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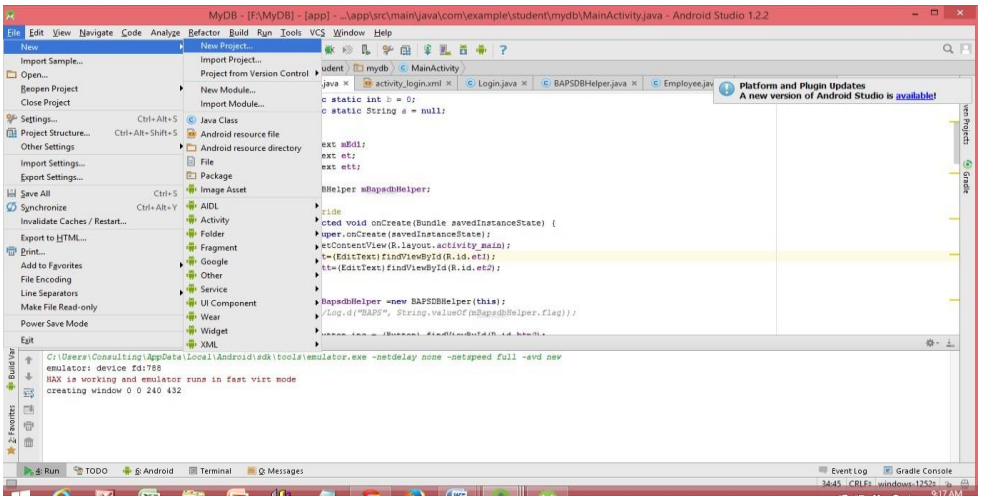
Practical 1:

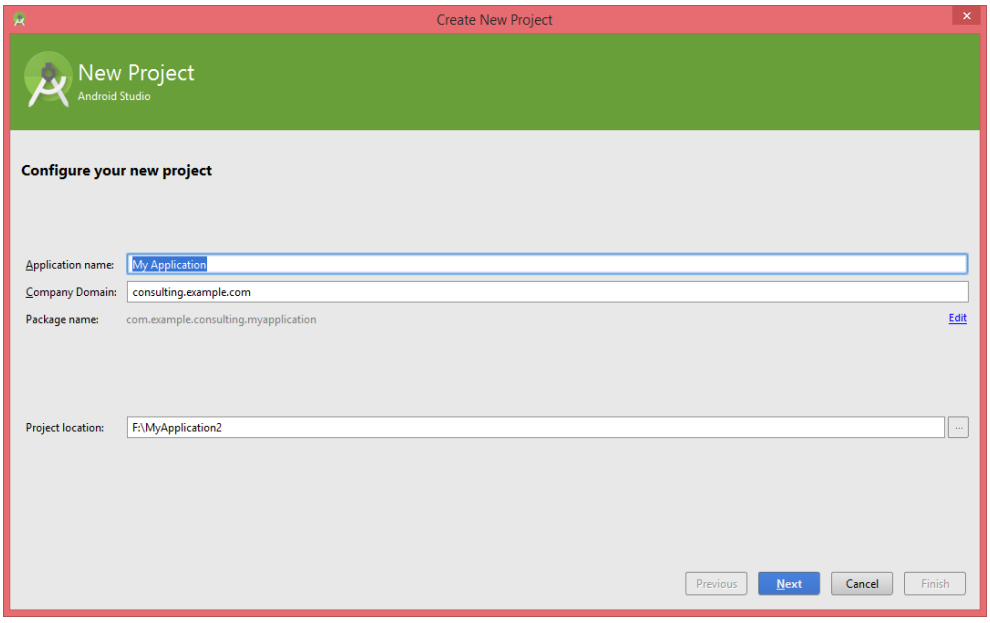
AIM: To print “hello world” using string.xml file.

CREATION OF ACTIVITY:

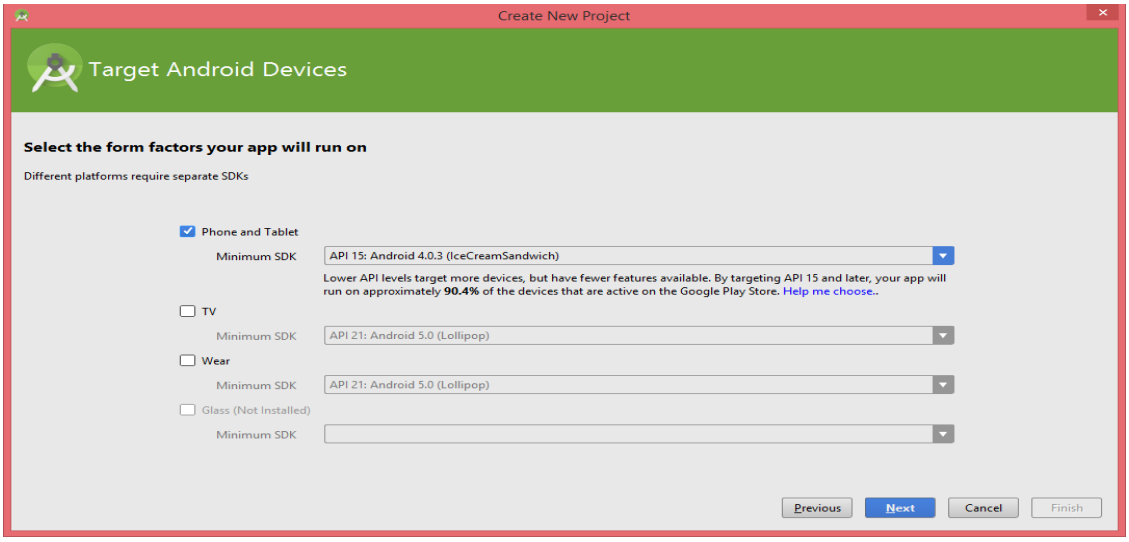
Step 1: File -> New Project



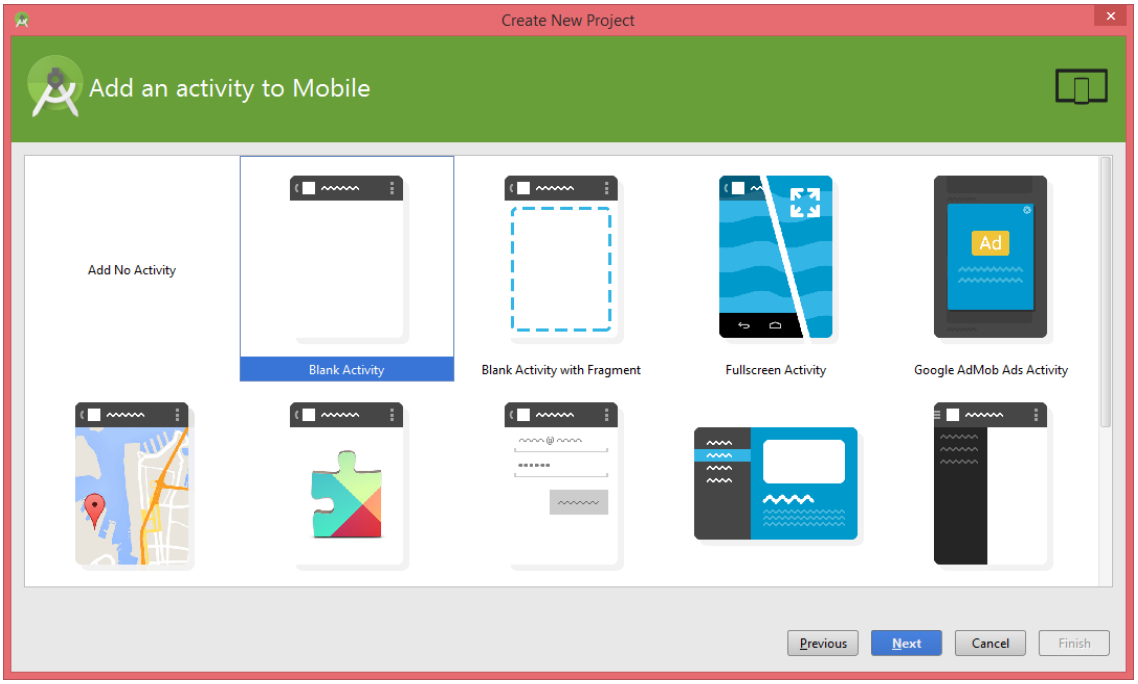
Step 2: Naming the Application



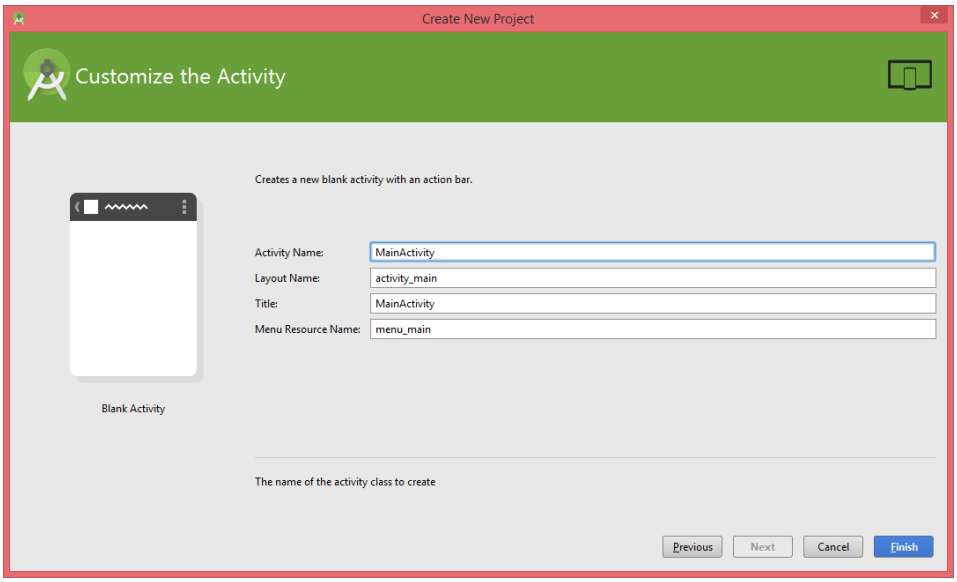
Step 3: Selecting the platform to run application



Step 4: Selecting the type of Activity to be used for application



Step 5: Naming the Activity



Myapp.xml:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">
<TextView android:text="@string/hello_world"
android:layout_width="match_parent"
android:layout_height="wrap_content" />
</RelativeLayout>
```

Global Files:

String.xml:*strings.xml for string values, and accessed from the* ***R.string****class.*

```
<resources>
<string name="app_name">Myapp</string>
<string name="hello_world">Hello Srishti!</string>
<string name="action_settings">Settings</string>
</resources>
```

Styles.xml:*styles.xml for styles, and accessed from the* ***R.style*** *class.*

```
<resources>
<!-- Base application theme. -->
<style name="AppTheme"
parent="Theme.AppCompat.Light.DarkActionBar">
</style>
</resources>
```

Dimens.xml:*dimens.xml for dimension values, and accessed from the**R.dimen** class.*

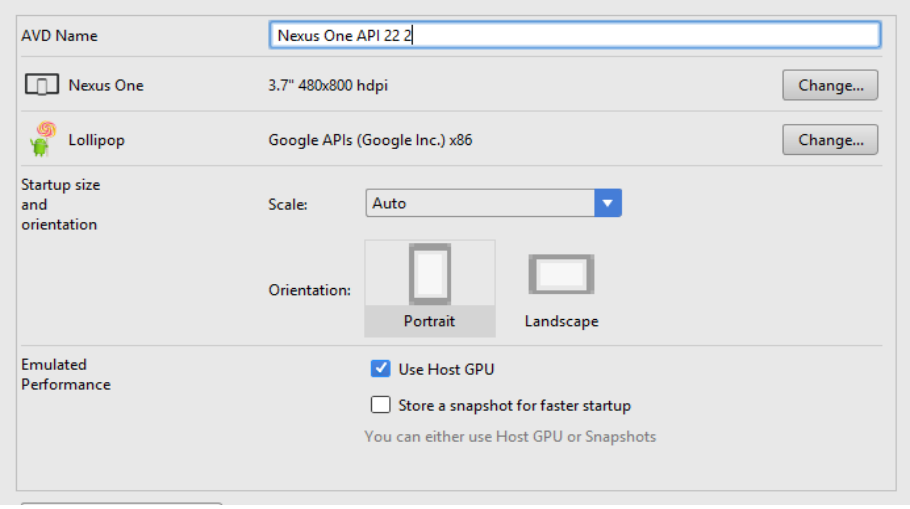
```
<resources>
<!-- Default screen margins, per the Android Design guidelines. -->
<dimen name="activity_horizontal_margin">16dp</dimen>
<dimen name="activity_vertical_margin">16dp</dimen>
</resources>
```

Creation of AVD:

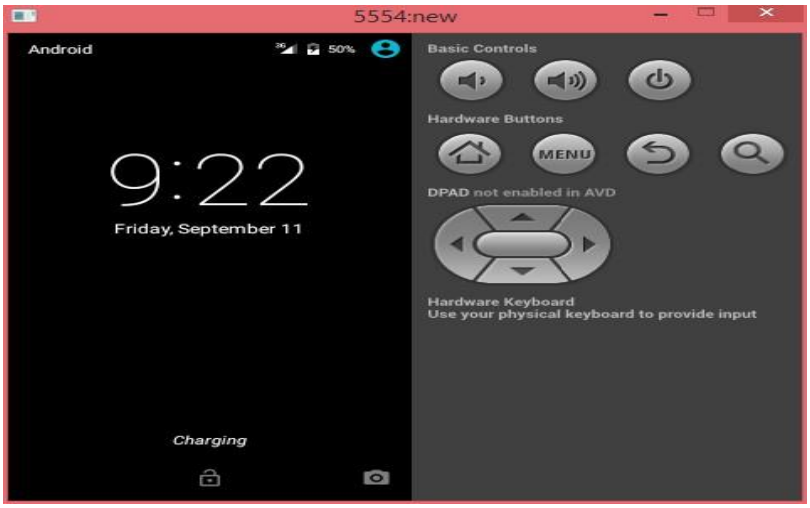
Step 1: choose a virtual device from options

Category	Name	Size	Resolution	Density
TV	Nexus S	4.0"	480x800	hdpi
Phone	Nexus One	3.7"	480x800	hdpi
Wear	Nexus 6	5.96"	1440x2560	560dpi
Tablet	Nexus 5	4.95"	1080x1920	xxhdpi
	Nexus 4	4.7"	768x1280	xhdpi
	Galaxy Nexus	4.65"	720x1280	xhdpi
	5.4" FWVGA	5.4"	480x854	mdpi
	5.1" WVGA	5.1"	480x800	mdpi
	4.7" WXGA	4.7"	720x1280	xhdpi

Step 2: Rename the device



Step 3: AVD



Output:

Practical :2

AIM:Android Life Cycle- *Android system initiates its program with in an **Activity** starting with a call on onCreate() callback method. There is a sequence of callback methods that start up an activity and a sequence of callback methods that tear down an activity as shown in the below Activity life cycle program.*

Xml File:

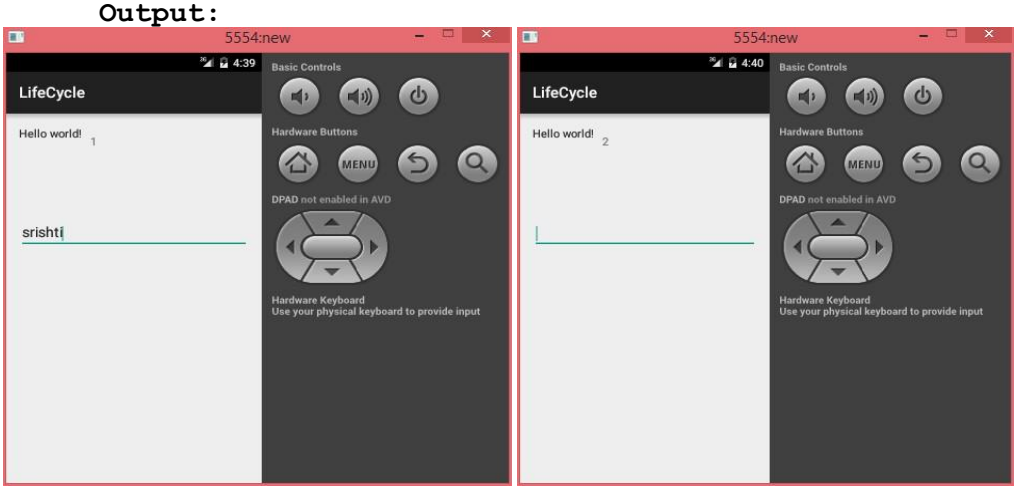
```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">

<TextView android:text="@string/hello_world"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/tv1" />

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceSmall"
android:text="Small Text"
android:id="@+id/tv2"
android:layout_margin="10dp"
android:layout_toRightOf="@+id/tv1"/>

<EditText
android:layout_width="300dp"
android:layout_height="40dp"
android:id="@+id/et1"
android:layout_below="@+id/tv2"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true"
android:layout_marginTop="84dp" />

</RelativeLayout>
```

MainActivity.Java

```
package com.example.consulting.lifecycle;

import android.app.Activity;
import android.os.Bundle;
import  android.util.Log;
import android.widget.TextView;


public class MainActivity extends Activity {

public int cnt=0;
    TextView tv;

@Override
protected void onCreate(Bundle savedInstanceState) {
//This is the first callback and called when the activity is first created.
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.v("oncreate()", "called oncreate");
tv = (TextView) findViewById(R.id.tv1);
    }

protected void onstart()
    {
// This callback is called when the activity becomes visible to the user.
super.onStart();
        Log.i("onstart()","onstart() called");

    }

protected void onresume()
    {
//This is called when the user starts interacting with the application.
super.onResume();
        Log.i("onresume()", "onresume() called");
cnt++;
tv.setText(String.valueOf(cnt));

    }

protected void onpause()
{
/*The paused activity does not receive user input and cannot execute any code and called
when the current activity is being paused and the previous activity is being resumed*/
super.onPause();
       Log.i("onpause()", "onpause() called");

   }

protected void onstop(){
```

```
//This callback is called when the activity is no longer visible.
super.onStop();
        Log.i("onstop()", "onstop called");
    }

protected void ondestroy()
    {
     //This callback is called before the activity is destroyed by the system.
     super.onDestroy();
            Log.i("ondestroy()", "ondestroy() called");
        }

     protected void onrestart()
        {
     //This callback is called when the activity restarts after stopping it.
     super.onRestart();
            Log.i("onrestart()","onrestart() called");
        }

     protected void saveInstanceState(Bundle outstate)
        {
     super.onSaveInstanceState(outstate);
            outstate.putInt("int", cnt);
            Log.i("saveinstancestate()", "onSaveInstanceState()
     called");
            Log.i("cnt","saved"+cnt);
        }

     protected void restoreInstanceState(Bundle restoreinstance)
        {
     super.onRestoreInstanceState(restoreinstance);
     cnt= restoreinstance.getInt("cnt");
            Log.d("restoreinstancestate()","onRestoreInstanceState()
     called");
            Log.d("cnt","restore"+cnt); }
        }
```

Output:



Method order sequence:

On creation of activity

1. onCreate()
2. onStart()
3. onResume()

On pressing home button:

1. Onpause()
2. onSaveInstanceState()
3. onStop()

On pressing back button:

1. onPause()
2. onStop()
3. onDestroy()

On Orientation change:

1. onPause()
2. onStop()
3. onDestroy()
4. onCreate()
5. onStart()
6. onResume()

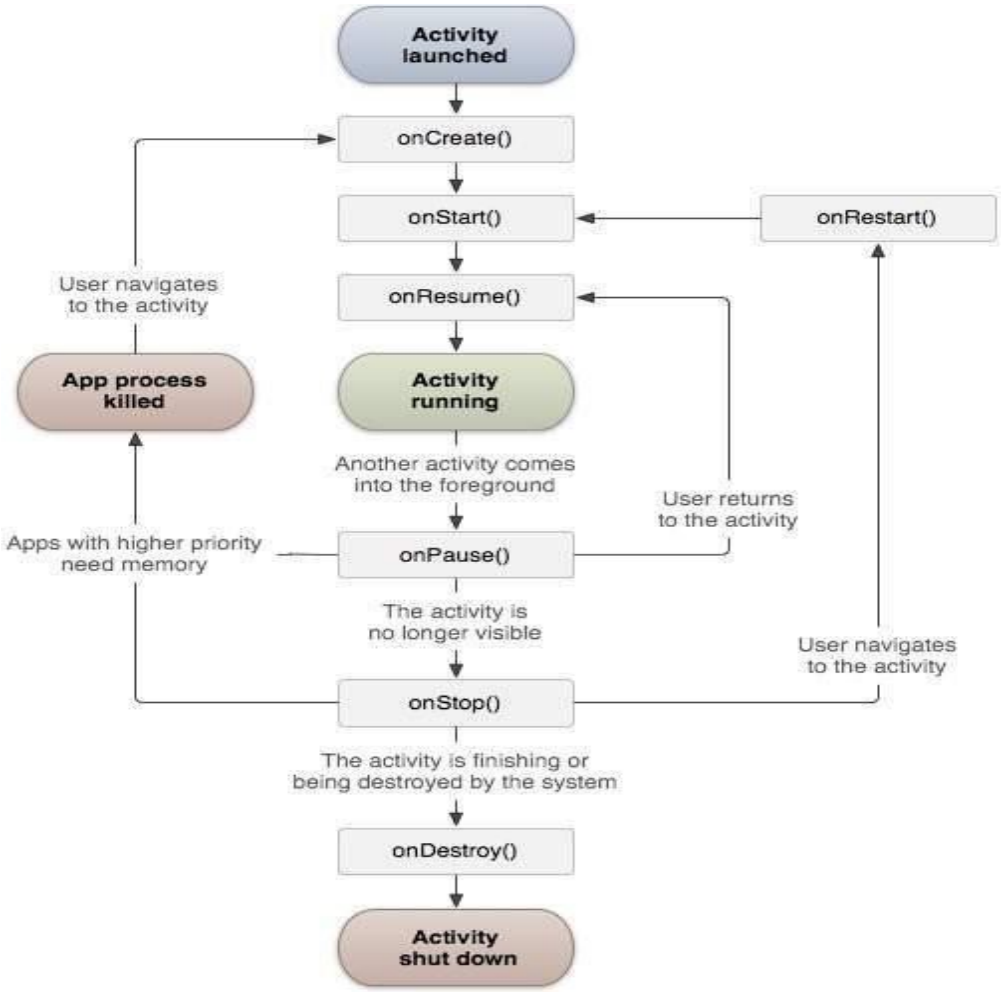
Need for onSaveInstanceState() and onRestoreInstanceState():

onSaveInstanceState and onRestoreInstanceState are used for data preservation whenever the orientation of an activity is changed or an activity is backgrounded.

They are not mandatory in cases where all the UI controls holding the data to be preserved are given “id”.

But when id not given, these methods are necessary for saving data and restoring data when the activity is destroyed and recreated respectively.

ANDROID LIFE CYCLE:


Activity launched
onCreate()
onStart()
onRestart()
onResume()
User navigates to the activity
App process killed
Activity running
Another activity comes into the foreground
User returns to the activity
Apps with higher priority need memory
onPause()
The activity is no longer visible
User navigates to the activity
onStop()
The activity is finishing or being destroyed by the system
onDestroy()
Activity shut down

Practical:3

AIM: Different ways of handling button click event.

There are 3 different methods used to handle button click event.

1. **Specifying the function in xml file:**

XML FILE:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
  android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
  tools:context=".MainActivity">

  <Button
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:id="@+id/btn1"
  android:text="display"
  android:onClick="click"/>

</RelativeLayout>
```

