# Journal of Mobile Application

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# Institute of Management & Computer Studies


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**A.S.M's**

# Institute of Management & Computer Studies

Affiliated to University of Mumbai & Approved by AICTE

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Opp. to Aplab, Thane (W) – 400604.

# *Certificate*

*This is to certify that Mr. /Ms. _____*

*Student of MCA Course,_____year, **Semester_____**, Roll No. _____*

*Has successfully completed the required number of practical in subject of*

*_____as prescribed by the **University of Mumbai***

*under Our supervision during the academic year 2019-2020.*

**Practical In-Charge**
**Date:**

**Internal Examiner**
**Date:**

**External Examiner**
**Date:**

**Director**
**IMCOST**

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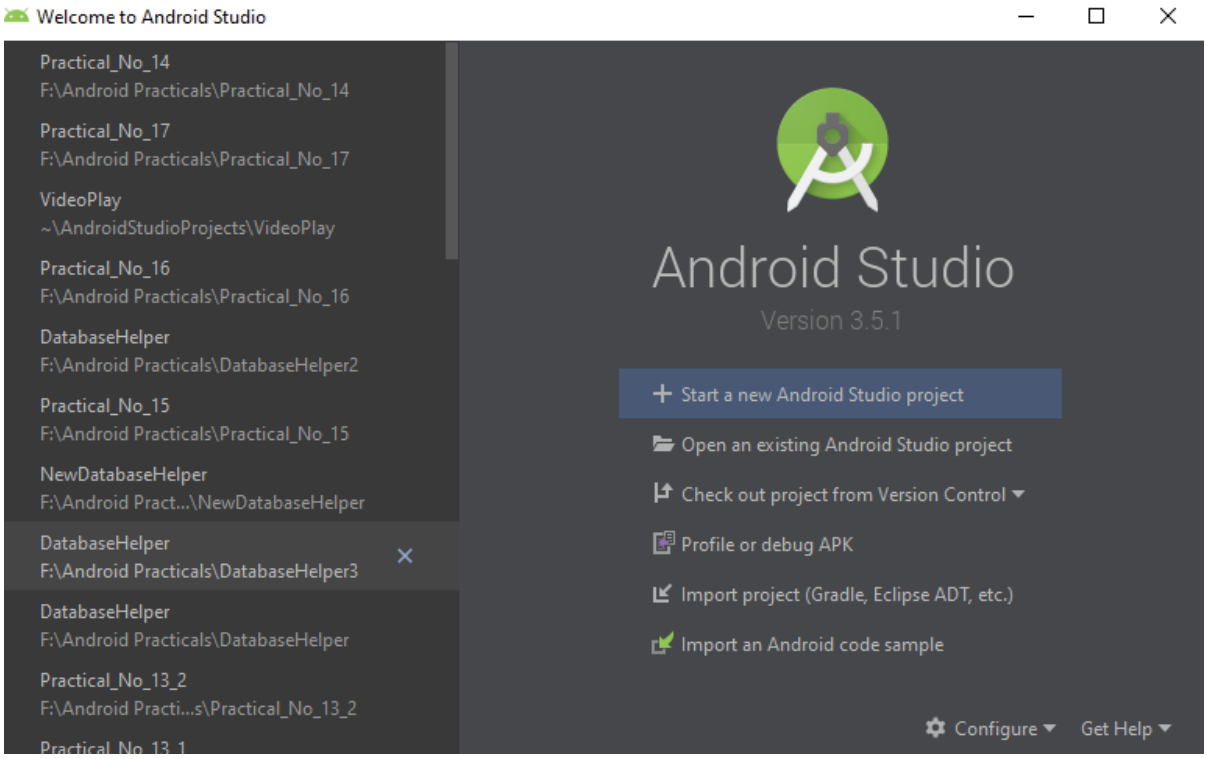
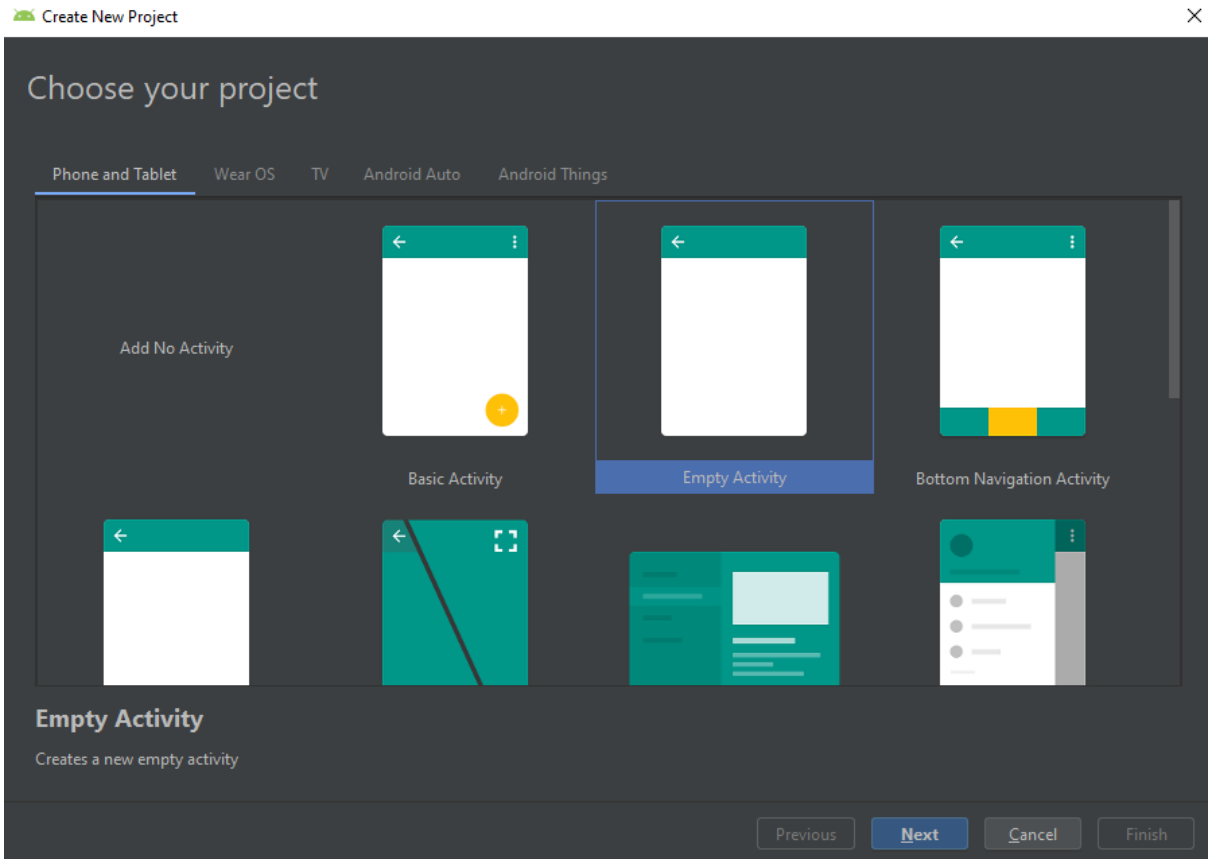
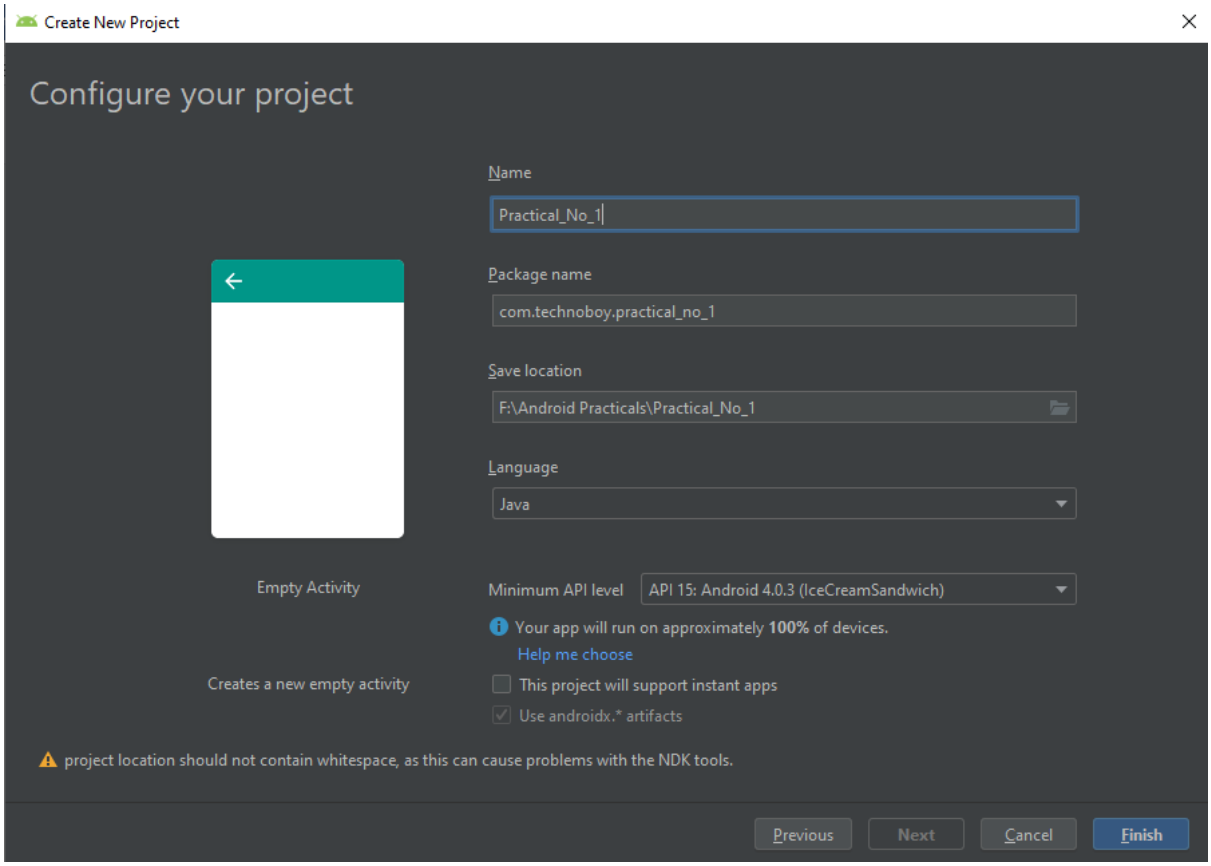
**Practical No.: 1**

