by the teacher concerned (Internal Examiner) and another External Examiner, recommended by Head of the Department with the approval of principal.

Evaluation procedure for external lab examination:

1. Procedure for the program	---------- 20M
2. Execution of the program	---------- 15M
3. Viva voce	---------- 15M

Total	50M

Dr.K. Subba Reddy
Professor & Head Dept. of CSE.