MainActivity.Java:

```
package com.example.consulting.button;

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


public class MainActivity extends Activity {

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

public void click(View v)
```

```
        {

    Toast.makeText(MainActivity.this,"hello. .. !!!!!",Toast.LENGTH_LO
    NG).show();
        }
    }
```

2. MainActivity implements listener class

MainActivity.Java:

```
package com.example.consulting.button;

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


public class MainActivity extends Activity implements
View.OnClickListener{

    Button btn;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
btn=(Button)findViewById(R.id.btn1);
btn.setOnClickListener(this);

    }

@Override
public void onClick(View v) {

        Toast.makeText(MainActivity.this, "hello. .. !!!!!",
Toast.LENGTH_LONG).show();

    }
    }
```

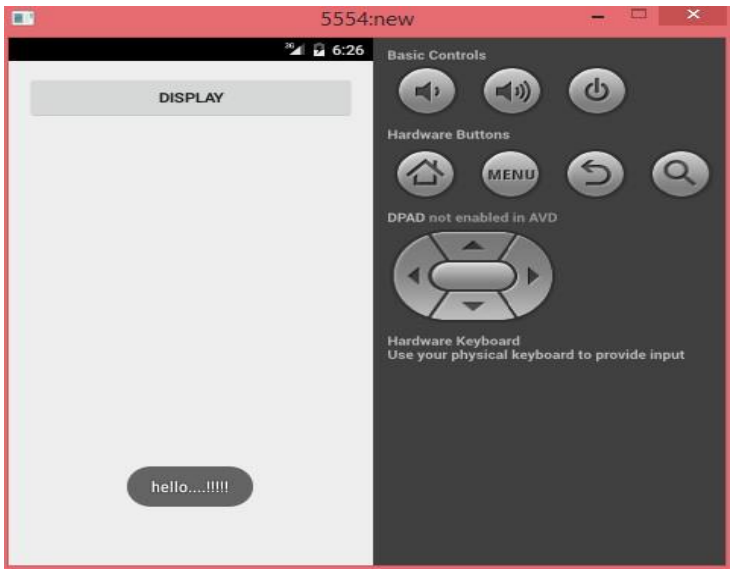
3. Anonymous Inner Class

MAINACTIVITY.JAVA

```
package com.example.consulting.button;
import android.app.Activity;
import android.os.Bundle;
```

```
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
public class MainActivity extends Activity{
    Button btn;

protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
btn=(Button)findViewById(R.id.btn1);
btn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {

         Toast.makeText(MainActivity.this,"hello. .. !!!!!",

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

OUTPUT:



Practical: 4

AIM: Arithmetic Operations

Activity_main.xml

```
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity"
android:orientation="vertical">


<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et1"
android:hint="Enter A :"
android:gravity="center"
android:layout_margin="5dp"
android:inputType="number" />

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et2"
android:layout_below="@+id/et1"
android:hint="Enter B :"
android:gravity="center"
android:layout_margin="5dp"
android:inputType="number" />

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Sum"
android:id="@+id/btn1"
android:layout_below="@+id/et2"
android:layout_centerHorizontal="true"
android:layout_marginTop="10dp" />

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btn2"
```

```
android:layout_below="@+id/btn1"
android:layout_centerHorizontal="true"
android:layout_marginTop="10dp"
android:text="difference"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btn3"
android:layout_below="@+id/btn2"
android:layout_centerHorizontal="true"
android:layout_marginTop="10dp"
android:text="product"/>
<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btn4"
android:layout_below="@+id/btn3"
android:layout_marginTop="10dp"
android:layout_centerHorizontal="true"
android:text="division"/>

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/tv1"
android:layout_below="@+id/btn4"
android:layout_marginTop="10dp"
android:layout_centerHorizontal="true"
android:visibility="gone" />
</LinearLayout>
```

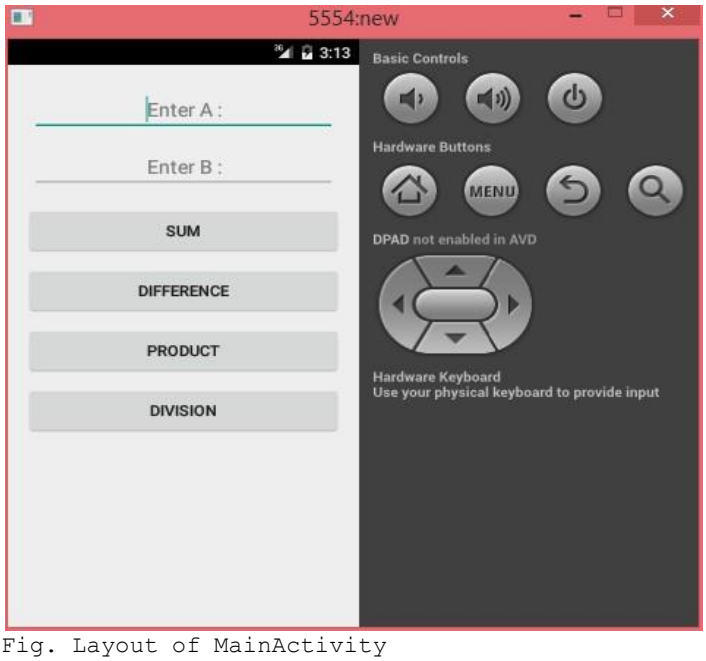


Fig. Layout of MainActivity

MainActivity.java

```
package com.example.administrator.testapp;

import android.app.Activity;
import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.support.v7.app.AlertDialog;
import android.text.TextUtils;
import android.view.Gravity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;


public class MainActivity extends Activity {

public static final String VAL = "val";

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

        Button btnSum,btndiff,btnpro,btndiv;
final EditText editA, editB;
final TextView txt;

        btnSum = (Button) findViewById(R.id.btn1);
        editA = (EditText) findViewById(R.id.et1);
        editB = (EditText) findViewById(R.id.et2);
        btndiff=(Button) findViewById(R.id.btn2);
        btnpro=(Button)findViewById(R.id.btn3);
        btndiv=(Button)findViewById(R.id.btn4);
        txt = (TextView) findViewById(R.id.tv1);

        btnSum.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (TextUtils.isEmpty(editA.getText().toString().trim()) ||
TextUtils.isEmpty(editB.getText().toString().trim()))
                {
editA.setError("Should not empty");
return;
                }

int a = Integer.parseInt(editA.getText().toString());
int b = Integer.parseInt(editB.getText().toString());
```

```
final int sum = a + b;
txt.setText(String.valueOf(sum));
txt.setVisibility(View.VISIBLE);

                Toast t = Toast.makeText(MainActivity.this,
String.valueOf(sum), Toast.LENGTH_SHORT);
                t.setGravity(Gravity.CENTER,0,0);

new AlertDialog.Builder(MainActivity.this)
                        .setTitle("sum on the next page")
                        .setMessage("Are you sure you want the sum on
the next page?")
                        .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener()
                        {
public void onClick(DialogInterface dialog, int which) {
                                Intent mIntent=new
Intent(MainActivity.this,NextActivity.class);
                                Bundle mBundle=new Bundle();
                                mBundle.putInt(VAL,sum);
                                mIntent.putExtras(mBundle);
                                startActivity(mIntent);
                            }
                        })

                        .setNegativeButton(android.R.string.no, new
DialogInterface.OnClickListener()
                        {
public void onClick(DialogInterface dialog, int which) {
// do nothing
}
                        })
                        .setIcon(android.R.drawable.ic_dialog_alert)
                        .show();


            }
        });

        btndiff.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(TextUtils.isEmpty(editA.getText().toString().trim())||TextUtils.isE
mpty(editB.getText().toString().trim()))
                {

editA.setError("shouldn't be empty");

                }

int a=Integer.parseInt(editA.getText().toString());
int b=Integer.parseInt(editB.getText().toString());
```

```
final int diff= a - b;
txt.setText(String.valueOf(diff));
txt.setVisibility(View.VISIBLE);

                Toast t= Toast.makeText(MainActivity.this,
String.valueOf(diff), Toast.LENGTH_LONG);
                t.setGravity(Gravity.CENTER, 0, 0);

new AlertDialog.Builder(MainActivity.this)
                        .setTitle("send diff value on next page")
                        .setMessage("Are you sure you want to send the
diff value on next page?")
                        .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {

                                Intent i = new
Intent(MainActivity.this,NextActivity.class);
                                Bundle b = new Bundle();
                                b.putInt(VAL,diff);
                                i.putExtras(b);
                                startActivity(i);

                            }
                        })

                        .setNegativeButton(android.R.string.no, new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {

//nothing
}
                        })
                        .setIcon(android.R.drawable.ic_dialog_alert)
                        .show();
            }
        });


        btnpro.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(TextUtils.isEmpty(editA.getText().toString().trim()) ||
TextUtils.isEmpty(editB.getText().toString().trim()))
                {
editA.setError("shouldn't be left empty");
                }
int a=Integer.parseInt(editA.getText().toString());
int b=Integer.parseInt(editB.getText().toString());
final int pro= a* b;
```

```
txt.setText(String.valueOf(pro));
```

```
txt.setVisibility(View.VISIBLE);

                Toast t=
Toast.makeText(MainActivity.this,String.valueOf(pro),Toast.LENGTH_LONG
);
                t.setGravity(Gravity.CENTER,0,0);

new AlertDialog.Builder(MainActivity.this)
                        .setTitle("send pro value to the next page")
                        .setMessage("are you sure you want to send
value to next page?")
                        .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {
                                Intent i = new
Intent(MainActivity.this,NextActivity.class);
                                Bundle b = new Bundle();
                                b.putInt(VAL,pro);
                                i.putExtras(b);
                                startActivity(i);

                            }
                        })
                        .setNegativeButton(android.R.string.no, new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {
//nothing
}
                        })
                        .setIcon(android.R.drawable.ic_dialog_alert)
                        .show();

            }
        });


        btndiv.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(TextUtils.isEmpty(editA.getText().toString().trim()) ||
TextUtils.isEmpty(editB.getText().toString().trim()))
                {
editA.setError("shouldn't be empty");

                }
int a=Integer.parseInt(editA.getText().toString());
int b=Integer.parseInt(editB.getText().toString());
final int div=a / b;
txt.setText(String.valueOf(div));
txt.setVisibility(View.VISIBLE);
```

```
                Toast t =
Toast.makeText(MainActivity.this,String.valueOf(div),Toast.LENGTH_LONG
);
                t.setGravity(Gravity.CENTER,0,0);

new AlertDialog.Builder(MainActivity.this)
                        .setTitle("send value on next page")
                        .setMessage("are you sure you want to send the
value to next page?")
                        .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {

                                Intent i = new
Intent(MainActivity.this,NextActivity.class);
                                Bundle b=new Bundle();
                                b.putInt(VAL,div);
                                i.putExtras(b);
                                startActivity  }

                        })
                        .setNegativeButton(android.R.string.no, new
DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {
//nothing
}
                        })

                        .setIcon(android.R.drawable.ic_dialog_alert)
                    .show();
            }
  });
    }}
```

NextActivity.java

```
package com.example.administrator.testapp;

import android.app.Activity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.Toast;


public class NextActivity extends Activity {

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

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

        Intent mIntent= getIntent();
        Bundle mBundle= mIntent.getExtras();
int mSum= mBundle.getInt(MainActivity.VAL);

Toast.makeText(NextActivity.this,String.valueOf(mSum),Toast.LENGTH_LONG).show();
    }
}
```

OUTPUT:

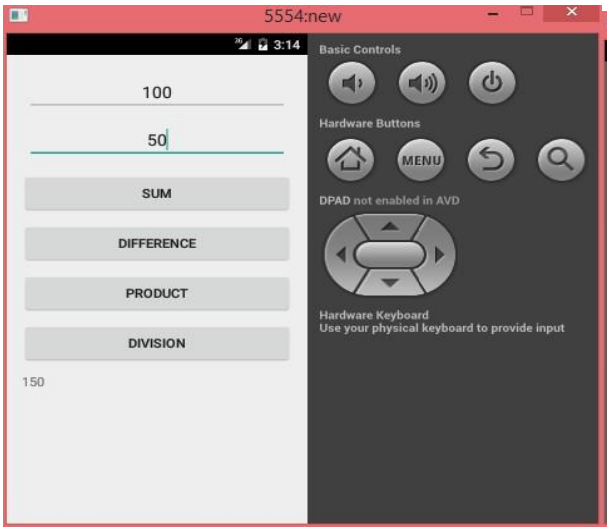


Fig. 2 SUM in MainActivity

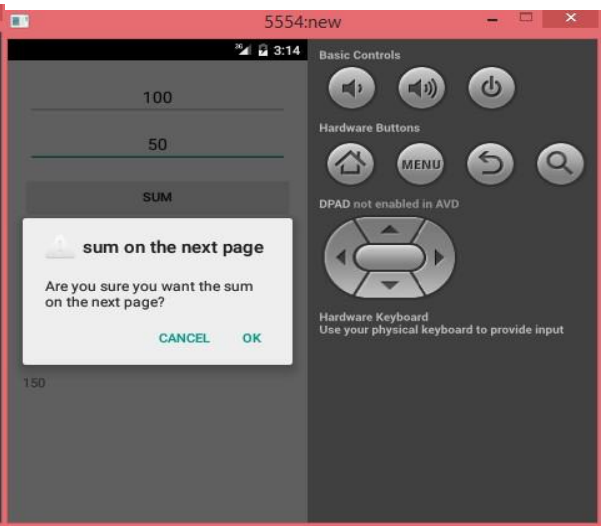


Fig. 3 AlertDialog Box

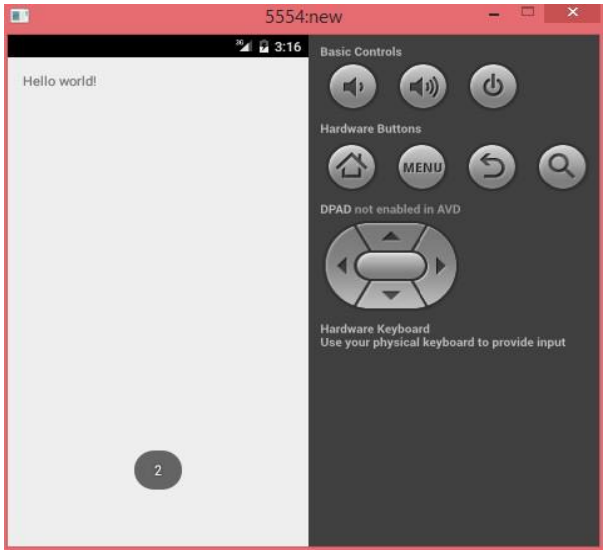


Fig. 4 Division in toast on NextActivity

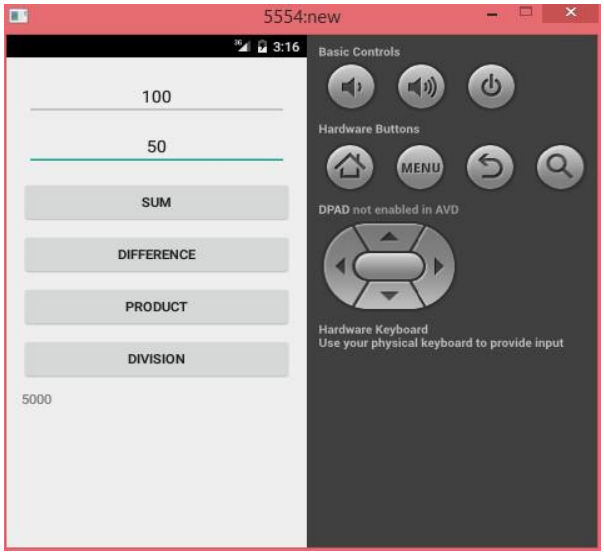


Fig. 5 Product in MainActivity

PRACTICAL: 5

AIM: Custom Toast & Dialog Box

XML FILE:

Activity_main.xml:

```
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Custom Toast"
android:id="@+id/btn1"/>

</LinearLayout>
```

Layout.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:id="@+id/clayout">

<ImageView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/img1"
android:src="@drawable/img1"/>

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/tv1"
android:text="This is Custom Toast"/>

</LinearLayout>
```

MainActivity.Java:

```
package com.example.administrator.customtoast;

import android.app.Activity;
import android.content.Context;
import android.support.v7.app.ActionBarActivity;
import android.os.Bundle;
import android.view.Gravity;
import android.view.LayoutInflater;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;


public class MainActivity extends Activity {

    Button b1;

new AlertDialog.Builder(MainActivity.this)
                        .setTitle("Custom Toast")
                        .setMessage("are you sure you want to
show the contents of custom toast?")
                        .setPositiveButton(android.R.string.yes,
new DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {

                                Toast t = new
Toast(MainActivity.this);
                                t.setGravity(Gravity.CENTER, 0,
0);
                                t.setDuration(Toast.LENGTH_LONG);
                                LayoutInflater in =
getLayoutInflater();
                                View mview =
in.inflate(R.layout.mylayout, (ViewGroup)
findViewById(R.id.clayout));
                                t.setView(mview);
                                t.show();

                            }

                        })
                        .setNegativeButton(android.R.string.no,
new DialogInterface.OnClickListener() {
@Override
public void onClick(DialogInterface dialog, int which) {}})
```

```
.setIcon(android.R.drawable.ic_dialog_alert)
 .show();
            }});}}
```

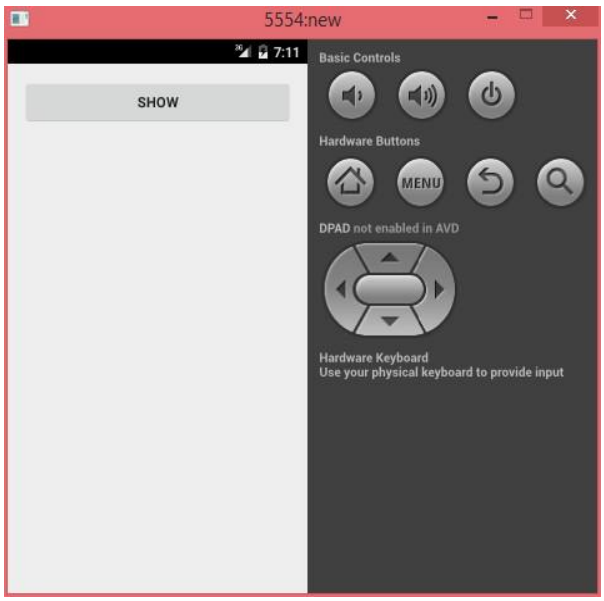


Fig. 1 Layout of MainActivity

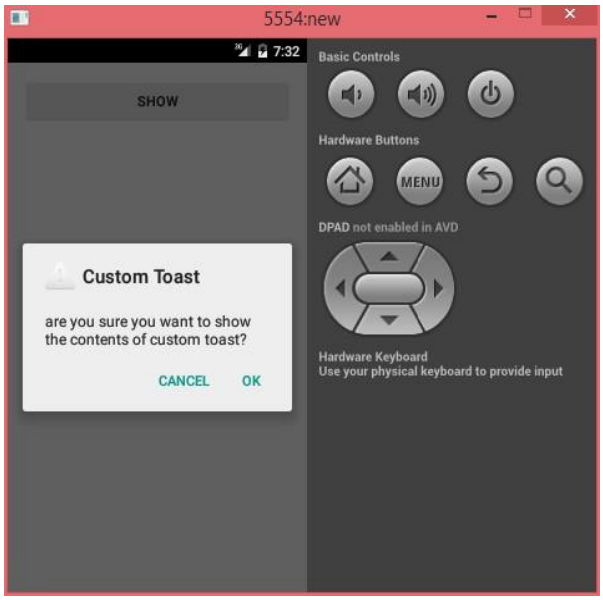


Fig.2 Dialog Box

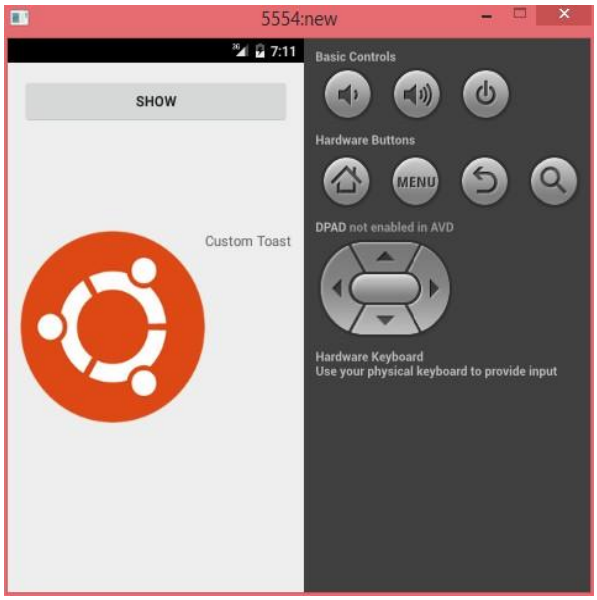


Fig. 3 Custom

Practical: 6

AIM: Explicit Intent - *Messages wiring components together.The source and destination are known as well as the task and action to be performed are known.*