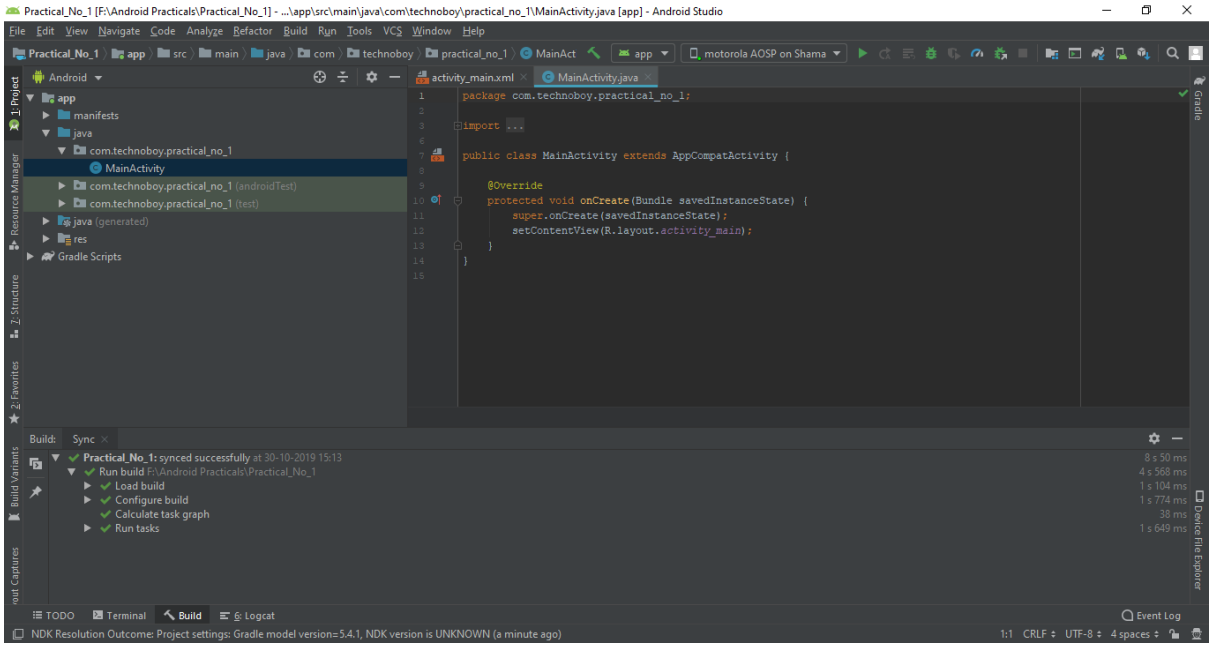
**Aim: Demonstrate Basic Connectivity of Android Program**