XML FILE:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">


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

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et2"
android:layout_below="@+id/et1"
android:hint="semester"/>
<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et3"
android:hint="division"
android:layout_below="@+id/et2"/>
<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et4"
android:hint="branch"
android:layout_below="@+id/et3"/>
<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btn1"
android:layout_below="@+id/et4"
android:text="send content"/>
</RelativeLayout>
```

Activity_next.xml

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context="com.example.consulting.registration.NextActivity">

<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/tv5"/>
<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/tv6"
android:layout_below="@+id/tv5"/>
<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/tv7"
android:layout_below="@+id/tv6"/>
<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/tv8"
android:layout_below="@+id/tv7"
/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.consulting.registration;

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


public class MainActivity extends Activity {

public static final String A="name";
```

```
public static final String B ="sem";
public static final String C="division";
public static final String D="branch";

    EditText eta,etb,etc,etd;

    Button btn;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
eta=(EditText)findViewById(R.id.et1);
etb=(EditText)findViewById(R.id.et2);
etc=(EditText)findViewById(R.id.et3);
etd=(EditText)findViewById(R.id.et4);
btn=(Button)findViewById(R.id.btn1);



btn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                String name=eta.getText().toString();
                String sem=etb.getText().toString();
                String division=etc.getText().toString();
                String branch=etd.getText().toString();

                Intent i=new
Intent(MainActivity.this,NextActivity.class);
                Bundle b =new Bundle();
                b.putString(A,name);
                b.putString(B,sem);
                b.putString(C, division);
                b.putString(D, branch);
                i.putExtras(b);
              startActivity(i);
            }
        });
    }
}
```

NextActivity.java

```
package com.example.consulting.registration;

import android.app.Activity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
```

```
public class NextActivity extends Activity {

    TextView tve,tvf,tvg,tvh;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_next);
tve=(TextView)findViewById(R.id.tv5);
tvf=(TextView)findViewById(R.id.tv6);
tvg=(TextView)findViewById(R.id.tv7);
tvh=(TextView)findViewById(R.id.tv8);

        Intent m= getIntent();
        Bundle mb=m.getExtras();
        String name1=mb.getString(MainActivity.A);
        String sem1 = mb.getString(MainActivity.B);
        String division1=mb.getString(MainActivity.C);
        String branch1 = mb.getString(MainActivity.D);

tve.setText("Name:"+name1);
tvf.setText("Sem:"+sem1);
tvg.setText("Division:"+division1);
tvh.setText("Branch:"+branch1);

    }
}
```

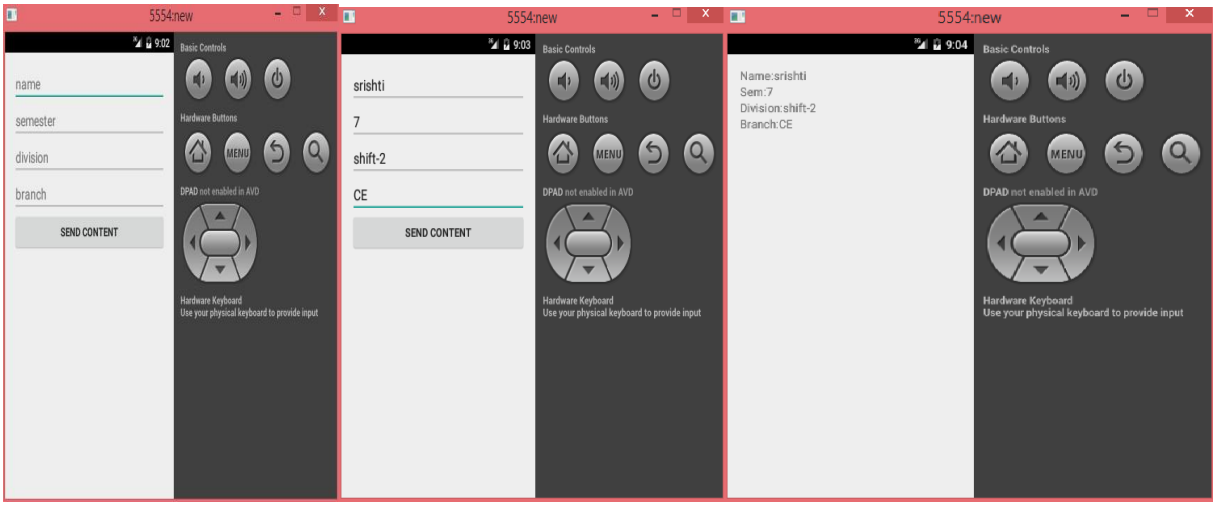


Fig. 1 Layout of MainActivityFig. 2 data entered in MainActivity Fig. 3 data displayed on Next Activity

Practical: 7

AIM: Implicit Intent - *Messages wiring components together.The source and destination for the content transfer are not known. Only the task and the action to be performed are known.*

XML FILE:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="send email"
android:id="@+id/btn1"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="map"
android:id="@+id/btn2"
android:layout_below="@+id/btn1"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="send image"
android:id="@+id/btn3"
android:layout_below="@+id/btn2"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="send from external storage"
android:id="@+id/btn4"
android:layout_below="@+id/btn3"/>

</RelativeLayout>
```

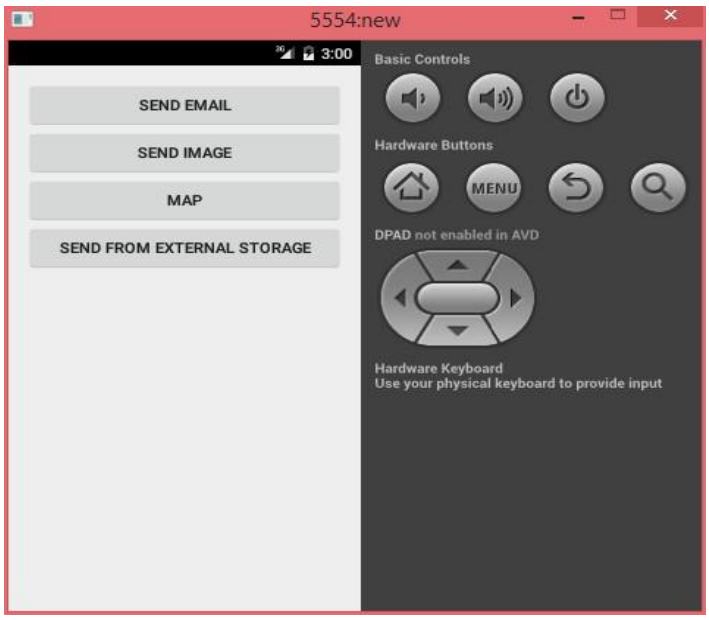


FIG. 1 Layout of MainActivity

MANIFEST FILE:

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

</uses-permission>

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

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

</manifest>
```

MainActivity.Java

```
package com.example.consulting.intent;

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

import java.io.File;


public class MainActivity extends Activity {

    Button btna, btnb, btnc, btnd;

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
btna = (Button) findViewById(R.id.btn1);
btnb = (Button) findViewById(R.id.btn2);
btnc = (Button) findViewById(R.id.btn3);
btnd = (Button) findViewById(R.id.btn4);


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

                Intent i=null, chooser=null;

                i= new Intent(Intent.ACTION_SEND);
                i.setData(Uri.parse("mail to"));
                i.putExtra(Intent.EXTRA_EMAIL,
"srishtis1258@gmail.com");
                i.putExtra(Intent.EXTRA_SUBJECT, "hello");
                i.putExtra(Intent.EXTRA_TEXT,"greetings");
                i.setType("message/rfc822");
                chooser= Intent.createChooser(i,"Send Mail:");
                startActivity(chooser);

            }
        });

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

```
                Intent i= null, chooser= null;

                i=new Intent(Intent.ACTION_VIEW);
                i.setData(Uri.parse("geo:19.076,72.8777"));
                chooser= Intent.createChooser(i,"launch maps");
                startActivity(chooser);
            }
        });


btnc.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                Intent  i=null,chooser=null;
                i=new Intent(Intent.ACTION_SEND);
                Uri ImageUrl =
Uri.parse("F:\\Intent\\app\\src\\main\\res\\drawable\\calculator4.png"
);
                i.setType("image/*");
                i.putExtra(Intent.EXTRA_STREAM, ImageUrl);
                i.putExtra(Intent.EXTRA_TEXT, "image sending");
                chooser = Intent.createChooser(i,"Send Image");
                startActivity(chooser);


            }
        });

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

                String external =
Environment.getExternalStorageDirectory().getAbsolutePath();
                String mtarget= external+"/Pictures";
                File mfiles = new File(mtarget);
                File[] mfile= mfiles.listFiles();
for(File m: mfile) {
                    Log.e("name", m.getName());
                    Log.v("path", m.getAbsolutePath());

                }
                Intent i =null,chooser=null;
                i = new Intent(Intent.ACTION_SEND);
                Uri ImageUrl =
Uri.parse("android:resource://consulting.Intent/drawable/" +
R.drawable.calculator4);
                i.setType("image/*");
                i.putExtra(Intent.EXTRA_STREAM, ImageUrl);
                i.putExtra(Intent.EXTRA_TEXT,"sending");
                chooser = Intent.createChooser(i,"send image");
                startActivity(chooser);
```

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

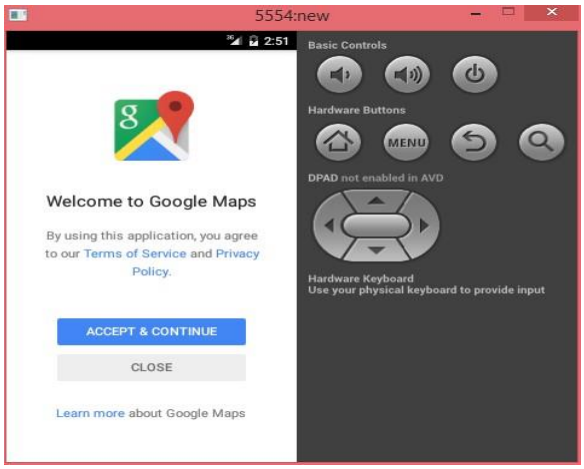


Fig. 2 on clicking on map button

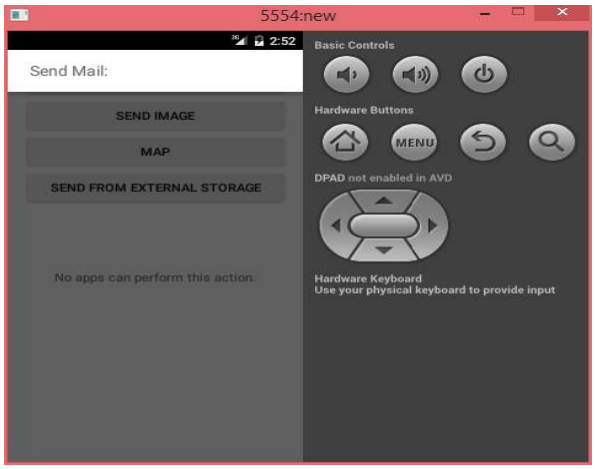


Fig. 3 on clicking the send email button

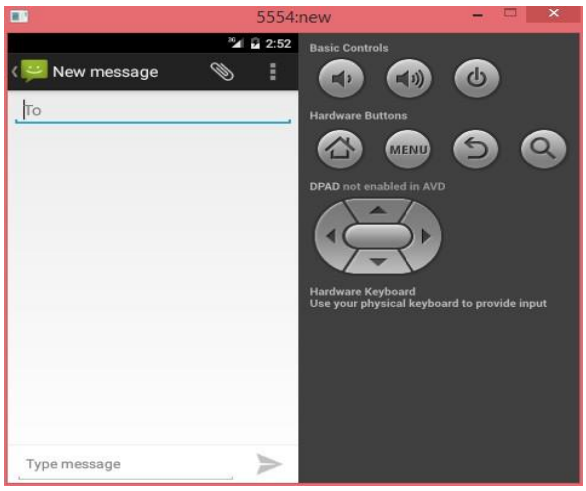


Fig. 4 on clicking the send image button

Practical: 8

AIM: UI Controls

CONTROLS USED:

- ***Android AutoCompleteTextView*** *completes the word based on the reserved words, so no need to write all the characters of the word. Android AutoCompleteTextView is a editable text field, it displays a list of suggestions in a drop down menu from which user can select only one suggestion or value.*
- ***Android spinner*** *is like the drop down menu with multiple values from which the end user can select only one value.*
- ***Android progress bar*** *dialog box is used to display the status of work being done e.g. downloading file, analyzing status of work etc*
- ***Image Button****.*
- ***Toggle Button***
- ***Button***
- ***CheckBox***
- ***RadioGroup***
- ***RaadioButton***

XML FILE:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">

<CheckBox
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="dancing"
android:id="@+id/chk1"
android:checked="true"/>

<CheckBox
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="singing"
android:layout_below="@+id/chk1"
android:id="@+id/chk2"/>
```

```
<ToggleButton
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="on"
android:id="@+id/btnt1"
android:layout_below="@+id/chk2"/>

<RadioGroup
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rbg1"
android:layout_below="@+id/btnt1">

<RadioButton
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rb1"
android:text="CE" />

<RadioButton
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rb2"
android:text="IT" />

</RadioGroup>

<RadioGroup
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rbg2"
android:layout_below="@+id/rbg1">

<RadioButton
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rb3"
android:text="Shift 1" />

<RadioButton
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Shift 2"
android:id="@+id/rb4" />

</RadioGroup>

<Spinner
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/sp1"
android:prompt="@string/Spinner"
```

```
        android:layout_below="@+id/rbg2">
        </Spinner>

        <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn5"
        android:layout_below="@+id/sp1"
        android:text="upload file"/>

        <AutoCompleteTextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/actv1"
        android:ems="10"
        android:layout_centerHorizontal="true"
        android:layout_below="@+id/btn5"/>

        <ImageButton
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/a2"
        android:id="@+id/btn1"
        android:layout_below="@+id/actv1"
        android:layout_centerHorizontal="true"/>

        </RelativeLayout>
```

MAINACTIVITY.JAVA:

```
package com.example.consulting.uicontrols;

import android.app.ProgressDialog;
import android.content.Intent;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.ImageButton;
import android.widget.ImageView;
import android.widget.RadioButton;
import android.widget.Spinner;
import android.widget.Toast;
import android.widget.ToggleButton;

import android.os.Handler;
```

```
public class NextActivity extends AppCompatActivity {

    ImageButton btn;
    AutoCompleteTextView actv;
    ToggleButton t1;
    CheckBox ch1,ch2;
    RadioButton r1,r2,r3,r4;
    ImageView im;
    Spinner sp;
    Button bt;
private long filesize=0;
private int progressBarstatus =0;
private Handler mhandler = new Handler();
    ProgressDialog progressBar;



protected void onCreate(Bundle savedInstanceState)
    {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
btn=(ImageButton)findViewById(R.id.btn1);
ch1=(CheckBox)findViewById(R.id.chk1);
ch2=(CheckBox)findViewById(R.id.chk2);
t1=(ToggleButton)findViewById(R.id.btnt1);
r1=(RadioButton)findViewById(R.id.rb1);
r2=(RadioButton)findViewById(R.id.rb2);
r3=(RadioButton)findViewById(R.id.rb3);
r4=(RadioButton)findViewById(R.id.rb4);
bt=(Button)findViewById(R.id.btn5);

bt.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
setContentView(R.layout.activity_progress_bar);

mPbarActivity = (Button) findViewById(R.id.pBarButton);

mPbarActivity.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
// create and display a new ProgressBarDialog
progressBar = new ProgressDialog(v.getContext());
progressBar.setCancelable(true);
progressBar.setMessage("File downloading ...");
progressBar.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
progressBar.setProgress(0);
progressBar.setMax(100);
progressBar.show();
```

```
progressBarStatus = 0;

fileSize = 0;


new Thread(new Runnable() {

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

// process some tasks
progressBarStatus = downloadFile();

// sleep 1 second (simulating a time consuming task...)
try {
                        Thread.sleep(1000);
                    } catch (InterruptedException e) {
                        e.printStackTrace();
                    }

// Update the progress bar
progressBarHandler.post(new Runnable() {
public void run() {
progressBar.setProgress(progressBarStatus);
                        }
                    });
                }

// if the file is downloaded,
if (progressBarStatus >= 100) {

// sleep 2 seconds, so that you can see the 100%
try {
                        Thread.sleep(2000);
                    } catch (InterruptedException e) {
                        e.printStackTrace();
                    }

// and then close the progressbar dialog
progressBar.dismiss();
                    Intent i = new Intent(ProgressBarActivity.this,
MainActivity.class);
                    startActivity(i);
                }
            }
        }).start();
    }
});


ch1.setOnClickListener(new View.OnClickListener() {
```

```
@Override
public void onClick(View v) {
if (r1.isChecked() == true) {
                    Toast.makeText(NextActivity.this, "hobby:dancing",
Toast.LENGTH_LONG).show();
                } else {//nothing

}
            }
        });

ch2.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (r2.isChecked() == true) {
                    Toast.makeText(NextActivity.this, "hobby:singing",
Toast.LENGTH_LONG).show();
                } else {
//nothing
}
            }
        });

t1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(t1.isChecked()==true)
                {
                    Toast.makeText(NextActivity.this,"toggle
button:on",Toast.LENGTH_LONG).show();
                }
else
{
                    Toast.makeText(NextActivity.this,"toggle
button:off",Toast.LENGTH_LONG).show();
                }
            }
        });

r1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if(r1.isChecked()==true)
                {

Toast.makeText(NextActivity.this,"Branch:CE",Toast.LENGTH_LONG).show()
;

                }
else
{
//nothing
```

```
}
            }
        });

actv=(AutoCompleteTextView)findViewById(R.id.actv1);
        String[]
arr={"Amsterdam","Amaska","Amrangabad","Amedabad","America"};

        ArrayAdapter<String> adapter=new
ArrayAdapter<>(this,android.R.layout.select_dialog_item, arr);
actv.setThreshold(2);
actv.setAdapter(adapter);

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

                Intent i = new Intent(Intent.ACTION_MAIN);
                i.addCategory(Intent.CATEGORY_HOME);
                i.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
                startActivity(i);

            }
        });

sp=(Spinner)findViewById(R.id.sp1);
        String[] ar={"abc","bcd","cde","def","efg"};

        ArrayAdapter<String> adap=new
ArrayAdapter<>(this,android.R.layout.simple_spinner_item,ar);


adap.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_
item);

sp.setAdapter(adap);

sp.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener()
{
@Override
public void onItemSelected(AdapterView<?> parent, View view, int
position, long id) {

                String item =
parent.getItemAtPosition(position).toString();

Toast.makeText(parent.getContext(),"selected"+item,Toast.LENGTH_LONG).
show();

            }

@Override
```

```
public void onNothingSelected(AdapterView<?> parent) {

//nothing

}
        });
    }

public int downloadfile()
    {
while (filesize <= 1000000) {

filesize++;

if (filesize == 100000) {
return 10;

            } else if (filesize == 200000) {
return 20;

            } else if (filesize == 300000) {
return 30;

            } else if (filesize == 400000) {
return 40;

            } else if (filesize == 500000) {

return 50;
            } else if (filesize == 700000) {

return 70;
            } else if (filesize == 800000) {

return 80;
            }
//...

}
return 100;
    }

}
```

OUTPUT:

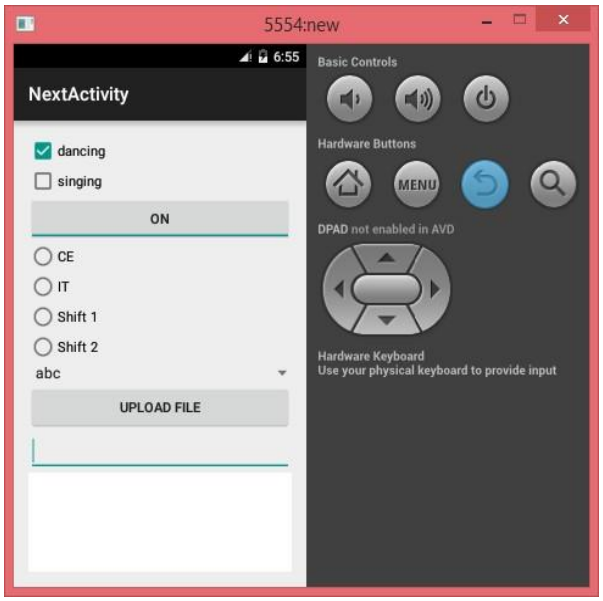


FIG. 1 Layout of MainActivity

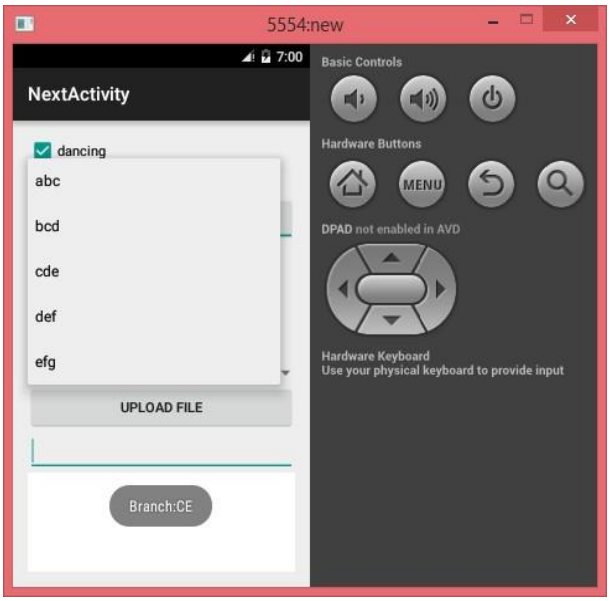


FIG.2 Spinner

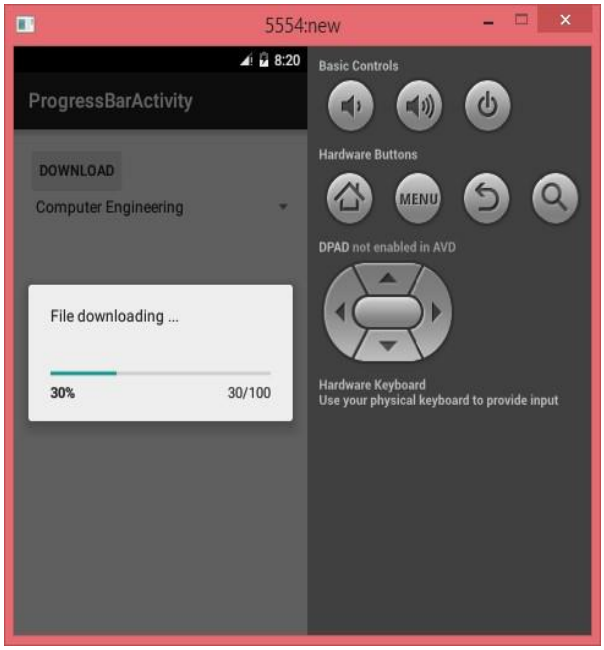


FIG.3 ProgreesBarActivity

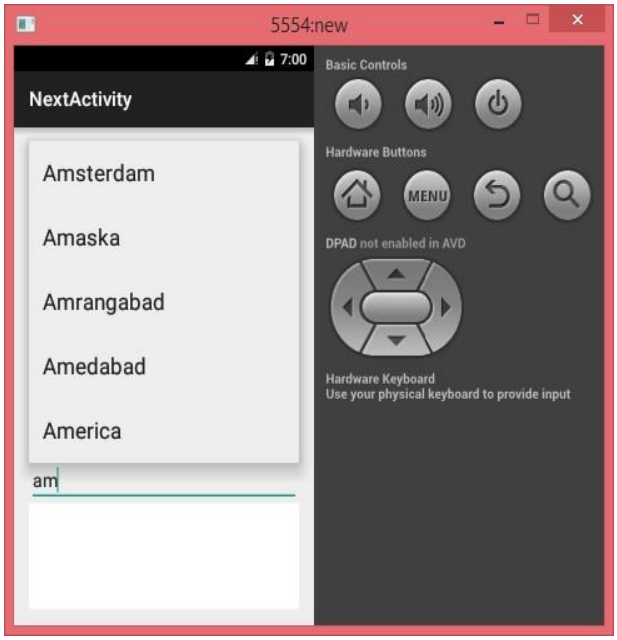


FIG. 4 AutocompleteTextView

Practical: 9

AIM: DATABASE

XML FILE:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">


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

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et2"
android:layout_below="@+id/et1"
android:hint="name"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="View Data"
android:id="@+id/button"
android:layout_below="@+id/et2"
android:layout_alignParentStart="true"
android:layout_marginTop="92dp" />