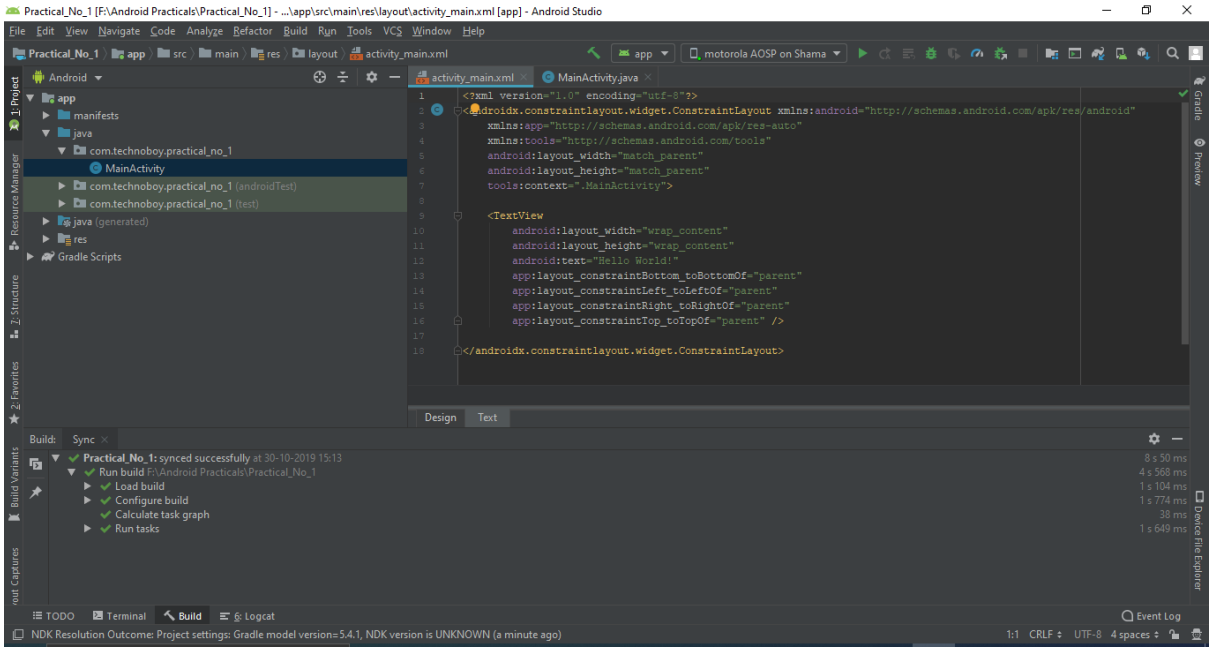



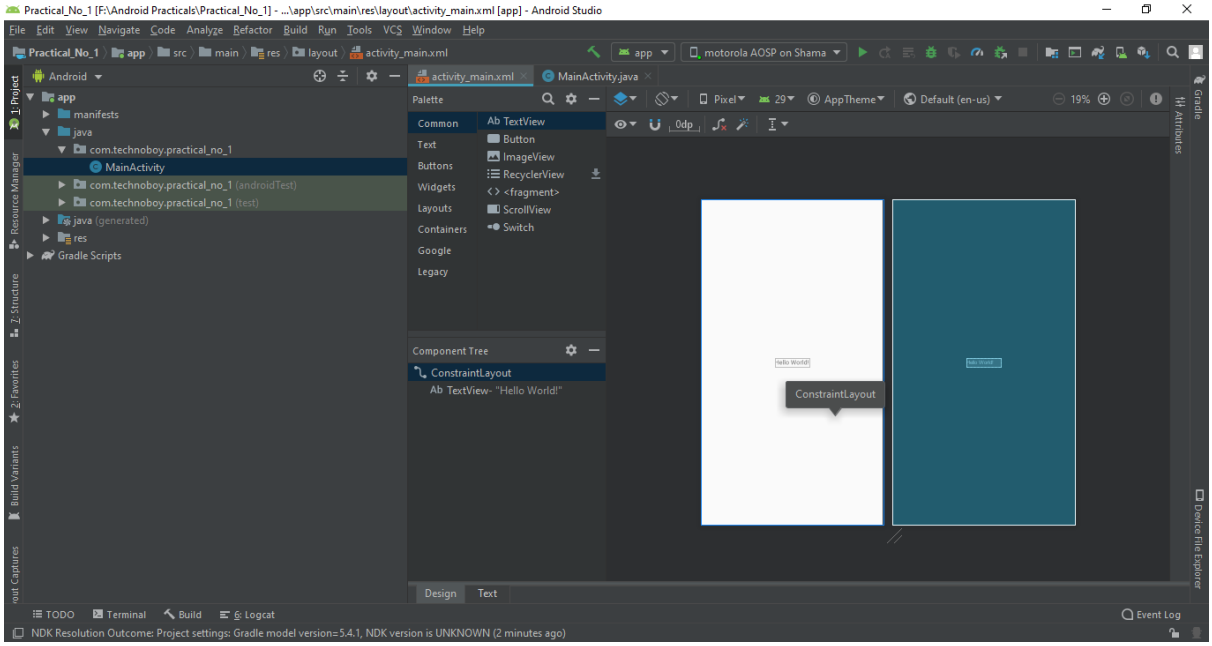



## ***MainActivity.java***

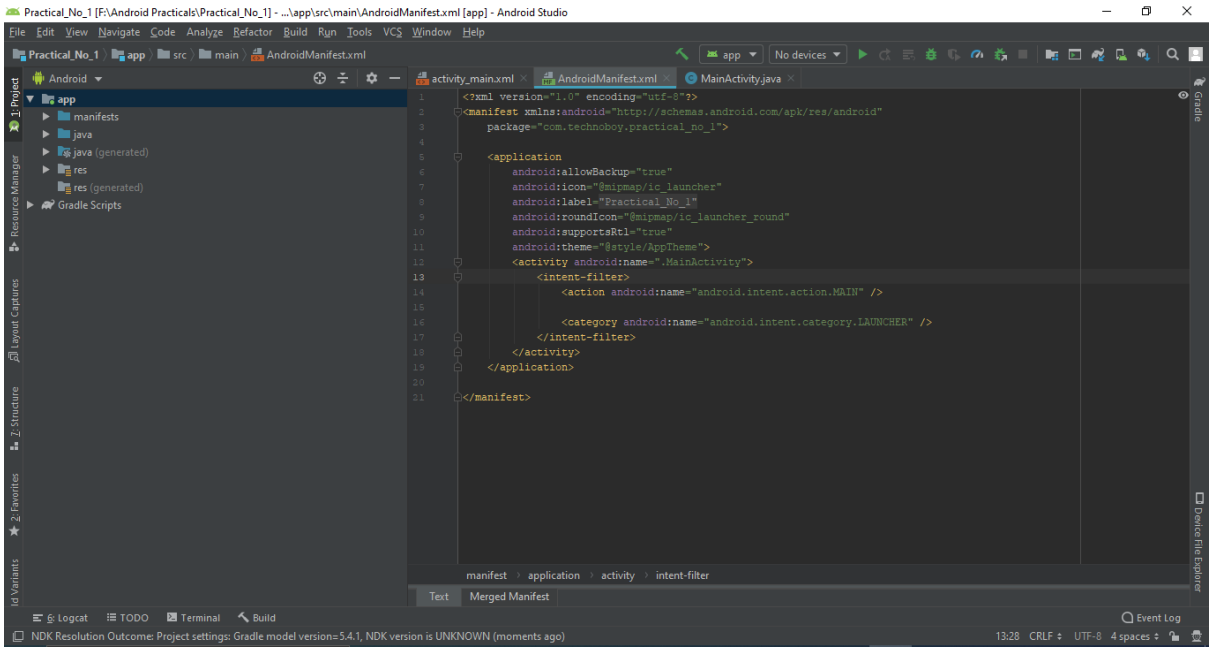


## ***activity_main.xml***

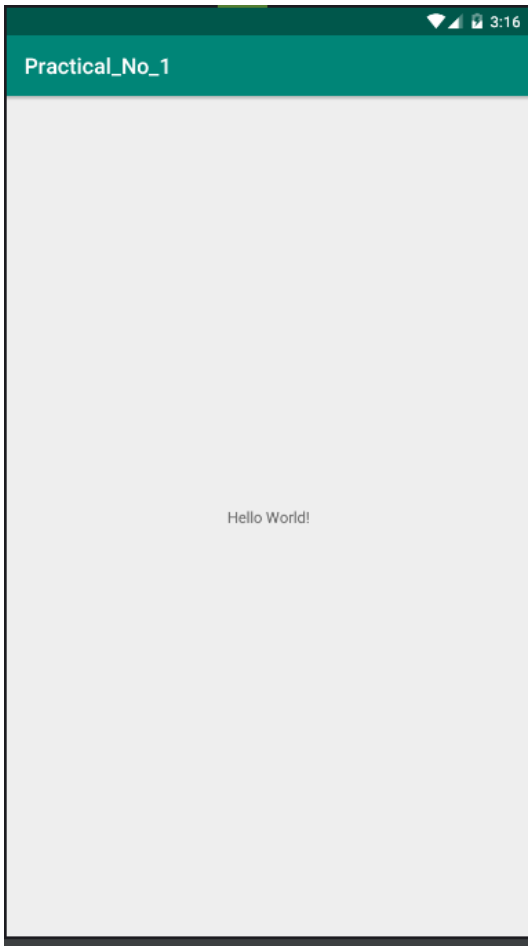


## ***AndroidManifest.xml***




## ***Output:***



**Practical No.: 2**

**Aim: Android Activity Life Cycle**

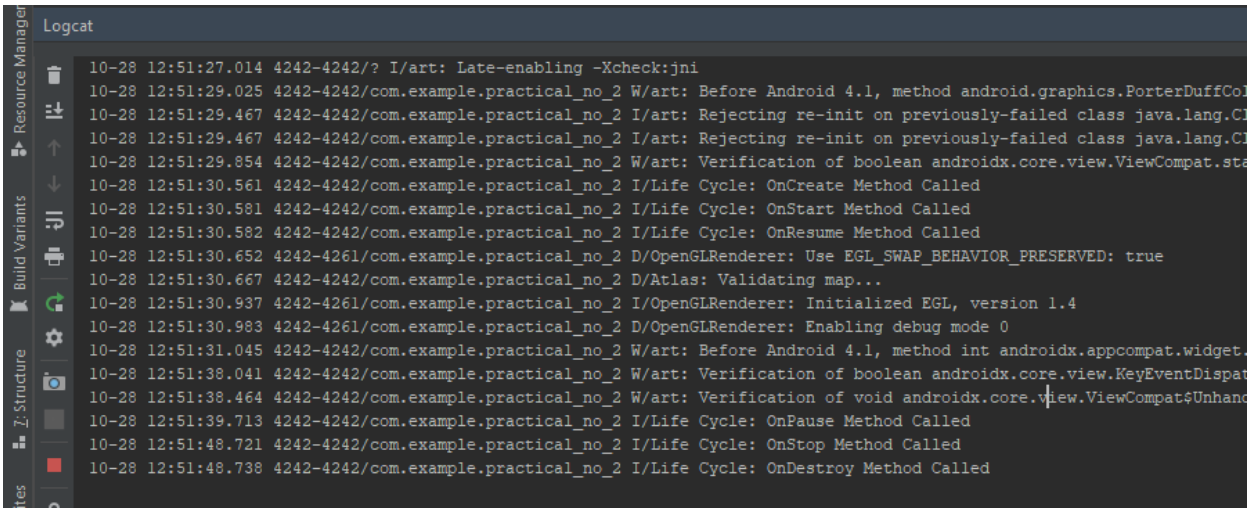
**Source Code:**

***MainActivity.java***

```
package com.example.practical_no_2;

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

public class MainActivity extends AppCompatActivity {

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

        Log.i("Life Cycle","OnCreate Method Called");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.i("Life Cycle","OnStart Method Called");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.i("Life Cycle","OnResume Method Called");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.i("Life Cycle","OnPause Method Called");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Log.i("Life Cycle","OnStop Method Called");
    }

    @Override
    protected void onRestart() {
        super.onRestart();
        Log.i("Life Cycle","OnRestart Method Called");
    }

    @Override
    protected void onDestroy() {
```

```
        super.onDestroy();
        Log.i("Life Cycle","OnDestroy Method Called");
    }
}
```

***Output:***



**Practical No.: 3**

**Aim: Create a mobile application using TextView, Button and relative layout.**

## Source Code:

### ***Activity_Main.xml***

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

    <TextView
        android:id="@+id/mytext"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/welcome"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="50dp"/>

    <Button
        android:id="@+id/mybutton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@id/mytext"
        android:layout_alignParentStart="true"
        android:text="@string/message"
        android:layout_marginStart="181dp"
        android:layout_marginTop="167dp"
        android:layout_alignParentLeft="true"
        android:layout_marginLeft="181dp" />
</RelativeLayout>
```

### ***MainActivity.java***

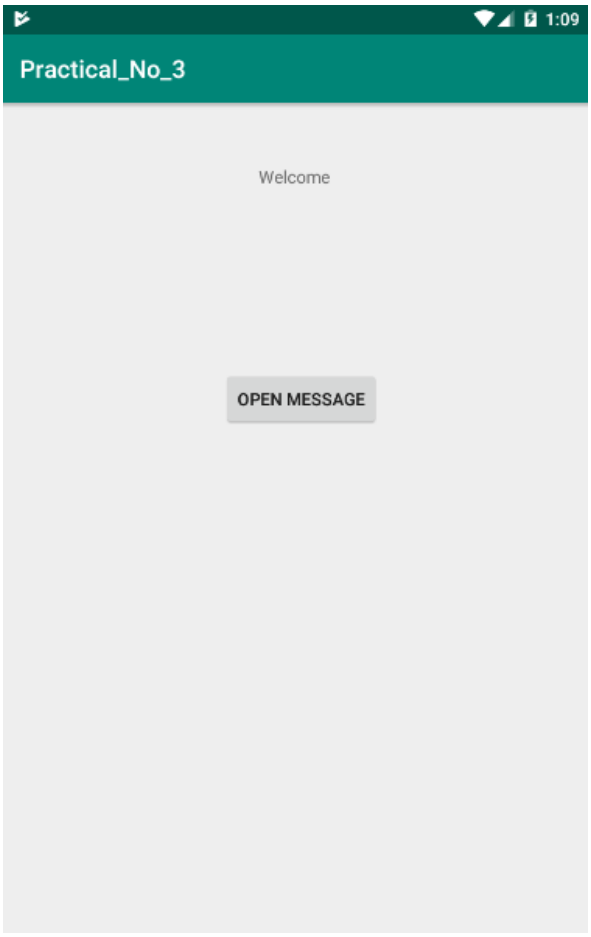
```
package com.example.practical_no_3;