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@+id/button"
android:id="@+id/btn2"
android:text="Insert Data"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@+id/btn2"
```

```
android:id="@+id/btn3"
android:text="Delete Data"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@+id/btn3"
android:id="@+id/btn4"
android:text="Update Data"/>


<EditText
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/ed1"
android:layout_below="@+id/btn3"/>

</RelativeLayout>
```

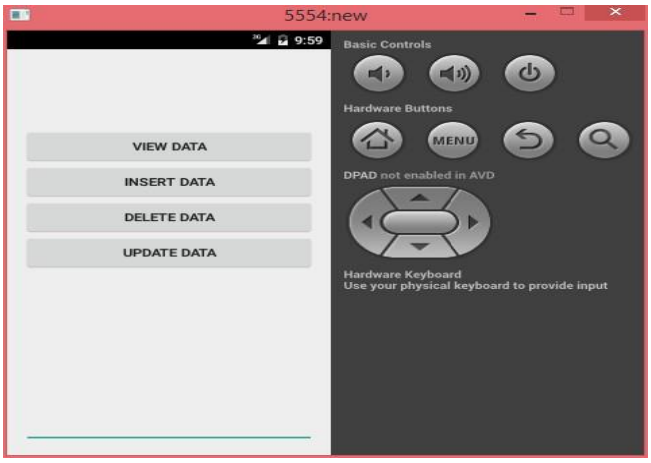


Figure1: Layout Activity

Step 1: Creation of Class Student(DataBase Name)

```
package com.example.student.mydb;


public class Employee {
private String Name;
private String ID;

public String getName() {
return Name;
    }

public void setName(String name) {
Name = name;
```

```
    }

public String getID() {
return ID;
    }

public void setID(String ID) {
this.ID = ID;
    }
}
```

Step 2: Creation of Helper Class:

```
package com.example.student.mydb;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.os.Message;

import com.example.student.mydb.Objects.Student;

import java.util.ArrayList;
import java.util.List;

/**
 * Created by student on 7/31/2015.
 */
public class BAPSDBHelper extends SQLiteOpenHelper {
public static final String DB_NAME = "BAPS";
public static final String TABLE_STUDENT = "STUDENT";
public static final String COLUMN_ID = "id";
public static final String COLUMN_NAME = "name";
public int flag = 0;

public BAPSDBHelper(Context context) {
super(context,  DB_NAME, null, 1);
    }

@Override
public void onCreate(SQLiteDatabase db) {
flag=1;
        db.execSQL("CREATE TABLE " + TABLE_STUDENT + " (" + COLUMN_ID
+ " integer primary key , " + COLUMN_NAME + " text)");
    }

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

```
flag=2;
        db.execSQL("DROP TABLE IF EXISTS "+ TABLE_STUDENT);
        onCreate(db);
    }


public boolean insertDATA(int id,String name){
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues mContentValues =new ContentValues();
        mContentValues.put(COLUMN_ID,id);
        mContentValues.put(COLUMN_NAME, name);
        db.insert(TABLE_STUDENT, null, mContentValues);
//db.execSQL();
return  true;
    }
public List<Student> getAllData(){
        SQLiteDatabase db=this.getReadableDatabase();
        Cursor mCursor= db.rawQuery("SELECT * FROM
"+TABLE_STUDENT,null);
        mCursor.moveToFirst();
        List<Student> mStudentList =new ArrayList<>();

while(mCursor.isAfterLast() == false){
            Student mStudent=new Student();

mStudent.setId(mCursor.getInt(mCursor.getColumnIndex(COLUMN_ID)));

mStudent.setName(mCursor.getString(mCursor.getColumnIndex(COLUMN_NAME)
));
            mStudentList.add(mStudent);
            mCursor.moveToNext();
        }
return mStudentList;
    }

public int updatedb(String oldName, String newName)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues mContentValues =new ContentValues();
        mContentValues.put(COLUMN_NAME, newName);
        String[] param = {oldName};
//Update Student set Name='LDRP' where Name='Jashvant Dave'
int cnt = db.update(TABLE_STUDENT,mContentValues,COLUMN_NAME+" =?
",param);
return cnt;
    }

public int deletedb(String name)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        String[] param = {name};
//Delete from Student where Name='Jashvant Dave'
int cnt = db.delete(TABLE_STUDENT, COLUMN_NAME + " =? ", param);
```

```
return cnt;
    }

public int login(String name)
     {
          SQLiteDatabase db=this.getReadableDatabase();
          String [] param = {name};
          String q = "SELECT * FROM " + TABLE_STUDENT + " where name=?";
          Cursor mCursor=  db.rawQuery(q, param);
          mCursor.moveToFirst();
if (mCursor != null) {
if(mCursor.getCount() >0)
               {
return mCursor.getInt(mCursor.getColumnIndex(COLUMN_ID));
               }
          }
return 0;
     }

}
```

Step 3. Creation of MainActivity.Java(SELECT,INSERT,UPDATE,DELETE):

```
package com.example.student.mydb;

import android.app.Activity;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.example.student.mydb.Objects.Student;

import java.util.List;


public class MainActivity extends Activity {

//private static final String TAG =
MainActivity.class.getSimpleName();
private static final String TAG = "BAPS";
public static int b = 0;
public static String a = null;


    EditText mEd1;
    EditText et;
    EditText ett;
```

```
    BAPSDBHelper mBapsdbHelper;

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


mBapsdbHelper =new BAPSDBHelper(this);
//Log.d("BAPS", String.valueOf(mBapsdbHelper.flag));

Button ins = (Button) findViewById(R.id.btn2);
        Button up = (Button) findViewById(R.id.btn4);
        Button del = (Button) findViewById(R.id.btn3);
mEd1 = (EditText) findViewById(R.id.ed1);
//Insert Data
ins.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                Log.d("BAPS","Insert Called");
try
{

mBapsdbHelper.insertDATA(1,"a");
mBapsdbHelper.insertDATA(2,"b");
mBapsdbHelper.insertDATA(3,"c");


                }
catch(Exception ex)
                {
                    Log.d("BAPS","Exception Called");

Toast.makeText(MainActivity.this,ex.getMessage(),Toast.LENGTH_LONG).sh
ow();
                }
            }
        });


//Update Data
up.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                Log.d("BAPS", "Update Called");
try
{
int cnt = mBapsdbHelper.updatedb("a", "LDRP");

Toast.makeText(MainActivity.this,String.valueOf(cnt) + " Data
```

```
Updated",Toast.LENGTH_LONG).show();
                    }
catch(Exception ex)
                    {

Toast.makeText(MainActivity.this,ex.getMessage(),Toast.LENGTH_LONG).sh
ow();
                    }
                }
            });


//Delete Data
del.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                    Log.d("BAPS","Delete Pressed");
try
{
                        String mData = mEd1.getText().toString();
int cnt = mBapsdbHelper.deletedb(mData);

Toast.makeText(MainActivity.this,String.valueOf(cnt) + " Data
Deleted",Toast.LENGTH_LONG).show();
                    }
catch(Exception ex)
                    {

Toast.makeText(MainActivity.this,ex.getMessage(),Toast.LENGTH_LONG).sh
ow();
                    }
                }
            });

//Log.d("BAPS", String.valueOf(mBapsdbHelper.flag));
//View Data
Button mButton= (Button) findViewById(R.id.button);
            mButton.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                    Log.d("BAPS", String.valueOf(mBapsdbHelper.flag));
                    List<Student> mStudentList =
mBapsdbHelper.getAllData();
for(Student mStudent :  mStudentList){
                        Log.e(TAG,"ID : "+mStudent.getId() + "    Name :
"+mStudent.getName());
                    }
                }
            });
    }
}
```

Login.Xml

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context="com.example.student.mydb.Login">

<EditText
android:layout_width="match_parent"
android:layout_height="100dp"
android:hint="User Name"
android:id="@+id/eLogin"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btnEdit"
android:text="Get Data"
android:layout_below="@+id/eLogin"/>

<TextView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/tv1"/>

</RelativeLayout>
```

Login.Java

```
package com.example.student.mydb;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class Loginextends AppCompatActivity {

    Button mBtn1;
    TextView mTextView1;
    EditText mEditText1;
```

```
    BAPSDBHelper mHelper;

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

mBtn1 = (Button) findViewById(R.id.btnEdit);
mTextView1 = (TextView) findViewById(R.id.tv1);
mEditText1 = (EditText) findViewById(R.id.eLogin);

mHelper = new BAPSDBHelper(this);

mBtn1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
int data  = mHelper.login(mEditText1.getText().toString());
mTextView1.setText(String.valueOf(data)); }});}}
```

OUTPUT:

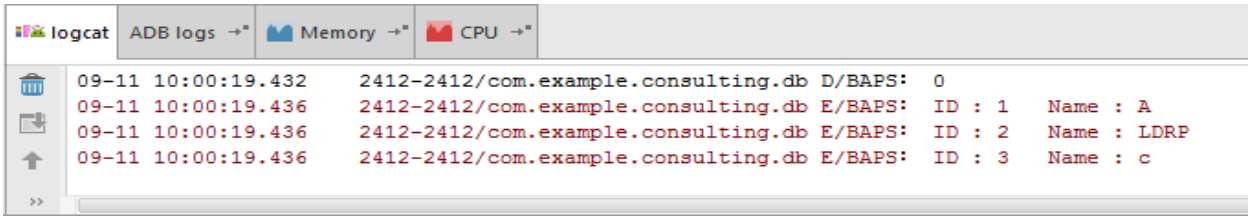


FIG. 2 View data

Practical: 10

Aim: Create an Android App to display student details in ListView (using Database helper class and Adapter class).

Activity_main.xml

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.example.database.MainActivity" >

<EditText
        android:id="@+id/pass"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/txt1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="22dp"
        android:ems="10"
android:hint="password"
        android:inputType="textPassword" >

<requestFocus />
</EditText>

<EditText
        android:id="@+id/enroll"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/pass"
        android:layout_below="@+id/pass"
        android:layout_marginTop="28dp"
        android:ems="10"
android:hint="enrollment no" />

<EditText
        android:id="@+id/txt1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/pass"
        android:layout_alignParentTop="true"
        android:ems="10"
android:hint="username" />
```

```
<EditText
        android:id="@+id/sem"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/enroll"
        android:layout_below="@+id/enroll"
        android:layout_marginTop="17dp"
        android:ems="10"
android:hint="sem" />

<Button
        android:id="@+id/btn4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_alignParentLeft="true"
        android:layout_marginBottom="29dp"
android:text="update" />

<EditText
        android:id="@+id/branch"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/sem"
        android:layout_below="@+id/sem"
        android:layout_marginTop="20dp"
        android:ems="10"
android:hint="branch" />

<Button
        android:id="@+id/btn2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/btn4"
        android:layout_alignBottom="@+id/btn4"
        android:layout_marginLeft="22dp"
        android:layout_toRightOf="@+id/btn1"
android:text="view" />

<Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/btn4"
        android:layout_centerHorizontal="true"
android:text="submit" />

</RelativeLayout>
```

Activity_listactivity.xml:-

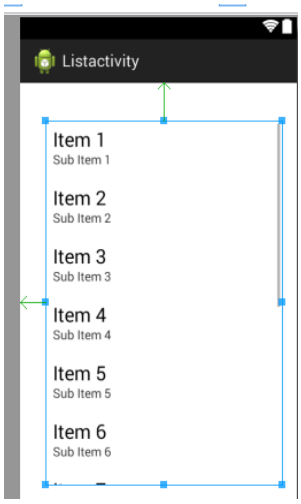
```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.example.database.Listactivity" >

<ListView
        android:id="@+id/view1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="14dp"
        android:layout_marginTop="26dp" >
</ListView>

</RelativeLayout>
```

List1.xml:-

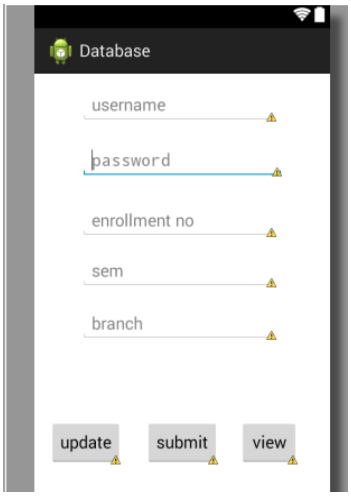
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent">

<Button
        android:id="@+id/update"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/txtview3"
        android:layout_alignBottom="@+id/txtview3"
        android:layout_alignParentRight="true"
android:text="Button" />

<TextView
        android:id="@+id/txtview2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/txtview1"
        android:layout_alignBottom="@+id/txtview1"
        android:layout_marginLeft="16dp"
        android:layout_toRightOf="@+id/txtview1"
```

```
android:text="TextView" />

<TextView
        android:id="@+id/txtview1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginTop="62dp"
android:text="TextView" />

<TextView
        android:id="@+id/txtview3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/txtview2"
        android:layout_alignBottom="@+id/txtview2"
        android:layout_marginLeft="23dp"
        android:layout_toRightOf="@+id/txtview2"
android:text="TextView" />

</RelativeLayout>
```

List1.xml



activitylist.xml



activity_main.xml

Student.java:-

```
package com.example.database.classes;

publicclass student
{
	String Username,password,enroll,dept;
	int sem;
	publicvoid setuname(String uname1)
	{
		Username=uname1;
	}
	publicvoid setpass(String pass)
	{
		password=pass;
	}
	publicvoid setenroll(String enroll1)
	{
		enroll=enroll1;
	}
	publicvoid setdept(String dept1)
	{
		dept=dept1;
	}
	publicvoid setsem(int sem1)
	{
		sem=sem1;
	}
	publicint getsem()
	{
			return sem;
	}
	public String getuname()
	{
		return Username;

	}
	publicString getpass()
	{
		return password;
	}
	public String getenroll()
	{
		return enroll;
	}
	public String getdept()
	{
		return dept;
	}
}
```

Dbhelper.java:-

```
package com.example.database;

public class dbhelper extends SQLiteOpenHelper
{
      private static final String dbname="db3";
      private static final String tblname="tbl1";
      private static final String column_uname="uname";
      private static final String column_pass="password";
      private static final String column_enroll="enroll";
      private static final String column_sem="sem";
      private static final String column_dept="department";
      private static final String u_id ="uid";

      public dbhelper(Context context) {
            super(context,dbname,null,1);
            // TODO Auto-generated constructor stub
      }

      @Override
      public void onCreate(SQLiteDatabase db)
      {

            db.execSQL("CREATE TABLE " + tblname + " ("+u_id+ "
integer primary key," + column_uname + " text," + column_pass +"
text,"+column_enroll+ " text," +column_sem+"
integer,"+column_dept+" text)");
      }

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

            db.execSQL("DROP TABLE IF EXISTS"+tblname);
            onCreate(db);


      }
      public void insert(String uname,String pass,String
enroll,String dept,int sem)
      {
            SQLiteDatabase db = getWritableDatabase();
            ContentValues values = new ContentValues();
            values.put(column_uname,uname);
            values.put(column_pass, pass);
            values.put(column_enroll,enroll);
            values.put(column_dept, dept);
            values.put(column_sem, sem);
            db.insert(tblname, null, values);
      }
```

```
      public List<student> selectdata()
      {
                  SQLiteDatabase db =this. getReadableDatabase();
                  Cursor cr = db.rawQuery("select * from
"+tblname,null);
                  cr.moveToFirst();
                  List<student> st = new ArrayList<student>();
                   while(cr.isAfterLast() == false){
                        student mStudent=new student();
                        mStudent.setuname(cr.getString(0));
                        mStudent.setpass(cr.getString(1));
                        mStudent.setenroll(cr.getString(2));
                        mStudent.setdept(cr.getString(3));
                        mStudent.setsem(cr.getInt(4));
                         st.add(mStudent);
                         cr.moveToNext();
                     }
                  return st;
}
      public int update(String old1,String newparam)
      {
            SQLiteDatabase db = this.getWritableDatabase();
            String[] oldparam={old1};
            ContentValues values = new ContentValues();
            values.put(column_uname,newparam);
            int cnt=db.update(tblname, values, column_enroll+
"=?",oldparam);
            return cnt;
      }
      public int deletedb(String name)
          {
              SQLiteDatabase db=this.getWritableDatabase();
              String[] param = {name};
              //Delete from Student where Name='Jashvant Dave'
              int cnt = db.delete(tblname, column_uname + " =? ",
param);
              return cnt;
          }
}
```

Mainactivity.java:-

```
package com.example.database;

public class MainActivity extends Activity implements
OnItemSelectedListener {

      Button btn1,btn2,btn3,btn4;
      EditText uname,pass,enroll,branch,sem;
      @Override
      protected void onCreate(Bundle savedInstanceState) {
```

```
            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);

            uname = (EditText) findViewById(R.id.txt1);
            pass=(EditText)findViewById(R.id.pass);
            enroll = (EditText)findViewById(R.id.enroll);
            btn1 = (Button) findViewById(R.id.btn1);
            btn2 = (Button)findViewById(R.id.btn2);
            btn3 = (Button)findViewById(R.id.btn4);
            branch = (EditText)findViewById(R.id.branch);
            sem = (EditText)findViewById(R.id.sem);
      try
      {
            final dbhelper db = new
      dbhelper(getApplicationContext());
            btn1.setOnClickListener(new View.OnClickListener() {

            @Override
                  public void onClick(View v)
                  {
                        String u_name = uname.getText().toString();
                        String pass_word =
pass.getText().toString();
                        String enroll_ment =
enroll.getText().toString();
                        int sem1 =
Integer.parseInt(sem.getText().toString());
                        String branch1 =
branch.getText().toString();
                        db.insert(u_name, pass_word,
enroll_ment,branch1,sem1);
                        Toast.makeText(getApplicationContext(),
"data inserted",Toast.LENGTH_LONG).show();
                  }
            });
            btn2.setOnClickListener(new View.OnClickListener() {

                  @Override
                  public void onClick(View v)
                  {
                        // TODO Auto-generated method stub
                        Intent i = new
Intent(MainActivity.this,Listactivity.class);
                        startActivity(i);
                  }
            });

      btn4.setOnClickListener(new View.OnClickListener() {

                  String u_name = uname.getText().toString();
                  String enroll_ment = enroll.getText().toString();
                  String branch_b = branch.getText().toString();
```

```
                @Override
                public void onClick(View v)
                {
                      int
a=db.update(enroll_ment,branch_b,u_name);

     Toast.makeText(getApplicationContext(),"data
updated",Toast.LENGTH_LONG).show();
                }
           });

           btn3.setOnClickListener( new View.OnClickListener() {
           @Override
           public void onClick(View v)
           {

                      Intent i = new
Intent(MainActivity.this,Nextactivity.class);
                      startActivity(i);
                }
           });
     }catch(Exception e)
     {

     Toast.makeText(getApplicationContext(),e.getMessage(),Toast
.LENGTH_LONG).show();
     }
     }
}
```

Listactivity.java:-

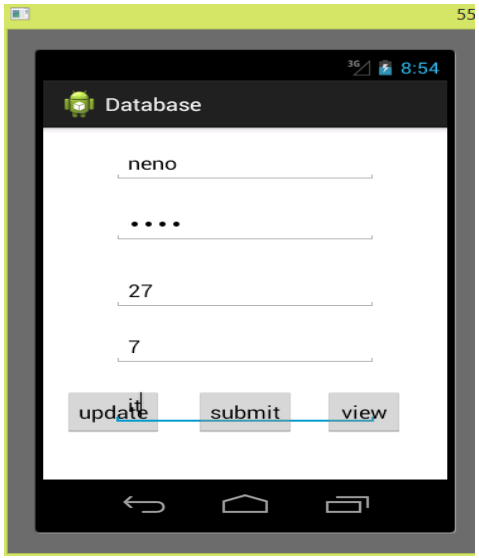
```
package com.example.database;

public class Listactivity extends Activity {
       private ListView mListViewStudent;
          private List<student> mStudentList;
          private adapter mStudentListAdapter;
     @Override
     protected void onCreate(Bundle savedInstanceState) {
           super.onCreate(savedInstanceState);
           setContentView(R.layout.activity_listactivity);
           dbhelper mdbhelper = new
dbhelper(getApplicationContext());
           mListViewStudent = (ListView)
findViewById(R.id.view1);
           mStudentList = mdbhelper.selectdata();
           mStudentListAdapter = new adapter(this,mStudentList);
           mListViewStudent.setAdapter(mStudentListAdapter);
     }
}
```

Adapter.java:-

```
package com.example.database.classes;
public class adapter extends BaseAdapter
{
	private Activity mactivity;
	private List<student> mstudent;
	private LayoutInflater inflater;
	public adapter(Activity mactivity,List<student> mstudent)
	{
		this.mactivity=mactivity;
		this.mstudent = mstudent;
		inflater = (LayoutInflater)
mactivity.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
	}

	@Override
	public int getCount() {
		// TODO Auto-generated method stub
		return mstudent.size();
	}
	@Override
	public Object getItem(int position) {
		// TODO Auto-generated method stub
		return mstudent.get(position);
	}
	@Override
	public long getItemId(int position) {
		// TODO Auto-generated method stub
		return 0;
	}
	@Override
	public View getView(final int position, View convertView,
ViewGroup parent)
	{
		Viewholder v1;
		if(convertView == null)
		{
			convertView =
inflater.inflate(R.layout.list1,null);
			v1 = new Viewholder();
			v1.t1 = (TextView)
convertView.findViewById(R.id.txtview1);
			v1.t2 = (TextView)
convertView.findViewById(R.id.txtview2);
			v1.t3 = (TextView)
convertView.findViewById(R.id.txtview3);
			v1.v4 = (Button)
convertView.findViewById(R.id.update);
			convertView.setTag(v1);
		}
```

```
            else
            {
                  v1 = (Viewholder) convertView.getTag();


            }
            v1.t1.setText(mstudent.get(position).getuname());

      v1.t2.setText(String.valueOf(mstudent.get(position).getsem(
)));
            v1.t3.setText(mstudent.get(position).getenroll());
            v1.v4.setOnClickListener(new View.OnClickListener() {

                  @Override
                  public void onClick(View v)
                  {
                        // TODO Auto-generated method stub
                        Toast.makeText(mactivity,
mstudent.get(position).getpass(),Toast.LENGTH_LONG).show();;
                  }
            });
            return convertView;
}
      static class Viewholder
      {
            TextView t1;
            TextView t2;
            TextView t3;
            Button v4;}}
```

Output:-



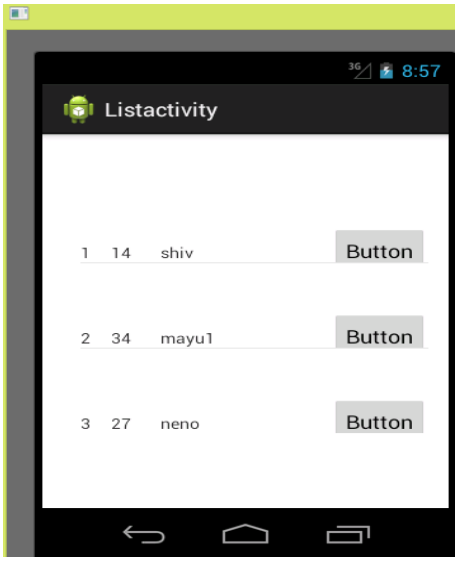


Fig. List of Student

Practical: 11

Aim: Create an Android App to display student details in ListView(List must contain image and textview)

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">


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

List_row_gallery.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent"
android:layout_height="80dp">
<ImageView
android:layout_width="70dp"
android:layout_height="70dp"
android:id="@+id/imageDP"
android:layout_weight="1"
android:layout_centerVertical="true"
android:scaleType="centerCrop" />
<TextView
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/textName"
android:layout_weight="1"
android:layout_toRightOf="@+id/imageDP"
```

```
android:layout_marginLeft="10dp"
android:gravity="center_vertical" />
</RelativeLayout>
```

MainASctivity.java:-

```
package com.example.administrator.gallerydemo;

import android.os.Environment;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ListView;
import android.widget.Toast;

import java.io.File;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {

private List<ModelGallery>modelGalleryList = new
ArrayList<>();
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        getAllGalleryImages();

        ListView listGallery =
(ListView)findViewById(R.id.listGallery);
        GalleryListAdapter adapter = new
GalleryListAdapter(this,modelGalleryList);
        listGallery.setAdapter(adapter);

        listGallery.setOnItemClickListener(new
AdapterView.OnItemClickListener() {
@Override
public void onItemClick(AdapterView<?> parent, View view,
int position, long id) {
                Toast.makeText(MainActivity.this, "Clicked
Item : " + position, Toast.LENGTH_SHORT).show();
            }
        });
        listGallery.setOnItemLongClickListener(new
```

```
AdapterView.OnItemLongClickListener() {
@Override
public boolean onItemLongClick(AdapterView<?> parent, View
view, int position, long id) {
                Toast.makeText(MainActivity.this, "Long
Clicked Item : " + position, Toast.LENGTH_SHORT).show();
return true;
            }
        });
    }

private void getAllGalleryImages() {
        String ExternalStorageDirectoryPath = Environment
                .getExternalStorageDirectory()
                .getAbsolutePath();

        String targetPath = ExternalStorageDirectoryPath +
"/test/";

        Toast.makeText(getApplicationContext(), targetPath,
Toast.LENGTH_LONG).show();
        File targetDirector = new File(targetPath);

        File[] files = targetDirector.listFiles();
for (File file : files){
            ModelGallery modelGallery = new ModelGallery();

modelGallery.setImagePath(file.getAbsolutePath());
            modelGallery.setText("Image Name : " +
file.getName());
modelGalleryList.add(modelGallery);
        }
    }
}
```

ModelGallery.java:-

```
package com.example.administrator.gallerydemo;

/**
 * Created by Administrator on 11/4/2015.
 */
public class ModelGallery {
    String imagePath;
    String text;
```

```
public String getImagePath() {
return imagePath;
    }

public void setImagePath(String imagePath) {
this.imagePath = imagePath;
    }

public String getText() {
return text;
    }

public void setText(String text) {
this.text = text;
    }
}
```

GalleryListAdapter.java:-

```
package com.example.administrator.gallerydemo;

import android.content.Context;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.ImageView;
import android.widget.TextView;

import java.util.List;

/**
 * Created by Administrator on 11/4/2015.
 */
public class GalleryListAdapter extends BaseAdapter {

private Context context;
private List<ModelGallery>modelGalleryList;
private LayoutInflater inflater;

public GalleryListAdapter(Context context,
List<ModelGallery> modelGalleryList) {
this.context = context;
this.modelGalleryList = modelGalleryList;
```

```
inflater = (LayoutInflater)
context.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
    }

@Override
public int getCount() {
return modelGalleryList.size();
    }

@Override
public ModelGallery getItem(int position) {
return modelGalleryList.get(position);
    }

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

@Override
public View getView(int position, View convertView,
ViewGroup parent) {

        ViewHolder viewHolder;
if (convertView == null) {
            convertView =
inflater.inflate(R.layout.list_row_gallery, parent, false);
            viewHolder = new ViewHolder();
            viewHolder.imageDP = (ImageView)
convertView.findViewById(R.id.imageDP);
            viewHolder.textName = (TextView)
convertView.findViewById(R.id.textName);
            convertView.setTag(viewHolder);
        }

        viewHolder = (ViewHolder) convertView.getTag();
        Bitmap bm =
decodeSampledBitmapFromUri(getItem(position).imagePath,
100, 100);

        viewHolder.imageDP.setImageBitmap(bm);

viewHolder.textName.setText(getItem(position).getText());
return convertView;
    }

public Bitmap decodeSampledBitmapFromUri(String path, int
```

```
reqWidth, int reqHeight) {

        Bitmap bm = null;
// First decode with inJustDecodeBounds=true to check
dimensions
final BitmapFactory.Options options = new
BitmapFactory.Options();
        options.inJustDecodeBounds = true;
        BitmapFactory.decodeFile(path, options);

// Calculate inSampleSize
options.inSampleSize = calculateInSampleSize(options,
reqWidth, reqHeight);

// Decode bitmap with inSampleSize set
options.inJustDecodeBounds = false;
        bm = BitmapFactory.decodeFile(path, options);

return bm;
    }

public int calculateInSampleSize(BitmapFactory.Options
options, int reqWidth, int reqHeight) {
// Raw height and width of image
final int height = options.outHeight;
final int width = options.outWidth;
int inSampleSize = 1;

if (height > reqHeight || width > reqWidth) {
if (width > height) {
                inSampleSize = Math.round((float) height /
(float) reqHeight);
            } else {
                inSampleSize = Math.round((float) width /
(float) reqWidth);
            }
        }
return inSampleSize;
    }

static class ViewHolder {
        ImageView imageDP;
        TextView textName;
    }

}
```

Output:-

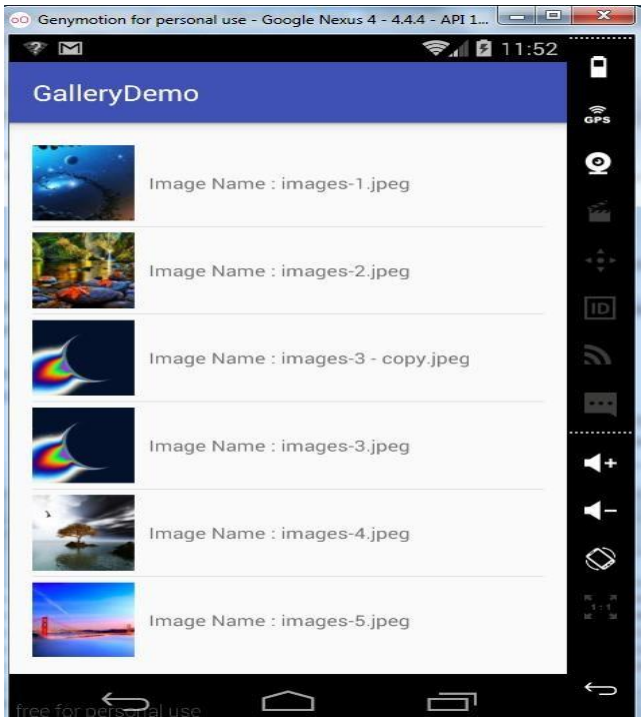


Fig. list of students

Practical: 12

Aim:Implement the concept of Insert, Update and Delete Student facilities using fragment and database helper.

Activity_main.xml:-

```
<RelativeLayoutxmlns:android="http://schemas.android.com/apk/res/
android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context="com.example.databasefrag.MainActivity">

<Button
android:id="@+id/insert"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentLeft="true"
android:layout_alignParentTop="true"
android:layout_marginTop="28dp"
android:text="INSERT"/>

<Button
android:id="@+id/update"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignBaseline="@+id/insert"
android:layout_alignBottom="@+id/insert"
android:layout_marginLeft="41dp"
android:layout_toRightOf="@+id/insert"
android:text="UPDATE"/>

<Button
android:id="@+id/delete"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignRight="@+id/insert"
android:layout_below="@+id/insert"
android:layout_marginTop="36dp"
android:text="Delete"/>

<FrameLayout
android:id="@+id/frame1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignLeft="@+id/update"
android:layout_below="@+id/delete"
android:layout_marginLeft="20dp">
```

```
</FrameLayout>

</RelativeLayout>
```

Delete.xml

```
<?xmlversion="1.0"encoding="utf-8"?>
<LinearLayoutxmlns:android="http://schemas.android.com/apk/res/an
droid"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">

<EditText
android:id="@+id/uname1"
android:layout_width="387dp"
android:layout_height="wrap_content"
android:ems="10"
android:hint="username"/>

<Button
android:id="@+id/btndelete"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="delete"/>

</LinearLayout>
```

Insert.xml

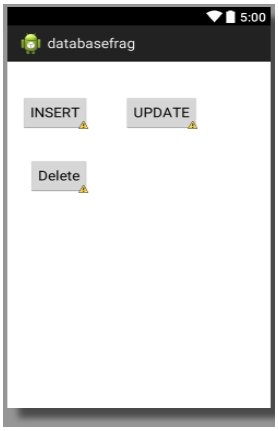
```
<?xmlversion="1.0"encoding="utf-8"?>
<LinearLayoutxmlns:android="http://schemas.android.com/apk/res/an
droid"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">

<EditText
android:id="@+id/txt1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="username"/>

<EditText
android:id="@+id/pass"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="22dp"
android:ems="10"
android:hint="password"
android:inputType="textPassword"/>
```

```
<EditText
android:id="@+id/enroll"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="28dp"
android:ems="10"
android:hint="enrollment no"/>

<EditText
android:id="@+id/sem"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="17dp"
android:ems="10"
android:hint="sem"/>

<EditText
android:id="@+id/branch"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="20dp"
android:ems="10"
android:hint="branch"/>

<Button
android:id="@+id/btn1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="submit"/>

</LinearLayout>
```

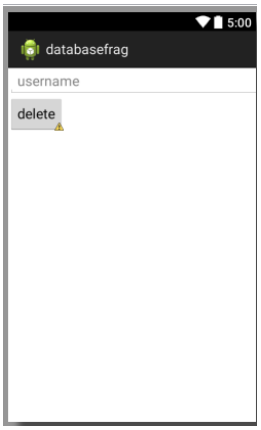
Update.xml

```
<?xmlversion="1.0"encoding="utf-8"?>
<LinearLayoutxmlns:android="http://schemas.android.com/apk/res/an
droid"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">

<EditText
android:id="@+id/username"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:ems="10"
android:hint="username">

<requestFocus/>
</EditText>
```

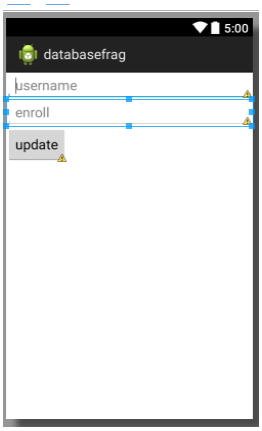
```
<EditText
android:id="@+id/enrollno"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:ems="10"
android:hint="enroll"/>

<Button
android:id="@+id/btnupdate"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="update"/></LinearLayout>
```



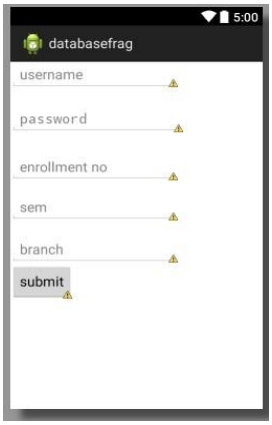
Activity_main.xml



Delete.xml



Update.xml



Submit.xml

JAVA file: MainActivity.java:-

```
package com.example.databasefrag;

public class MainActivity extends Activity
{

      Button insert,update,delete;
      @Override
      protected void onCreate(Bundle savedInstanceState)

      {
            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);
            insert = (Button) findViewById(R.id.insert);
            update = (Button) findViewById(R.id.update);
            delete = (Button) findViewById(R.id.delete);

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

```
                @Override
                public void onClick(View v)
                {
                      // TODO Auto-generated method stub
                      FragmentTransaction f =
getFragmentManager().beginTransaction();
                      f.replace(R.id.frame1,new insert() );
                      f.commit();
                }
          });

update.setOnClickListener( new View.OnClickListener() {

                @Override
                public void onClick(View v)
                {
                      // TODO Auto-generated method stub
                      FragmentTransaction f =
getFragmentManager().beginTransaction();
                      f.replace(R.id.frame1,new updateanddelete()
);
                      f.commit();

                }
          });


delete.setOnClickListener( new View.OnClickListener() {

      @Override
      public void onClick(View v)
      {
            // TODO Auto-generated method stub
            FragmentTransaction f =
getFragmentManager().beginTransaction();
            f.replace(R.id.frame1,new delete() );
            f.commit();

      }
});}
}
```

JAVA file: Student.java:-

```
package com.example.databasefrag;

publicclass student
{
      String Username,password,enroll,dept;
      intsem;
```

```
	publicvoid setuname(String uname1)
	{
		Username=uname1;
	}
	publicvoid setpass(String pass)
	{
		password=pass;
	}
	publicvoid setenroll(String enroll1)
	{
		enroll=enroll1;
	}
	publicvoid setdept(String dept1)
	{
		dept=dept1;
	}
	publicvoid setsem(int sem1)
	{
		sem=sem1;
	}

	publicint getsem()
	{
			returnsem;
	}
	public String getuname()
	{
		returnUsername;

	}
	public String getpass()
	{
		returnpassword;
	}

	public String getenroll()
	{
		returnenroll;
	}
	public String getdept()
	{
		returndept;
	}
}
```

JAVA file: dbhelper.java:-

```
package com.example.databasefrag;
public class dbhelper extends SQLiteOpenHelper
```

```
{
	private static final String dbname="db4";
	private static final String tblname="tbl1";

	private static final String column_uname="uname";
	private static final String column_pass="password";
	private static final String column_enroll="enroll";
	private static final String column_sem="sem";
	private static final String column_dept="department";
	private static final String u_id ="uid";



	public dbhelper(Context context) {
		super(context,dbname,null,1);
		// TODO Auto-generated constructor stub

	}
@Override
	public void onCreate(SQLiteDatabase db)
	{
		// TODO Auto-generated method stub
		db.execSQL("CREATE TABLE " + tblname + " ("+u_id+ "
integer primary key," + column_uname + " text," + column_pass +"
text,"+column_enroll+ " text," +column_sem+"
integer,"+column_dept+" text)");
	}

	@Override
	public void onUpgrade(SQLiteDatabase db, int oldVersion,
int newVersion)
	{
		// TODO Auto-generated method stub
		db.execSQL("DROP TABLE IF EXISTS"+tblname);
		onCreate(db);

	}

	public void insert(String uname,String pass,String
enroll,String dept,int sem)
	{
		SQLiteDatabase db = getWritableDatabase();
		ContentValues values = new ContentValues();
		values.put(column_uname,uname);
		values.put(column_pass, pass);
		values.put(column_enroll,enroll);
		values.put(column_dept, dept);
		values.put(column_sem, sem);

		db.insert(tblname, null, values);

	}
```

```
      public List<student> selectdata()
      {
                  SQLiteDatabase db =this. getReadableDatabase();
                  Cursor cr = db.rawQuery("select * from
"+tblname,null);

                  cr.moveToFirst();
                  List<student> st = new ArrayList<student>();
                   while(cr.isAfterLast() == false){
                        student mStudent=new student();
                        mStudent.setuname(cr.getString(0));
                        mStudent.setpass(cr.getString(1));
                        mStudent.setenroll(cr.getString(2));
                        mStudent.setdept(cr.getString(3));
                        mStudent.setsem(cr.getInt(4));
                         st.add(mStudent);
                         cr.moveToNext();
                     }
return st;
      }

      public int update(String old1,String newparam)
      {
            SQLiteDatabase db = this.getWritableDatabase();
            String[] oldparam={old1};
            ContentValues values = new ContentValues();
            values.put(column_uname,newparam);
            int cnt=db.update(tblname, values, column_enroll+
"=?",oldparam);

            return cnt;

      }

        public int deletedb(String name)
          {
              SQLiteDatabase db=this.getWritableDatabase();
              String[] param = {name};
              //Delete from Student where Name='Jashvant Dave'
              int cnt = db.delete(tblname, column_uname + " =? ",
param);
              return cnt;
}}
```

JAVA file: insert.java:-

```
package com.example.databasefrag;

import android.widget.Toast;

publicclass insert extends Fragment
```

```
{

      EditText uname,pass,enroll,branch,sem;
      Button btn1;
      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
                  Bundle savedInstanceState)
      {
            View v1 = inflater.inflate(R.layout.insert,container,
false);

            uname = (EditText) v1.findViewById(R.id.txt1) ;
            pass=(EditText) v1.findViewById(R.id.pass);
            enroll = (EditText) v1.findViewById(R.id.enroll);

            branch = (EditText) v1.findViewById(R.id.branch);
            sem = (EditText) v1.findViewById(R.id.sem);


            btn1 = (Button) v1.findViewById(R.id.btn1);
            final dbhelper db = new dbhelper(getActivity());

            btn1.setOnClickListener( new View.OnClickListener() {

                  @Override
                  publicvoid onClick(View v)
                  {
                        // TODO Auto-generated method stub
                        String u_name = uname.getText().toString();
                        String pass_word =
pass.getText().toString();
                        String enroll_ment =
enroll.getText().toString();
                        int sem1 =
Integer.parseInt(sem.getText().toString());
                        String branch1 =
branch.getText().toString();



                        db.insert(u_name, pass_word,
enroll_ment,branch1,sem1);
                        Toast.makeText(getActivity(), "data
inserted",Toast.LENGTH_LONG).show();


                  }
            });

            return v1;
```

```
      }}
```

JAVA file: delete.java:-

```
package com.example.databasefrag;

public class delete extends Fragment

{
      EditText uname,enroll,dept;
      Button delete1;
      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
                  Bundle savedInstanceState)
      {
            // TODO Auto-generated method stub
            final dbhelper db = new dbhelper(getActivity());
            View v1 =
inflater.inflate(R.layout.delete,container,false);
            uname = (EditText) v1.findViewById(R.id.uname1);

            delete1 = (Button) v1.findViewById(R.id.btndelete);

            delete1.setOnClickListener(new View.OnClickListener()
            {
      @Override
                  public void onClick(View v)
                  {
                  int a = db.deletedb(uname.getText().toString());
                        Log.d("count",String.valueOf(a));
                        Toast.makeText(getActivity(),"data
deleted",Toast.LENGTH_LONG).show();

                  }
            });
            return v1;
      }}
```

JAVA file: updateanddelete.java:-

```
package com.example.databasefrag;
public class updateanddelete extends Fragment

{
      EditText uname,enroll,dept;
      Button update1;