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

public class MainActivity extends AppCompatActivity {

    TextView textView;
    Button button;

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

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

        textView=findViewById(R.id.mytext);
        button=findViewById(R.id.mybutton);

        button.setOnClickListener(
                new View.OnClickListener() {
                    @SuppressLint("SetTextI18n")
                    @Override
                    public void onClick(View v) {
                        textView.setText("MCA V Class Schedule on 28/9/19 at 1:00pm");
                    }
                }
        );
    }
}
```

***String.xml***

```
<resources>
    <string name="app_name">Practical_No_3</string>
    <string name="welcome">Welcome</string>
    <string name="message">Open Message</string>
</resources>
```

***Output:***




**Practical No.: 4**

**Aim: Login Application**

**Source Code:**

**Activity_main.xml**

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


    <EditText
        android:id="@+id/etName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="@string/name"
        android:inputType="textPersonName"
        android:layout_marginStart="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginBottom="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.119"
        android:autofillHints="" />

    <EditText
        android:id="@+id/etPassword"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="@string/password"
        android:inputType="textPersonName"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/etName"
        app:layout_constraintVertical_bias="0.135"
        tools:ignore="TextFields"
        android:autofillHints="" />

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

```
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:text="@string/login"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_editor_absoluteX="144dp"
        app:layout_editor_absoluteY="341dp" />

    <TextView
        android:id="@+id/tvInfo"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginTop="472dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.488"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

**MainActivity.xml**

```
package com.example.practical_no_4;

import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    private Button Login;
    private EditText Name,Password;
    private TextView Info;
    private int counter=3;

    @SuppressLint("SetTextI18n")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Name=findViewById(R.id.etName);
        Password=findViewById(R.id.etPassword);

        Login=findViewById(R.id.btnLogin);
        Info=findViewById(R.id.tvInfo);
```

```
        Info.setText("No of attempts remaining : "+counter);

        Login.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        validate(Name.getText().toString(),Password.getText().toString());
                    }
                }
        );
    }
    private void validate(String UserName,String PassWord)
    {
        if(UserName.equals("admin") && PassWord.equals("admin"))
        {
            Intent intent=new Intent(MainActivity.this,SecondActivity.class);
            startActivity(intent);
        }
        else
        {
            counter--;
            Info.setText("No of attempts remaining : "+counter);
            if(counter==0)
            {
                Login.setEnabled(false);
            }
        }
    }
}
```

**Activity_second.xml**

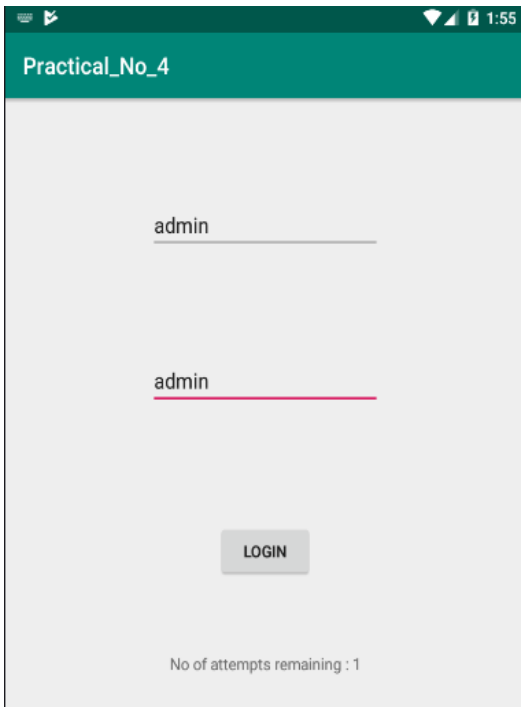
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="@string/welcome"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

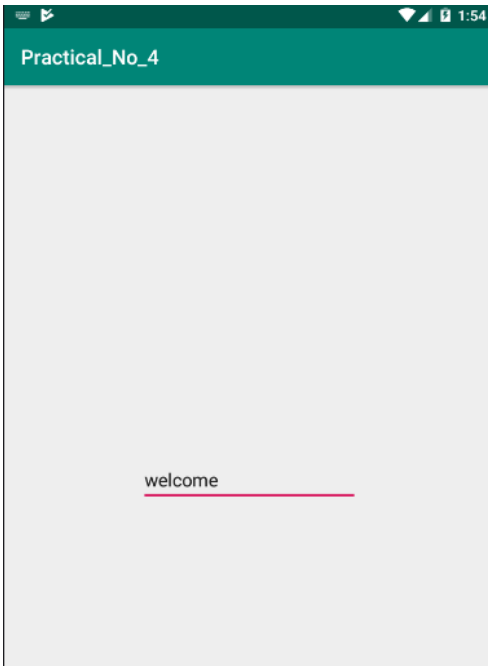
***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_4</string>
    <string name="name">Name</string>
    <string name="password">Password</string>
    <string name="welcome">welcome</string>
    <string name="login">Login</string>
</resources>
```

***Output:***





**Practical No.5**

**Aim: Currency Converter**

**Source Code:**

**Activity_main.xml**

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

    <EditText
        android:id="@+id/usd"
        android:layout_width="match_parent"
        android:layout_height="70sp"
        android:layout_centerHorizontal="true"
        android:hint="@string/dollar"
        android:textAlignment="center"/>

    <EditText
        android:id="@+id/bdt"
        android:layout_width="match_parent"
        android:layout_height="70sp"
        android:layout_below="@+id/submit"
        android:layout_centerHorizontal="true"
        android:hint="@string/rupees"
        android:textAlignment="center"/>

    <Button
        android:id="@+id/submit"
        android:layout_width="match_parent"
        android:layout_height="60sp"
        android:layout_below="@id/usd"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:onClick="click"
        android:text="@string/dollar_to_rupees"/>

    <Button
        android:id="@+id/submit2"
        android:layout_width="match_parent"
        android:layout_height="60sp"
        android:layout_below="@id/bdt"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:onClick="click2"
        android:text="@string/rupees_to_dollar" />

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