      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
```

```
                  Bundle savedInstanceState)
      {
            final dbhelper db = new dbhelper(getActivity());
            View v1 =
inflater.inflate(R.layout.update,container,false);
            uname = (EditText) v1.findViewById(R.id.username);
            enroll = (EditText) v1.findViewById(R.id.enrollno);

            update1 = (Button) v1.findViewById(R.id.btnupdate);
update1.setOnClickListener(new View.OnClickListener()
            {
            public void onClick(View v)
                  {
                        int a =
db.update(enroll.getText().toString(),
uname.getText().toString());
                        Log.d("count",String.valueOf(a));
                        Toast.makeText(getActivity(),"data
updated",Toast.LENGTH_LONG).show();

                  }
            });
            return v1;
      }}
```

Output:-

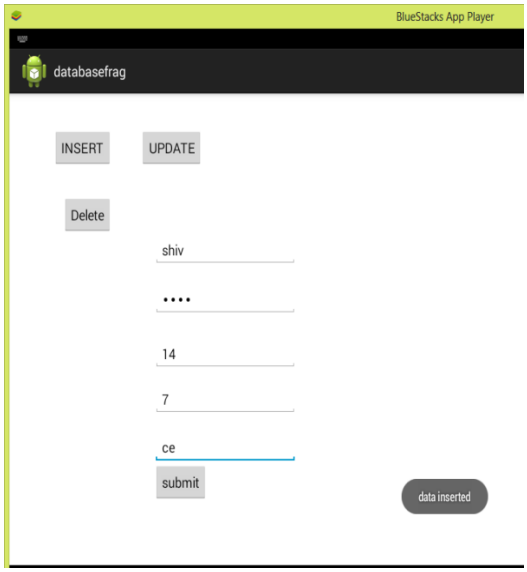


Fig. Fragment Insert

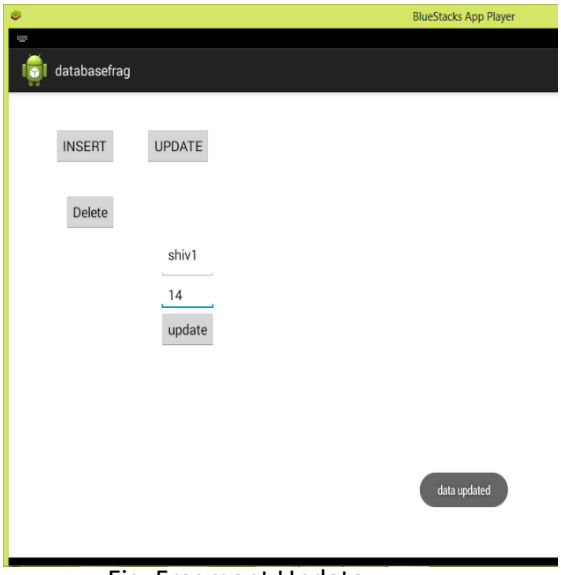


Fig. Fragment Update

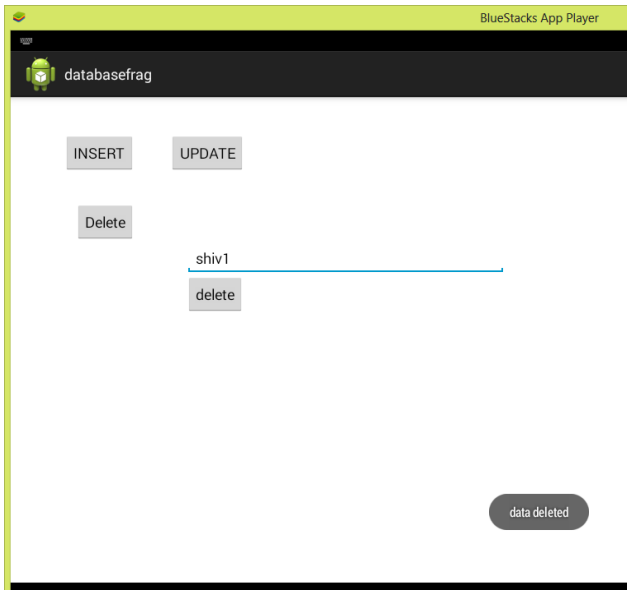


Fig. Fragment Delete

Practical : 13

AIM: Sms Sending – *Message can be sent using 2 methods – using **Intent**,using **Sms Manager.***

XML FILE:

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity">

<EditText
android:layout_width="match_parent"
android:layout_height="60dp"
android:hint="Phone No"
android:inputType="number"
android:maxLength="10"
android:id="@+id/edNo"/>

<EditText
android:layout_width="match_parent"
android:layout_height="60dp"
android:hint="Message Text"
android:id="@+id/edText"
android:layout_below="@+id/edNo"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Send SMS"
android:id="@+id/btnSend"
android:layout_below="@+id/edText"/>


</RelativeLayout>
```

1. *Using Sms Manager*

MAINACTIVITY.JAVA:

```
package com.example.consulting.sms;

import android.app.Activity;
```

```
import android.os.Bundle;
import android.telephony.SmsManager;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity {

    Button mBtnSendSMS;
    EditText mEdNo, mEdText;

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

mEdNo = (EditText) findViewById(R.id.edNo);
mEdText = (EditText) findViewById(R.id.edText);

mBtnSendSMS = (Button) findViewById(R.id.btnSend);

mBtnSendSMS.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
try
{
                    String txtNo = mEdNo.getText().toString();
                    String txtMsg = mEdText.getText().toString();

if(TextUtils.isEmpty(txtNo))
                    {
mEdNo.setError("Please Enter Phone Number");
return;
                    }

if(TextUtils.isEmpty(txtMsg))
                    {
mEdText.setError("Please Enter Message");
return;
                    }

                    SmsManager sm = SmsManager.getDefault();
//sm.sendTextMessage(destination,source,msgText,sentIntent,deliveryInt
ent);
sm.sendTextMessage(txtNo,"7405083483",txtMsg,null,null);
                    Toast.makeText(MainActivity.this,"SMS Send to
Number:" + txtNo, Toast.LENGTH_LONG).show();
                }
catch (Exception ex)
                {
```

```
                    Toast.makeText(MainActivity.this,ex.getMessage(),
Toast.LENGTH_LONG).show();
                    Toast.makeText(MainActivity.this,"SMS Sending
Filed", Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}
```

MANIFEST FILE:

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

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

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

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

</manifest>
```

2. *Using Intent:*

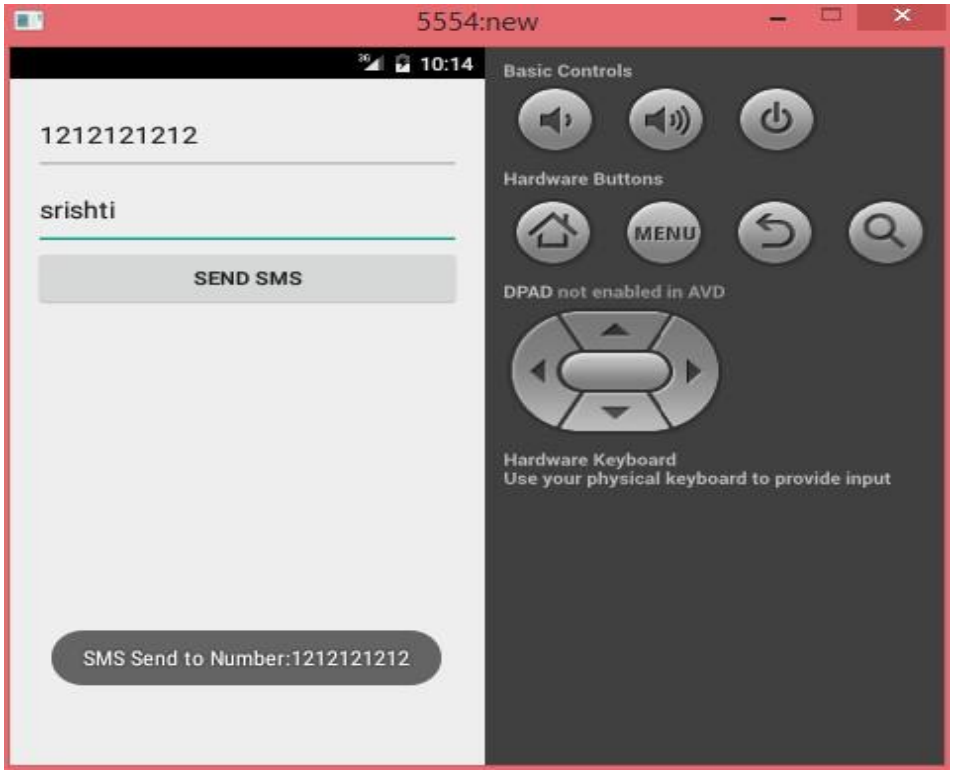
MAINACTIVITY.JAVA:

```
package com.example.administrator.smssending;

import android.app.Activity;
import android.content.Intent;
import android.net.Uri;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.text.TextUtils;
import android.view.Menu;
```

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

public class SMSUsingIntent extends Activity {

    Button mBtnSendSMS;
    EditText mEdNo, mEdText;

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

mEdNo = (EditText) findViewById(R.id.edNo);
mEdText = (EditText) findViewById(R.id.edText);

mBtnSendSMS = (Button) findViewById(R.id.btnSend);

mBtnSendSMS.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                String txtNo = mEdNo.getText().toString();
                String txtMsg = mEdText.getText().toString();

if (TextUtils.isEmpty(txtNo)) {
mEdNo.setError("Please Enter Phone Number");
return;
                }

if (TextUtils.isEmpty(txtMsg)) {
mEdText.setError("Please Enter Message");
return;
                }
try
{
                    Intent i = new Intent(Intent.ACTION_VIEW);
                    i.setData(Uri.parse("smsto:"));
                    i.setType("vnd.android-dir/mms-sms");
                    i.putExtra("address", txtNo);
                    i.putExtra("sms_body", txtMsg);
                    startActivity(i);
                    Toast.makeText(SMSUsingIntent.this, "SMS Send to
Number:" + txtNo, Toast.LENGTH_LONG).show();
                }
catch (Exception ex)
                {
                    Toast.makeText(SMSUsingIntent.this,
ex.getMessage(), Toast.LENGTH_LONG).show();
                    Toast.makeText(SMSUsingIntent.this, "SMS Sending
```

```
Filed", Toast.LENGTH_LONG).show();
                    }
                }
            });

    }


}
```

OUTPUT:



Practical :14

AIM: Plotting a location on Google Map

XML FILE:

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

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

<EditText
android:layout_width="100dp"
android:layout_height="50dp"
android:hint="Location"
android:id="@+id/edLocation"/>

<Button
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/btnSearch"
android:text="Pl"/>

<Button
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/btnType"
android:text="Ty"/>

<Button
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/btnZoomIn"
android:text="In"/>

<Button
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/btnZoomOut"
android:text="Ou"/>


</LinearLayout>

<fragment xmlns:android="http://schemas.android.com/apk/res/android"
```

```
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/map" tools:context=".MapsActivity"
android:name="com.google.android.gms.maps.SupportMapFragment" />

</LinearLayout>
```

MAINACTIVITY.JAVA:

```
package com.example.administrator.googlemapdemo;

import android.location.Address;
import android.location.Geocoder;
import android.support.v4.app.FragmentActivity;
import android.os.Bundle;
import android.text.TextUtils;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;

import java.io.IOException;
import java.util.List;

public class MapsActivity extends FragmentActivity {

private GoogleMap mMap; // Might be null if Google Play services APK
is not available.
Button mBtnSearch, mBtnType, mBtnZoomIn, mBtnZoomOut;
    EditText mLocation;
    List<Address>mAddressList;
    Geocoder mGeoCoder;

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

mLocation = (EditText) findViewById(R.id.edLocation);
mBtnSearch = (Button) findViewById(R.id.btnSearch);
mBtnZoomIn = (Button) findViewById(R.id.btnZoomIn);
```

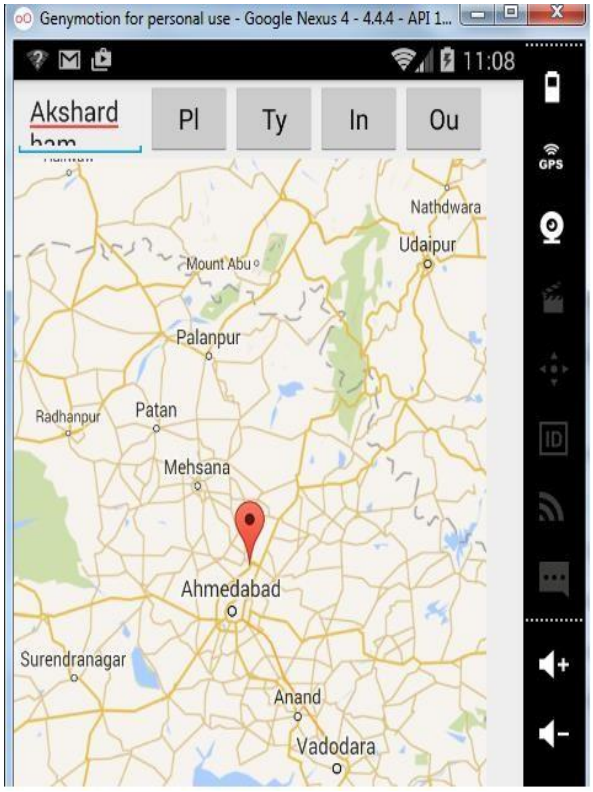
```
mBtnZoomOut = (Button) findViewById(R.id.btnZoomOut);

mGeoCoder = new Geocoder(this);

mBtnSearch.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                String mLoc = mLocation.getText().toString();

if(TextUtils.isEmpty(mLoc))
                {
mLocation.setError("Please Enter Location");
//return;
}
else
{
try {
                    Toast.makeText(MapsActivity.this,"Plot
Called",Toast.LENGTH_LONG).show();
                    Log.d("BAPS", "Plot Called");
mAddressList = mGeoCoder.getFromLocationName(mLoc,1);
                    Address mSingleAddress = mAddressList.get(0);
                    LatLng mLatLng = new
LatLng(mSingleAddress.getLatitude(),mSingleAddress.getLongitude());

mMap.addMarker(new MarkerOptions().position(mLatLng).title(mLoc));
mMap.animateCamera(CameraUpdateFactory.newLatLng(mLatLng));
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }}
        });


//Change Type

mBtnType.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                Toast.makeText(MapsActivity.this,"Type
Called",Toast.LENGTH_LONG).show();
if(mMap.getMapType() == GoogleMap.MAP_TYPE_NORMAL)
                {
mMap.setMapType(GoogleMap.MAP_TYPE_SATELLITE);
                }
else
{
mMap.setMapType(GoogleMap.MAP_TYPE_NORMAL);
                }
            }
        });
```

```
mBtnZoomIn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                Toast.makeText(MapsActivity.this,"ZoomIn
Called",Toast.LENGTH_LONG).show();
mMap.animateCamera(CameraUpdateFactory.zoomIn());
            }
        });


mBtnZoomOut.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                Toast.makeText(MapsActivity.this,"ZoomOut
Called",Toast.LENGTH_LONG).show();
mMap.animateCamera(CameraUpdateFactory.zoomOut());
            }
        });
    }

@Override
protected void onResume() {
super.onResume();
        setUpMapIfNeeded();
    }

private void setUpMapIfNeeded() {
// Do a null check to confirm that we have not already instantiated
the map.
if (mMap == null) {
// Try to obtain the map from the SupportMapFragment.
mMap = ((SupportMapFragment)
getSupportFragmentManager().findFragmentById(R.id.map))
                    .getMap();
// Check if we were successful in obtaining the map.
if (mMap != null) {
                setUpMap();
            }
        }
    }

private void setUpMap() {

mMap.addMarker(new MarkerOptions().position(new LatLng(0,
0)).title("Marker"));
    }
}
```

MANIFEST FILE:

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

<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
<uses-permission android:name="com.google.android.providers.gsf.permission.READ_GSERVICES" />
<!--
 The ACCESS_COARSE/FINE_LOCATION permissions are not required to use
      Google Maps Android API v2, but are recommended.
   -->
<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:theme="@style/AppTheme" >
<meta-data
android:name="com.google.android.gms.version"
android:value="@integer/google_play_services_version" />
<meta-data
android:name="com.google.android.maps.v2.API_KEY"
android:value="@string/google_maps_key" />

<activity
android:name=".MapsActivity"
android:label="@string/title_activity_maps" >
</activity><activity
android:name=".GPSTracking"
android:label="@string/title_activity_gpstracking" >
<intent-filter>
<action android:name="android.intent.action.GPSTRAKING" />
<category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
</activity>
</application>

</manifest>
```

OUTPUT:



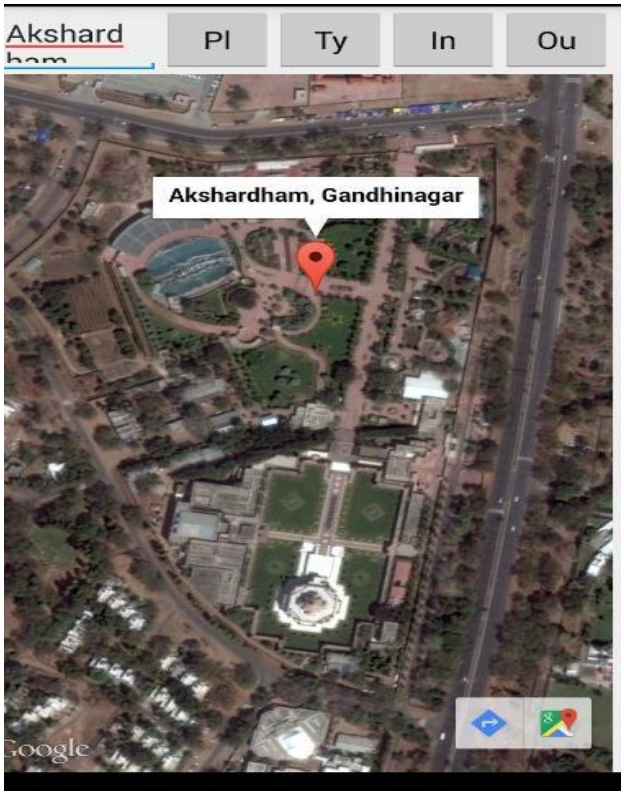


Fig-1 : Plotting Location on Google Map with Zoom In and Zoom Out Facility
Fig-2 : Plotting Location on Google Map with satellite view

Practical : 15

AIM: GPS Tracking

GPS.XML:

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

<Button
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/btn1"/>


<fragment xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent" android:id="@+id/map"
tools:context="com.example.administrator.googlemapdemo.GPSTracking"
android:name="com.google.android.gms.maps.SupportMapFragment" />


</LinearLayout>
```

MAINACTIVITY.JAVA:

```
package com.example.administrator.googlemapdemo;

public class GPSTracking extends FragmentActivity {

private GoogleMap mMap; // Might be null if Google Play services APK
is not available.
LocationManager man;
    Button mBtn;

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

mBtn = (Button) findViewById(R.id.btn1);
man = (LocationManager)
this.getSystemService(Context.LOCATION_SERVICE);
```

```
        LocationListener lis = new LocationListener() {
@Override
public void onLocationChanged(Location location) {

Toast.makeText(GPSTracking.this,"Called",Toast.LENGTH_LONG).show();
                LatLng mLatLng = new
LatLng(location.getLatitude(),location.getLongitude());
mMap.addMarker(new MarkerOptions().position(mLatLng).title("My
Location"));
mMap.animateCamera(CameraUpdateFactory.newLatLng(mLatLng));
            }

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

            }

@Override
public void onProviderEnabled(String provider) {

            }

@Override
public void onProviderDisabled(String provider) {

            }
        };
man.requestLocationUpdates(LocationManager.GPS_PROVIDER,0,0,lis);
    }

@Override
protected void onResume() {
super.onResume();
        setUpMapIfNeeded();
    }


private void setUpMapIfNeeded() {
// Do a null check to confirm that we have not already instantiated
the map.
if (mMap == null) {
// Try to obtain the map from the SupportMapFragment.
mMap = ((SupportMapFragment)
getSupportFragmentManager().findFragmentById(R.id.map))
                    .getMap();
// Check if we were successful in obtaining the map.
if (mMap != null) {
                setUpMap();
            }
```

```
            }
        }

    private void setUpMap() {
            Toast.makeText(GPSTracking.this,"Setup Called",
    Toast.LENGTH_LONG).show();
    mMap.addMarker(new MarkerOptions().position(new LatLng(0,
    0)).title("Marker"));
        }
    }
```

Practical: 16

Aim: Implement the concept of Async Task in Android App

Activity_main.xml:-

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.example.downloadfile.MainActivity" >

<TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_world" />

<Button
        android:id="@+id/download"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView1"
        android:layout_below="@+id/textView1"
        android:layout_marginTop="66dp"
android:text="downloadfile" />

<Button
        android:id="@+id/click"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/download"
        android:layout_below="@+id/download"
        android:layout_marginTop="99dp"
android:text="click me" />

<TextView
        android:id="@+id/txt1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="68dp"
        android:layout_marginLeft="46dp"
        android:layout_toRightOf="@+id/download"
android:text="TextView" />
```

```
</RelativeLayout>
```

Fig. Activity_main.xml

Mainactivity.java:-

```
package com.example.downloadfile;

public class MainActivity extends Activity
{
	public static final String URL =
"http://api.androidhive.info/progressdialog/hive.jpg";
	private TextView downloadstatus;

	@Override
	protected void onCreate(Bundle savedInstanceState) {
		super.onCreate(savedInstanceState);
		setContentView(R.layout.activity_main);
		Button download = (Button)
findViewById(R.id.download);
		Button click = (Button) findViewById(R.id.click);
		downloadstatus = (TextView) findViewById(R.id.txt1);
		download.setOnClickListener(new View.OnClickListener()
{

			@Override
			public void onClick(View v)
			{
				// TODO Auto-generated method stub
				downloadfile();
			}
		});
	}

		private void downloadfile()
		{
			new AsyncTask<String, String, String>() {
```

```
                        @Override
                        protected String doInBackground(String...
params) {
                            int count;
                            try {
                                java.net.URL url = new
java.net.URL(params[0]);
                                URLConnection conection =
url.openConnection();

                             conection.connect();
                    int lenghtOfFile = conection.getContentLength();
                    InputStream input = new
                    BufferedInputStream(url.openStream(), 8192);
                    OutputStream output = new
                    FileOutputStream("/sdcard/downloadedfile.jpg");
                     byte data[] = new byte[1024];

                                long total = 0;

                                while ((count = input.read(data))
!= -1) {
                            total += count;
                     publishProgress("" + (int) ((total * 100) /
                    lenghtOfFile));
                      output.write(data, 0, count);
                                }
                    output.flush();
                     output.close();
                                input.close();
                } catch (Exception e) {
                                Log.e("Error: ", e.getMessage());
                            }
                      return null;
                           }

                           /**
                            * Updating progress bar
                            * */
                           protected void onProgressUpdate(String...
progress) {
                     downloadstatus.setText("Download Completed : " +
Integer.parseInt(progress[0]));
                           }
                }.execute(URL);
               }
          }
```

Output:-

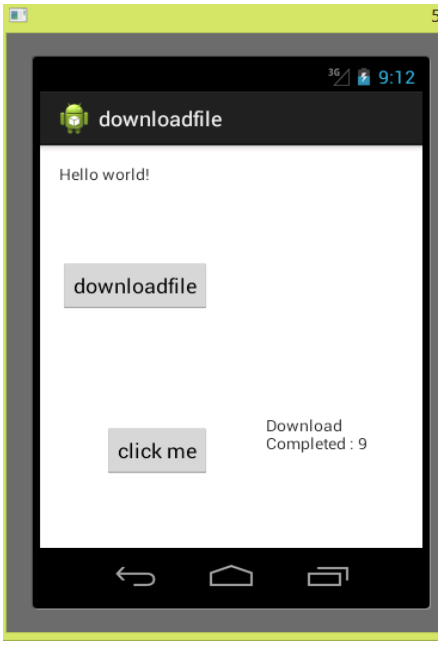


Fig. Async Task

Practical: 17

Aim: Implement the concept of Shared preference in Android.

Activity_main.xml:-

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"

tools:context="com.example.simplesharedpreference.MainActivity" >

<TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_world" />

</RelativeLayout>
```

Layout fie:-Activity_main.xml

Sharedpreference.java:-

```
package com.example.simplesharedpreference;

public class sharedpreference
{
public static final String SHARED_PREFERENCE_FILE_NAME =
"shared_preference_file_name";
    public static final String KEY_NAME="name";
    public static final String KEY_ID = "id";
    public static final String KEY_DEP = "dep";

 public boolean addSharedPreferenceString(Context context,String
key,String value){
        SharedPreferences sharedPreferences =
context.getSharedPreferences(SHARED_PREFERENCE_FILE_NAME,Context.
MODE_PRIVATE);
        SharedPreferences.Editor editor =
sharedPreferences.edit();
        editor.putString(key,value);
        editor.commit();
        return true;
    }

    public boolean addSharedPreferenceInt(Context context,String
key,int value){
        SharedPreferences sharedPreferences =
context.getSharedPreferences(SHARED_PREFERENCE_FILE_NAME,Context.
MODE_PRIVATE);
        SharedPreferences.Editor editor =
sharedPreferences.edit();
        editor.putInt(key, value);
        editor.commit();
        return true;
    }

    public  String getSharedPreferenceString(Context
context,String key){
        SharedPreferences sharedPreferences =
context.getSharedPreferences(SHARED_PREFERENCE_FILE_NAME,Context.
MODE_PRIVATE);
        return sharedPreferences.getString(key,null);
    }

 public  int getSharedPreferenceInt(Context context,String key){
        SharedPreferences sharedPreferences =
context.getSharedPreferences(SHARED_PREFERENCE_FILE_NAME,Context.
MODE_PRIVATE);
        return sharedPreferences.getInt(key,-1);

    }
```

```
}
```

Mainactivity.java:-

```
package com.example.simplesharedpreference;

public class MainActivity extends Activity {
@Override
      protected void onCreate(Bundle savedInstanceState) {
            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);
            new sharedpreference().addSharedPreferenceString(this,
sharedpreference.KEY_NAME, "Shivani");
               new sharedpreference().addSharedPreferenceInt(this,
sharedpreference.KEY_ID, 1);
               new
sharedpreference().addSharedPreferenceString(this,
sharedpreference.KEY_DEP, "CE");
          Toast.makeText(getApplicationContext(),new
sharedpreference().getSharedPreferenceString(this,
sharedpreference.KEY_NAME)+" "+new
sharedpreference().getSharedPreferenceString(this,
sharedpreference.KEY_DEP)+" "+new
sharedpreference().getSharedPreferenceInt(this,
sharedpreference.KEY_ID),Toast.LENGTH_LONG).show();
      }
}
```

Output:-

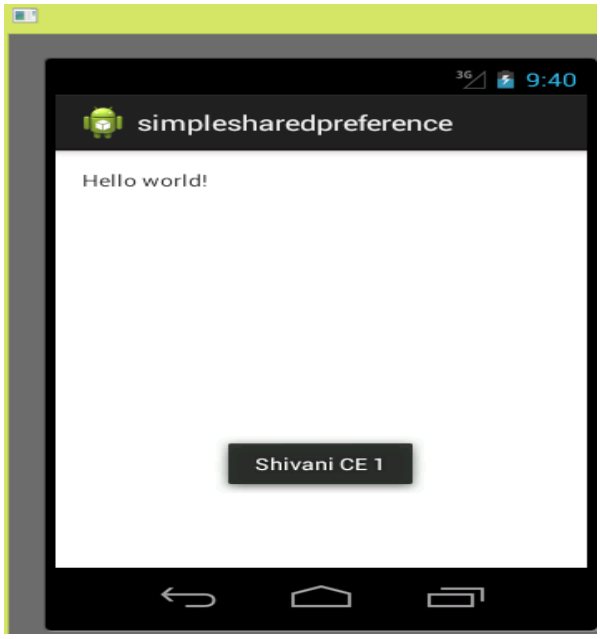


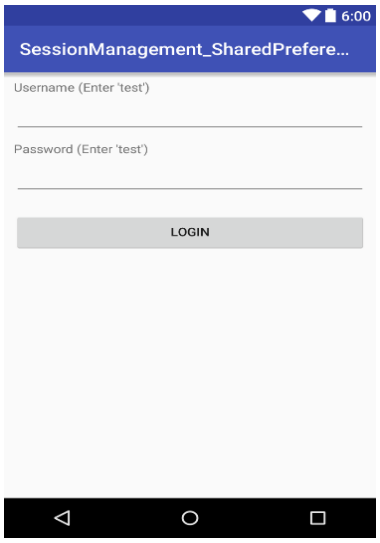
Fig. Shared Preference Demo

Practical: 18

Aim: Demonstrate the use of shared preference as session in Android

Login.xml:-

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

<!-- Email input text -->
<EditText android:id="@+id/txtUsername"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="10dip"/>

<!-- Password input text -->
<EditText android:id="@+id/txtPassword"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="20dip"
    android:password="true"
    android:singleLine="true"/>
<!-- Login button -->
<Button android:id="@+id/btnLogin"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Login"/>
</LinearLayout>
```



JAVA File: Mainactivity.java

```
public class MainActivity extends AppCompatActivity {
// Alert Dialog Manager
AlertDialogManager alert = new AlertDialogManager();
// Session Manager Class
SessionManagement session;
// Button Logout
Button btnLogout;
 @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
// Session class instance
session = new SessionManagement(getApplicationContext());

        TextView lblName = (TextView) findViewById(R.id.lblName);
        TextView lblEmail = (TextView)
findViewById(R.id.lblEmail);

// Button logout
btnLogout = (Button) findViewById(R.id.btnLogout);

        Toast.makeText(getApplicationContext(), "User Login
Status: " + session.isLoggedIn(), Toast.LENGTH_LONG).show();
/**
         * Call this function whenever you want to check user
login
         * This will redirect user to LoginActivity is he is not
         * logged in
         * */
session.checkLogin();

// get user data from session
HashMap<String, String> user = session.getUserDetails();

// name
String name = user.get(SessionManagement.KEY_NAME);

// email
String email = user.get(SessionManagement.KEY_EMAIL);

// displaying user data
lblName.setText(Html.fromHtml("Name: <b>" + name + "</b>"));
        lblEmail.setText(Html.fromHtml("Email: <b>" + email +
"</b>"));
/** Logout button click event
         * */
btnLogout.setOnClickListener(new View.OnClickListener() {
 @Override
            public void onClick(View arg0) {
// Clear the session data
```

```
                // This will clear all session data and
                // redirect user to LoginActivity
session.logoutUser(); }
        });}}
```

JAVA File: Loginactivity.java

```
public class LoginActivity extends AppCompatActivity {

// Email, password edittext
EditText txtUsername, txtPassword;

// login button
Button btnLogin;

// Alert Dialog Manager
AlertDialogManager alert = new AlertDialogManager();

// Session Manager Class
SessionManagement session;

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

// Session Manager
session = new SessionManagement(getApplicationContext());

// Email, Password input text
txtUsername = (EditText) findViewById(R.id.txtUsername);
        txtPassword = (EditText) findViewById(R.id.txtPassword);

        Toast.makeText(getApplicationContext(), "User Login
Status: " + session.isLoggedIn(), Toast.LENGTH_LONG).show();


// Login button
btnLogin = (Button) findViewById(R.id.btnLogin);


// Login button click event
btnLogin.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View arg0) {
// Get username, password from EditText
String username = txtUsername.getText().toString();
                String password =
txtPassword.getText().toString();
```

```
// Check if username, password is filled
if (username.trim().length() > 0 && password.trim().length() > 0)
{
// For testing puspose username, password is checked with sample
data
                    // username = test
                    // password = test
if (username.equals("1315MECE01") && password.equals("ldrp")) {

// Creating user login session
                        // For testing i am stroing name, email
as follow
                        // Use user real data
session.createLoginSession("Jashvant",
"jashvant.dave@gmail.com");

// Staring MainActivity
Intent i = new Intent(getApplicationContext(),
MainActivity.class);
                        startActivity(i);
                        finish();

                    } else {
// username / password doesn't match
alert.showAlertDialog(LoginActivity.this, "Login failed..",
"Username/Password is incorrect", false);
                    }
                } else {
// user didn't entered username or password
                    // Show alert asking him to enter the details
alert.showAlertDialog(LoginActivity.this, "Login failed..",
"Please enter username and password", false);
                }}
        });}}
```

JAVA File: AlertDialogManager.java

```
public class AlertDialogManager {

public void showAlertDialog(Context context, String title, String
message,
                                Boolean status) {
        AlertDialog alertDialog = new
AlertDialog.Builder(context).create();

// Setting Dialog Title
alertDialog.setTitle(title);

// Setting Dialog Message
```

```
alertDialog.setMessage(message);

        if(status != null)
// Setting alert dialog icon
alertDialog.setIcon((status) ? R.drawable.loginaccept :
R.drawable.xmark);

// Setting OK Button
alertDialog.setButton("OK", new DialogInterface.OnClickListener()
{
            public void onClick(DialogInterface dialog, int
which) {
            }
        });


// Showing Alert Message
alertDialog.show();
    }
}
```

Output:

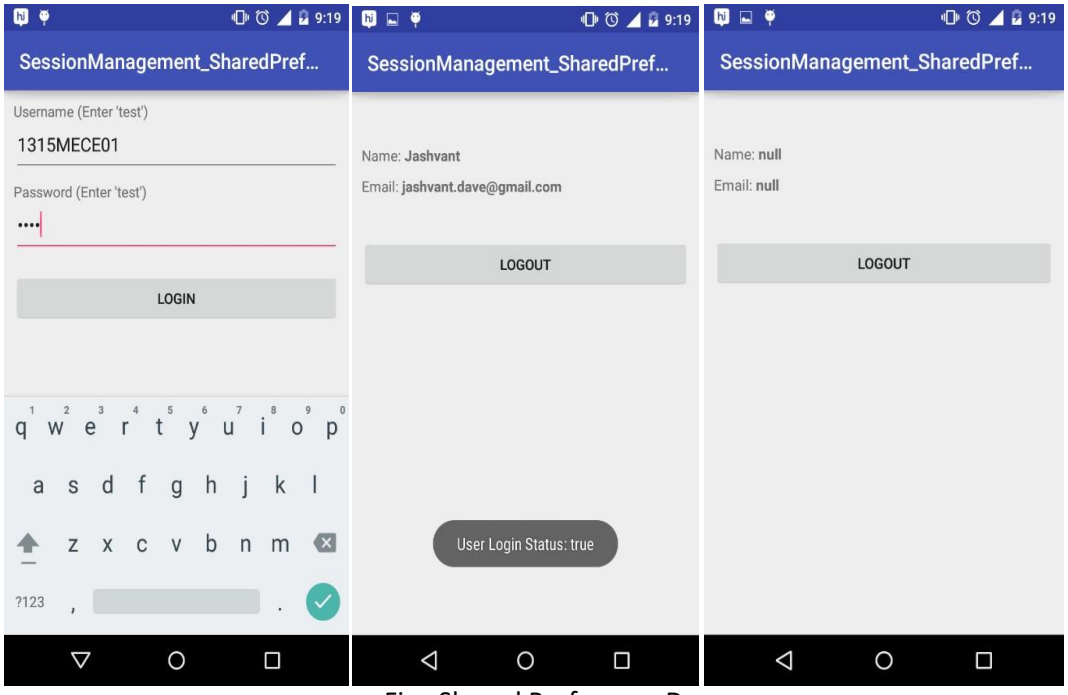


Fig. Shared Preference Demo

Xml File:-

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.example.fragement.MainActivity" >

<TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_world" />

<Button
        android:id="@+id/btn3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/btn2"
        android:layout_alignBottom="@+id/btn2"
        android:layout_marginLeft="20dp"
        android:layout_toRightOf="@+id/btn2"
android:text="SUB" />

<Button
        android:id="@+id/btn2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/btn1"
        android:layout_alignBottom="@+id/btn1"
        android:layout_marginLeft="18dp"
        android:layout_toRightOf="@+id/textView1"
android:text="MUL" />

<Button
        android:id="@+id/btn4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/btn1"
        android:layout_below="@+id/btn1"
        android:layout_marginTop="32dp"
android:text="Div" />

<Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_below="@+id/textView1"
        android:layout_marginTop="39dp"
android:text="SUM" />

<FrameLayout
        android:id="@+id/frame1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_alignRight="@+id/btn2"
        android:layout_marginBottom="46dp" >
</FrameLayout>

</RelativeLayout>
```

Sum.xml,sub.xml,mul.xml, div.xml:-

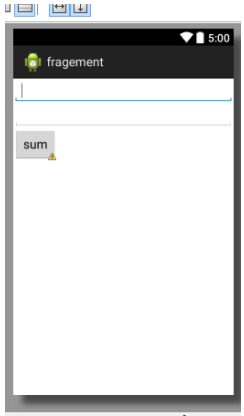
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

<EditText
        android:id="@+id/txt1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="number">

<requestFocus />
</EditText>

<EditText
        android:id="@+id/txt2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="number" />

<Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
android:text="sum" />                 /* SUB , MUL , DIV.

</LinearLayout>
```

MainActivity.java

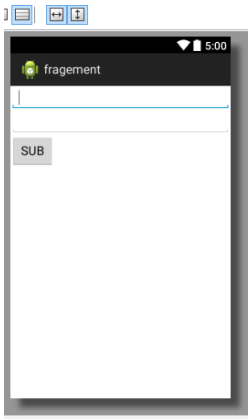
```
package com.example.fragement;

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

public class MainActivity extends Activity {

	Button btn1,btn2,btn3,btn4;
	@Override
	protected void onCreate(Bundle savedInstanceState) {
		super.onCreate(savedInstanceState);
		setContentView(R.layout.activity_main);

		btn1 = (Button) findViewById(R.id.btn1);
		btn2 = (Button) findViewById(R.id.btn2);
		btn3 = (Button) findViewById(R.id.btn3);
		btn4 = (Button) findViewById(R.id.btn4);
		btn1.setOnClickListener(new View.OnClickListener() {

			@Override
			public void onClick(View v)
			{
				// TODO Auto-generated method stub
			FragmentTransaction ft =
getFragmentManager().beginTransaction();
			ft.add(R.id.frame1,new frag1());
			ft.commit();

			}
		});

btn3.setOnClickListener(new View.OnClickListener() {

			@Override
			public void onClick(View v)
			{
				// TODO Auto-generated method stub
			FragmentTransaction ft =
getFragmentManager().beginTransaction();
			ft.replace(R.id.frame1,new frag3());
			ft.commit();

			}
		});
```

```
btn2.setOnClickListener(new View.OnClickListener() {

      @Override
      public void onClick(View v)
      {
            // TODO Auto-generated method stub
      FragmentTransaction ft =
getFragmentManager().beginTransaction();
      ft.replace(R.id.frame1,new frag2());
      ft.commit();

      }
});

btn4.setOnClickListener(new View.OnClickListener() {

      @Override
      public void onClick(View v)
      {
            // TODO Auto-generated method stub
      FragmentTransaction ft =
getFragmentManager().beginTransaction();
      ft.replace(R.id.frame1,new frag4());
      ft.commit();

      }
});


      }


}
```

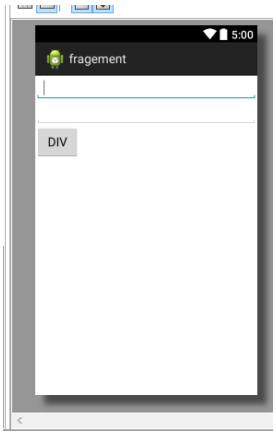
Activity_main.xml



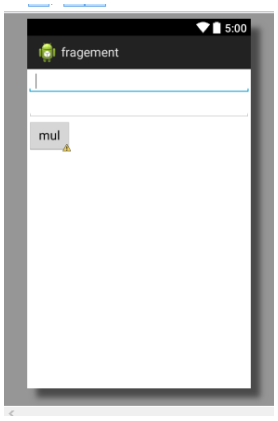
sum.xml



sub.xml



div.xml



mul.xml

JAVA file: SUM.java:-

```
package com.example.fragement;

public class frag1 extends Fragment
{
      EditText txt1,txt2;
      Button btn1;
      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
                  Bundle savedInstanceState)
      {
            View v1 = inflater.inflate(R.layout.sum,container,
false);
            txt1 = (EditText) v1.findViewById(R.id.txt1);
            txt2 = (EditText) v1.findViewById(R.id.txt2);
            btn1 = (Button) v1.findViewById(R.id.btn1);
            btn1.setOnClickListener(new View.OnClickListener() {
                  @Override
                  public void onClick(View v)
                  {
                        // TODO Auto-generated method stub
                        String s = txt1.getText().toString();
                        String s2 = txt2.getText().toString();

                        if(s.equalsIgnoreCase("") ||
s2.equalsIgnoreCase(""))
                        {
                              Toast.makeText(getActivity(),"plzz
enter nos",Toast.LENGTH_LONG).show();
```

```
                        }
                        else
                        {
                              int a = Integer.parseInt(s);
                              int a1 = Integer.parseInt(s2);

                              int sum = a+a1;

      Toast.makeText(getActivity(),""+sum,Toast.LENGTH_LONG).show
();

                        }
                  }
});

            return v1;
      }
}
```

JAVA file: Sub.java:-

```
package com.example.fragement;

public class frag2 extends Fragment
{
      EditText txt1,txt2;
      Button btn1;
      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
                  Bundle savedInstanceState)
{
            View v1 = inflater.inflate(R.layout.mul,container,
false);
            txt1 = (EditText) v1.findViewById(R.id.txt1);
            txt2 = (EditText) v1.findViewById(R.id.txt2);
            btn1 = (Button) v1.findViewById(R.id.btn);
            btn1.setOnClickListener(new View.OnClickListener() {
            @Override
                  public void onClick(View v)
                  {
                        // TODO Auto-generated method stub
                        String s = txt1.getText().toString();
                        String s2 = txt2.getText().toString();

                        if(s.equalsIgnoreCase("") ||
s2.equalsIgnoreCase(""))
                        {
                              Toast.makeText(getActivity(),"plzz
enter nos",Toast.LENGTH_LONG).show();
```

```
                        }
                        else
                        {
                              int a = Integer.parseInt(s);
                              int a1 = Integer.parseInt(s2);

                              int sum = a-a1;

      Toast.makeText(getActivity(),""+sum,Toast.LENGTH_LONG).show
();
                              }
                  }
            });
            return v1;
      }

}
```

JAVA file: mul.java:-

```
package com.example.fragement;

public class frag3 extends Fragment
{
      EditText txt1,txt2;
      Button btn1;
      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
                  Bundle savedInstanceState)
{
            View v1 = inflater.inflate(R.layout.sub,container,
false);
            txt1 = (EditText) v1.findViewById(R.id.txt1);
            txt2 = (EditText) v1.findViewById(R.id.txt2);
            btn1 = (Button) v1.findViewById(R.id.btn1);
            btn1.setOnClickListener(new View.OnClickListener() {
            @Override
                  public void onClick(View v)
                  {
                        // TODO Auto-generated method stub
                        String s = txt1.getText().toString();
                        String s2 = txt2.getText().toString();
                        if(s.equalsIgnoreCase("") ||
s2.equalsIgnoreCase(""))
                        {
                              Toast.makeText(getActivity(),"plzz
enter nos",Toast.LENGTH_LONG).show();
                        }
                        else
                        {
```

```
                              int a = Integer.parseInt(s);
                              int a1 = Integer.parseInt(s2);
                              int sum = a*a1;
      Toast.makeText(getActivity(),""+sum,Toast.LENGTH_LONG).show
();
                        }
                  }
            });
            return v1;
      }
}
```

JAVA file: div.java:-

```
package com.example.fragement;

public class frag4 extends Fragment

{
      EditText txt1,txt2;
      Button btn1;
      @Override
      public View onCreateView(LayoutInflater inflater, ViewGroup
container,
                  Bundle savedInstanceState)
{
            View v1 = inflater.inflate(R.layout.div,container,
false);
            txt1 = (EditText) v1.findViewById(R.id.txt1);
            txt2 = (EditText) v1.findViewById(R.id.txt2);
            btn1 = (Button) v1.findViewById(R.id.btn1);
            btn1.setOnClickListener(new View.OnClickListener() {
            @Override
                  public void onClick(View v)
                  {
                        String s = txt1.getText().toString();
                        String s2 = txt2.getText().toString();
                        if(s.equalsIgnoreCase("") ||
s2.equalsIgnoreCase(""))
                        {
                              Toast.makeText(getActivity(),"plzz
enter nos",Toast.LENGTH_LONG).show();
                        }
                        else
                        {
                              int a = Integer.parseInt(s);
                              int a1 = Integer.parseInt(s2);
                              if(a1== 0)
                              {
```

```
      Toast.makeText(getActivity(),"Cant divide by
zero",Toast.LENGTH_LONG).show();
                              }
                              else
                              {
                                    int div = a/a1;

      Toast.makeText(getActivity(),""+div,Toast.LENGTH_LONG).show
();
                              }
                        }
                  }
            });
            return v1;
      }
}
```