```
        android:layout_height="60sp"
        android:layout_below="@id/submit2"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:onClick="reset"
        android:text="@string/reset"/>

</RelativeLayout>
```

**MainActivity.java**

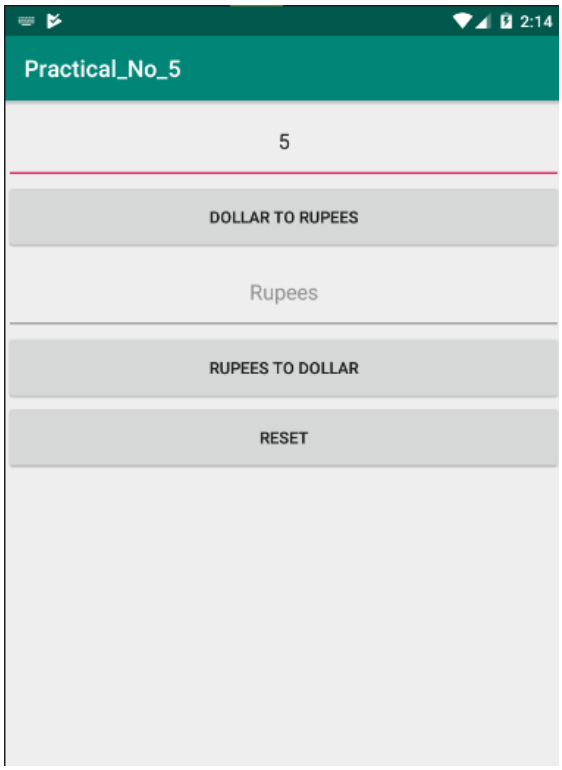
```
package com.example.practical_no_5;

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

public class MainActivity extends AppCompatActivity {

    float a;
    EditText usd,bdt;
    Button b1,b2;

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

        usd=findViewById(R.id.usd);
        bdt=findViewById(R.id.bdt);
        usd.setInputType(InputType.TYPE_CLASS_NUMBER);
        bdt.setInputType(InputType.TYPE_CLASS_NUMBER);
    }

    void convertUsdToBdt()
    {
        double a=Integer.parseInt(usd.getText().toString());
        double result=a*73;
        bdt.setText(String.valueOf(result));
    }

    void convertBdtToUsd()
    {
        double a=Integer.parseInt(bdt.getText().toString());
        double result=a/73;
        usd.setText(String.valueOf(result));
    }

    public void reset(View view)
    {
        usd.setText("");
```

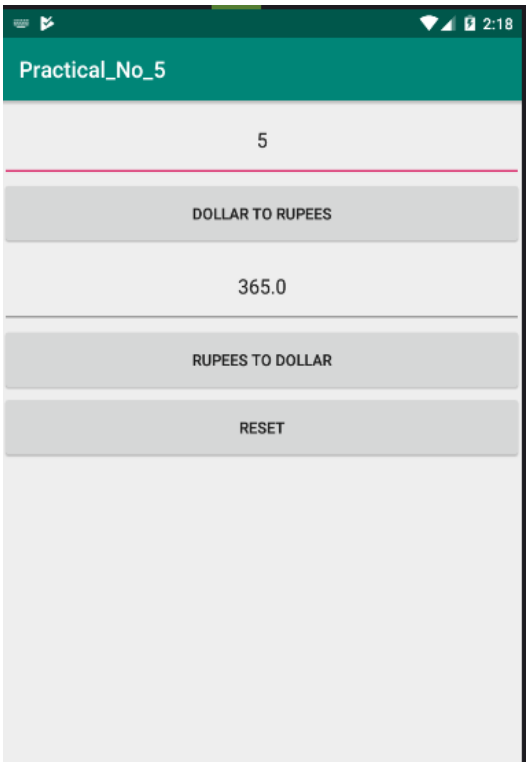
```
        bdt.setText("");
    }

    public void click(View view)
    {
        convertUsdToBdt();
    }
    public void click2(View view)
    {
        convertBdtToUsd();
    }
}
```

***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_5</string>
    <string name="dollar">Dollar</string>
    <string name="rupees">Rupees</string>
    <string name="dollar_to_rupees">Dollar to Rupees</string>
    <string name="rupees_to_dollar">Rupees to Dollar</string>
    <string name="reset">RESET</string>
</resources>
```

***Output:***



**Practical No.: 6**
**Aim: Create a Mobile Application to**
**1.Turn on and Turn off Bluetooth**
**2.Enable and Disable WiFi**

**Source Code:**

*Granting permission to Enable, Disable WiFi and Bluetooth*

***AndroidManifest.xml***

```
<uses-permission android:name="android.permission.INTERNET"/>
<uses-permission android:name="android.permission.BLUETOOTH"/>
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN"/>
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE"/>
<uses-permission android:name="android.permission.CHANGE_WIFI_STATE"/>
```

***Activity_main.xml***

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

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btnOn"
        android:text="@string/turn_on"/>

    <Button
        android:id="@+id/btnOff"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/turn_off"/>

    <Button
        android:id="@+id/btnWifiOn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/wifi_on"/>

    <Button
        android:id="@+id/btnWifiOff"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/wifi_off"/>