Output:-

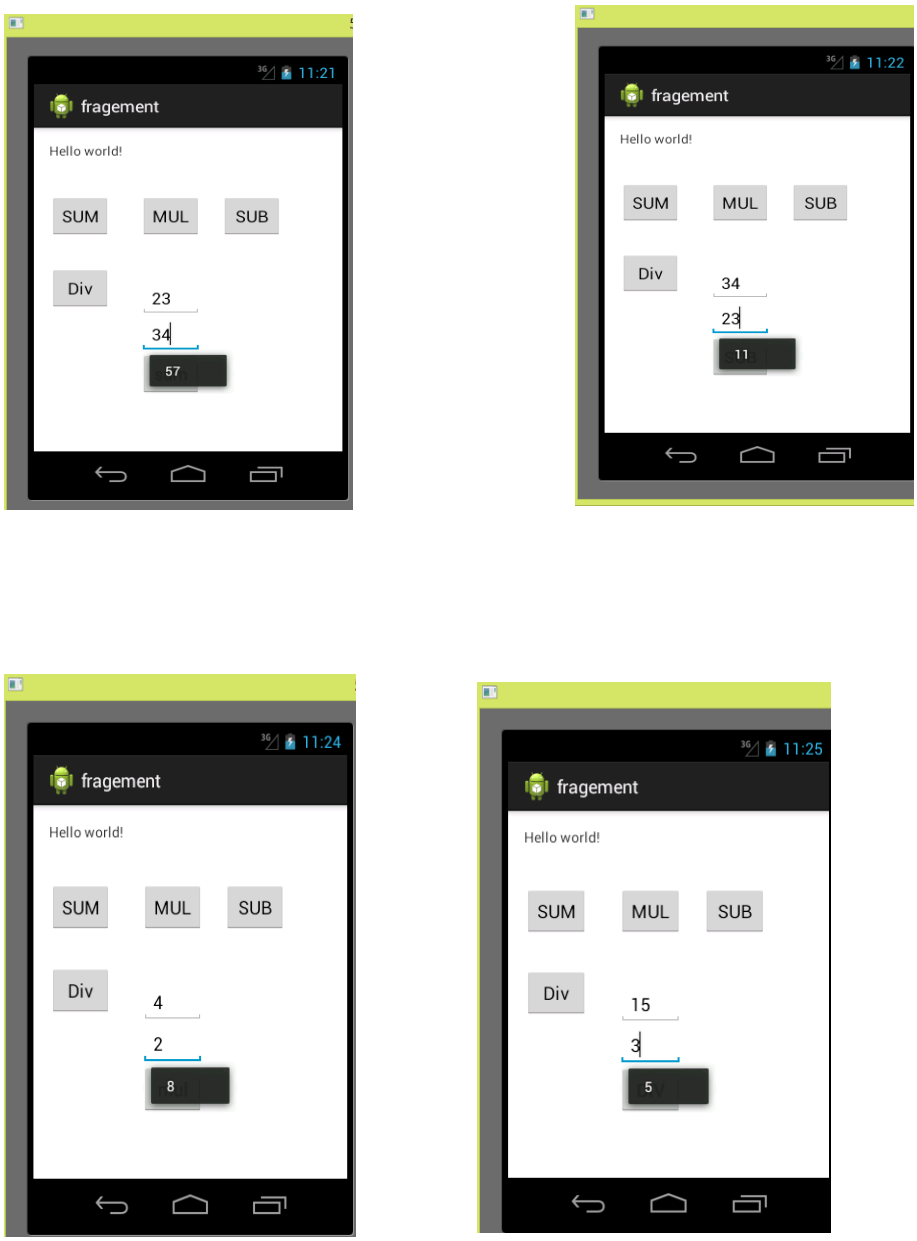


Fig. Fragment Calculator

Practical: 19

Aim: Playing audio files in Android App

Activity_main.xml:-

```
<RelativeLayoutxmlns:android="http://schemas.android.com/apk/res/
android"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/start"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingBottom="@dimen/activity_vertical_margin"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
tools:context="com.example.playaudio.MainActivity">

<TextView
android:id="@+id/textView1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="@string/hello_world"/>

<Button
android:id="@+id/button1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignLeft="@+id/textView1"
android:layout_below="@+id/textView1"
android:layout_marginTop="80dp"
android:text="Start"/>

<Button
android:id="@+id/pause"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignBaseline="@+id/button1"
android:layout_alignBottom="@+id/button1"
android:layout_marginLeft="44dp"
android:layout_toRightOf="@+id/button1"
android:text="pause"/>

<Button
android:id="@+id/stop"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/pause"
android:layout_centerHorizontal="true"
android:layout_marginTop="46dp"
```

```
android:text="stop"/>

</RelativeLayout>
```

Activity_main.xml

JAVA file: MainActivity.java:-

```
package com.example.administrator.playaudio;

public class PlayAudioActivity extends AppCompatActivity
 {
      Button start,pause,stop;
       @Override
       protected void onCreate(Bundle savedInstanceState) {
         super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_play_audio);
       start=(Button)findViewById(R.id.button1);
      pause=(Button)findViewById(R.id.button2);
       stop=(Button)findViewById(R.id.button3);
      //creating media player
       final MediaPlayer mp=new MediaPlayer();

 try{
            //String str =
Environment.getExternalStorageDirectory().getPath()+"/Mp-
3/1.mp3";
            //String str =
Environment.getExternalStorageDirectory().getPath()+"/1.mp3";
            String mExternalDirPath=
Environment.getExternalStorageDirectory().getAbsolutePath();
            String mTargetPath = mExternalDirPath + "/1.mp3";
```

```
            Toast.makeText(PlayAudioActivity.this,
mTargetPath,Toast.LENGTH_LONG).show();
            mp.setDataSource(mTargetPath);
            mp.prepare();
        }catch(Exception e){e.printStackTrace();}
start.setOnClickListener(new OnClickListener() {
            @Override
            public void onClick(View v) {

Toast.makeText(PlayAudioActivity.this,"Play",Toast.LENGTH_LONG).s
how();
                mp.start();
            }
        });
        pause.setOnClickListener(new OnClickListener() {
            @Override
            public void onClick(View v) {

Toast.makeText(PlayAudioActivity.this,"Pause",Toast.LENGTH_LONG).
show();
                mp.pause();
            }
        });
        stop.setOnClickListener(new OnClickListener() {
            @Override
            public void onClick(View v) {

Toast.makeText(PlayAudioActivity.this,"Stop",Toast.LENGTH_LONG).s
how();
                mp.stop();
            }
 });
 }
}
```

Practical: 20

Aim: Playing video files in Android App.

Activity_main.xml:-

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

<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
    android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:paddingBottom="@dimen/activity_vertical_margin"

tools:context="com.example.administrator.playaudio.Main2Activity"
>

<VideoView
        android:layout_width="400dp"
        android:layout_height="400dp"
        android:id="@+id/VideoView1"/>

<Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Play"
        android:id="@+id/btnPlay"
        android:layout_below="@+id/VideoView1"/>

<Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Stop"
        android:id="@+id/btnStop"
        android:layout_below="@+id/btnPlay"/>

</RelativeLayout>
```

JAVA file: MainActivity.java:-

```
package com.example.administrator.playaudio;

public class Main2Activity extends AppCompatActivity {
      VideoView mVideoView;
      Button mButtonPlay;
```

```
       @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        mVideoView = (VideoView) findViewById(R.id.VideoView1);
        mButtonPlay = (Button) findViewById(R.id.btnPlay);
      mButtonPlay.setOnClickListener(new View.OnClickListener()
{
            @Override
            public void onClick(View v) {
                //String uriPath =
"android.resource://com.android.AndroidVideoPlayer/"+R.raw.k;

                String mExternalDirPath=
Environment.getExternalStorageDirectory().getAbsolutePath();
                String mTargetPath = mExternalDirPath +
"/DCIM/1Videoshow/1.mp4";

                Uri uri = Uri.parse(mTargetPath);
                mVideoView.setVideoURI(uri);
                mVideoView.requestFocus();
                mVideoView.start();

            }
        });

    }
}
```

Practical: 21

Aim: Implement the concept of WebView to load different web URLs in Android App.

Activity_main.xml:-

```
<RelativeLayoutxmlns:android="http://schemas.android.com/apk/res/
android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingBottom="@dimen/activity_vertical_margin"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
tools:context="com.example.webview.MainActivity">

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/ed1"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btnSearch"
android:layout_below="@+id/ed1"
android:text="Load URL"/>

<WebView
android:layout_width="fill_parent"
android:layout_height="fill_parent"
android:id="@+id/wb1"
android:layout_below="@+id/btnSearch">

</WebView></RelativeLayout>
```

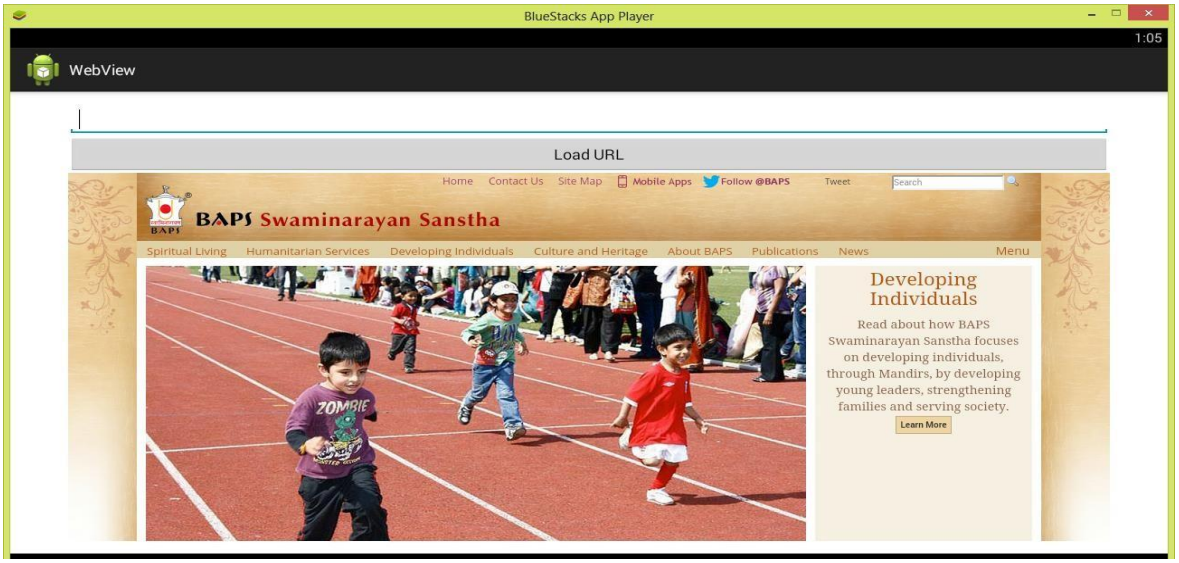
```
</RelativeLayout>
```

JAVA File: Mainacivity.java

```
package com.example.webview;
public class MainActivity extends Activity {

       Button mBtnSearch;
          EditText mEditText;
          WebView mWebView;

      @Override
      protected void onCreate(Bundle savedInstanceState) {
            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);
             mEditText = (EditText) findViewById(R.id.ed1);
               mWebView = (WebView) findViewById(R.id.wb1);
            mBtnSearch = (Button) findViewById(R.id.btnSearch);
            mBtnSearch.setOnClickListener(new
      View.OnClickListener() {
                  @Override
                  public void onClick(View v) {

mWebView.getSettings().setJavaScriptEnabled(true);
                        mWebView.loadUrl("http://www.baps.org");

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

Output:-

Fig. WebView demo



Practical 22

Aim: Create a webservice using URL Connection in android

Manifest File:

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

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

<application
android:allowBackup="true"
android:icon="@mipmap/ic_launcher"
android:label="@string/app_name"
android:supportsRtl="true"
android:theme="@style/AppTheme" >
<activity android:name=".MainActivity" >

</activity>
<activity android:name=".Addition" >
<intent-filter>
<action android:name="android.intent.action.MAIN" />

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

</manifest>
```

Acivity_mail.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
```

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

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Call Service"
android:id="@+id/btnCallService"/>

</RelativeLayout>
```

Activity_Addition.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context="com.example.administrator.webserviceusingurlconne
ction.Addition">

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

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/edB"
android:hint="Enter B"
android:layout_below="@+id/edA"/>

<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/btnCall"
android:text="Add"
android:layout_below="@+id/edB"/>

</RelativeLayout>
```

MainActivity.java:-

```
package com.example.administrator.webserviceusingurlconnection;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.AsyncTask;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import java.io.BufferedInputStream;
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.net.HttpURLConnection;
import java.net.URI;
import java.net.URL;
import java.net.URLConnection;

public class MainActivity extends AppCompatActivity {

    Button mBtnCall;
    String data;
    String Default="null";
    String TAG="####";
    EditText username,password;
    HttpURLConnection urlConnection;
    String response;

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

mBtnCall = (Button) findViewById(R.id.btnCallService);

mBtnCall.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                AsyncCallWS task = new AsyncCallWS();
                task.execute();
```

```
            }
        });

    }


private class AsyncCallWS extends AsyncTask<String, Void, Void>
    {
@Override
protected Void doInBackground(String... params)
        {
try
{
data=fetchdata();
            }
catch (Exception e)
            {
                e.printStackTrace();
            }
return null;
        }
@Override
protected void onPostExecute(Void result)
        {
            Toast.makeText(MainActivity.this,
response,Toast.LENGTH_LONG).show();

}
@Override
protected void onPreExecute()
        {
            Log.i(TAG, "onPreExecute");
        }
@Override
protected void onProgressUpdate(Void... values)
        {
            Log.i(TAG, "onProgressUpdate");
        }
    }

public String fetchdata()throws Exception
    {
        BufferedReader in=null;

String
murl="http://www.easyhome.16mb.com/login.php?u=arpit@a.com&p=123
45";
```

```
try{
                URL url = new URL(murl);
urlConnection = (HttpURLConnection) url.openConnection();
urlConnection.setRequestMethod("GET");
int statusCode = urlConnection.getResponseCode();
if (statusCode ==  200) {
                    InputStream inputStream = new
BufferedInputStream(urlConnection.getInputStream());
response = convertInputStreamToString(inputStream);
                }
else
{

Toast.makeText(MainActivity.this,"FAIL",Toast.LENGTH_LONG).show(
);
//result = 0; //"Failed to fetch data!";
}

            }
catch (Exception ex)
            {
                Toast.makeText(MainActivity.this,
ex.getMessage(),Toast.LENGTH_LONG).show();
            }

return response;
    }

private String convertInputStreamToString(InputStream
inputStream) throws IOException {

        BufferedReader bufferedReader = new BufferedReader( new
InputStreamReader(inputStream));

        String line = "";
        String result = "";

while((line = bufferedReader.readLine()) != null){
            result += line;
        }

/* Close Stream */
if(null!=inputStream){
            inputStream.close();
        }

return result;
```

```
    }
}
```

Additon.java:-

```
package com.example.administrator.webserviceusingurlconnection;

public class Addition extends AppCompatActivity {

    EditText mEda, mEdb;
    Button mBtnCall;
    String data;
    String Default="null";
    String TAG="####";
    EditText username,password;
    HttpURLConnection urlConnection;
    String response;

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

mEda = (EditText) findViewById(R.id.edA);
mEdb = (EditText) findViewById(R.id.edB);

mBtnCall = (Button) findViewById(R.id.btnCall);

mBtnCall.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
                AsyncCallWS task = new AsyncCallWS();
                task.execute();
            }
        });
    }
private class AsyncCallWS extends AsyncTask<String, Void, Void>
        {
@Override
protected Void doInBackground(String... params)
            {
try
{
data=fetchdata();
                }
catch (Exception e)
                {
```

```
                    e.printStackTrace();
                }
return null;
            }
@Override
protected void onPostExecute(Void result)
            {
                Toast.makeText(Addition.this, response,
Toast.LENGTH_LONG).show();
            }
@Override
protected void onPreExecute()
            {
                Log.i(TAG, "onPreExecute");
            }
@Override
protected void onProgressUpdate(Void... values)
            {
                Log.i(TAG, "onProgressUpdate");
            }
        }

public String fetchdata()throws Exception
    {
        BufferedReader in=null;
String
murl="http://www.easyhome.16mb.com/sum.php?one="+mEda.getText().
toString()+"&two="+mEdb.getText().toString();
try{
            URL url = new URL(murl);
urlConnection = (HttpURLConnection) url.openConnection();
urlConnection.setRequestMethod("GET");
int statusCode = urlConnection.getResponseCode();
if (statusCode ==  200) {
                InputStream inputStream = new
BufferedInputStream(urlConnection.getInputStream());
response = convertInputStreamToString(inputStream);
            }
else
{

Toast.makeText(Addition.this,"FAIL",Toast.LENGTH_LONG).show();
//result = 0; //"Failed to fetch data!";
}

        }
catch (Exception ex)
```

```
        {
            Toast.makeText(Addition.this,
ex.getMessage(),Toast.LENGTH_LONG).show();
        }
return response;
    }

private String convertInputStreamToString(InputStream
inputStream) throws IOException {

        BufferedReader bufferedReader = new BufferedReader( new
InputStreamReader(inputStream));

        String line = "";
        String result = "";

while((line = bufferedReader.readLine()) != null){
            result += line;
        }

/* Close Stream */
if(null!=inputStream){
            inputStream.close();
        }
return result;
    }
}
```

Output:-

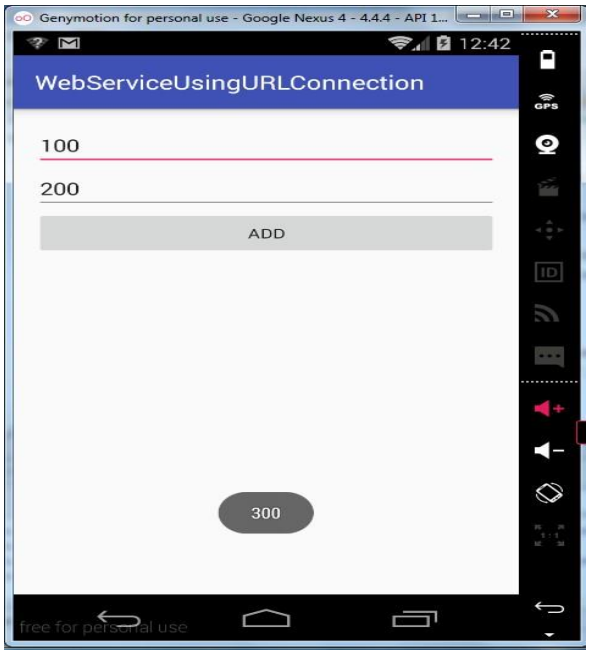


Fig. WebService demo

Practical: - 23

Aim: Implement the notification concept in Android

Xml File:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/coreLayout"
    android:orientation="vertical"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_vertical">

<TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/description"
        android:id="@+id/description"
        android:scrollbars="vertical"
        android:layout_gravity="fill_vertical"
        android:layout_weight="1"/>

<Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Do it!"
        android:id="@+id/button"
```

```
        android:layout_gravity="center"

        android:onClick="sendNotification"/>

</LinearLayout>
```

MainActivity.java:-

```
package com.example.android.basicnotifications;

public class MainActivity extends Activity {

    public static final int NOTIFICATION_ID = 1;


    public void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.sample_layout);


    }

    public void sendNotification(View view) {

        Intent intent = new Intent(Intent.ACTION_VIEW,


Uri.parse("http://developer.android.com/reference/android/app/Notifica
tion.html"));

        PendingIntent pendingIntent = PendingIntent.getActivity(this,
0, intent, 0);

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

        builder.setSmallIcon(R.drawable.ic_stat_notification);

      builder.setContentIntent(pendingIntent);
      builder.setAutoCancel(true);
      builder.setLargeIcon(BitmapFactory.decodeResource(getResources(),
      R.drawable.ic_launcher));

        builder.setContentTitle("BasicNotifications Sample");

        builder.setContentText("Time to learn about notifications!");
```

```
        builder.setSubText("Tap to view documentation about
notifications.");

        NotificationManager
notificationManager =(NotificationManager)
getSystemService(

                NOTIFICATION_SERVICE);

        notificationManager.notify(NOTIFICATION_ID,
        builder.build());

    }

}
```

Output:

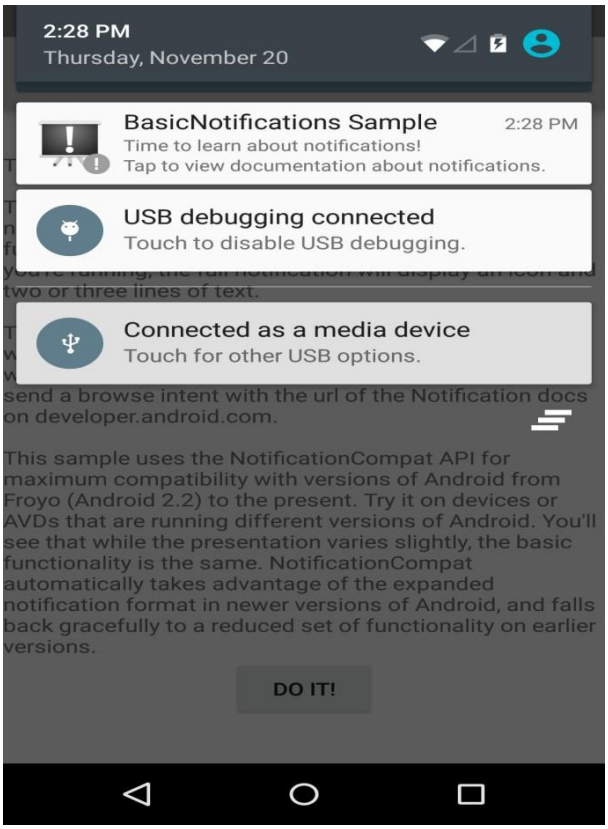


Fig. Notification demo