</LinearLayout>
```

***MainActivity.java***

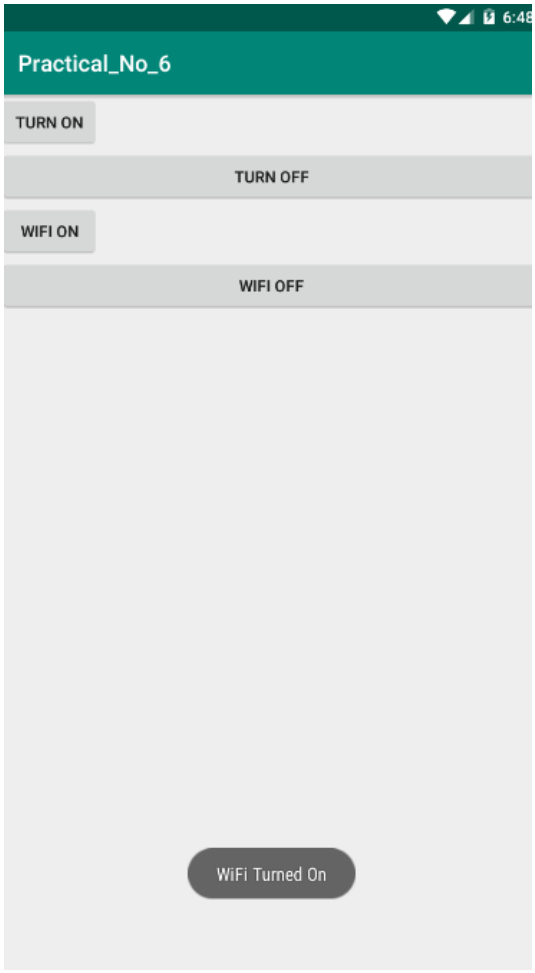
```
package com.example.practical_no_6;

import androidx.appcompat.app.AppCompatActivity;
import android.bluetooth.BluetoothAdapter;
import android.content.Context;
import android.content.Intent;
import android.net.wifi.WifiManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

   Button btnOn,btnOff,btnWifiOn,btnWifiOff;
   WifiManager wifiManager;
   BluetoothAdapter bluetoothAdapter;

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

      btnOn=findViewById(R.id.btnOn);
      btnOff=findViewById(R.id.btnOff);
      btnWifiOn=findViewById(R.id.btnWifiOn);
      btnWifiOff=findViewById(R.id.btnWifiOff);

     wifiManager= (WifiManager) getApplicationContext().getSystemService(Context.WIFI_SERVICE);
     bluetoothAdapter=BluetoothAdapter.getDefaultAdapter();

      btnWifiOn.setOnClickListener(
            new View.OnClickListener() {
               @Override
               public void onClick(View v) {
                  wifiManager.setWifiEnabled(true);
                  Toast.makeText(MainActivity.this, "WiFi Turned On",
Toast.LENGTH_SHORT).show();
               }
            }
      );

      btnWifiOff.setOnClickListener(
            new View.OnClickListener() {
               @Override
               public void onClick(View v) {
                  wifiManager.setWifiEnabled(false);
                  Toast.makeText(MainActivity.this, "WiFi Turned Off",
Toast.LENGTH_SHORT).show();
               }
            }
      );
```

```
        btnOn.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        if(bluetoothAdapter==null)
                        {
                            Toast.makeText(MainActivity.this, "Bluetooth Not Supported",
Toast.LENGTH_SHORT).show();
                        }
                        else
                        {
                            if(!bluetoothAdapter.isEnabled())
                            {
                                startActivityForResult(new
Intent(BluetoothAdapter.ACTION_REQUEST_ENABLE),1);
                                Toast.makeText(MainActivity.this, "Bluetooth Turned On",
Toast.LENGTH_SHORT).show();
                            }
                        }
                    }
                }
        );

        btnWifiOff.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        if(bluetoothAdapter!=null)
                        {
                            bluetoothAdapter.disable();
                        }
                        Toast.makeText(MainActivity.this, "Bluetooth Turned Off",
Toast.LENGTH_SHORT).show();
                    }
                }
        );
    }
}
```

***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_6</string>
    <string name="turn_on">Turn On</string>
    <string name="turn_off">Turn Off</string>
    <string name="wifi_on">Wifi On</string>
    <string name="wifi_off">Wifi Off</string>
</resources>
```

***Output:***


6:48
Practical_No_6
TURN ON
TURN OFF
WIFI ON
WIFI OFF
WiFi Turned On


6:49
Practical_No_6
TURN ON
TURN OFF
WIFI ON
WIFI OFF
Bluetooth Turned On

**Practical No.: 7**

**Aim: Create an android application for File Handling (Read & Write)**

**Source Code:**

Granting Permission to Read and Write in Internal Storage

***AndroidManifest.xml***

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

***Activity_main.xml***

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

    <EditText
        android:layout_width="349dp"
        android:layout_height="wrap_content"
        android:id="@+id/edt1"
        android:hint="@string/type_here"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="88dp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn2"
        android:text="@string/write"
        android:layout_alignParentEnd="true"
        android:layout_alignTop="@id/btn1"
        android:layout_marginEnd="136dp"
        android:textSize="18sp"
        android:textStyle="bold"
        android:layout_marginRight="136dp"
        android:layout_alignParentRight="true" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn3"
        android:text="@string/delete"
        android:textStyle="bold"
        android:layout_alignParentEnd="true"
        android:layout_alignTop="@+id/btn1"
        android:layout_marginEnd="30dp"
        android:textSize="18sp"
```

```
        android:layout_alignParentRight="true"
        android:layout_marginRight="30dp" />

    <TextView
        android:layout_width="340dp"
        android:layout_height="219dp"
        android:id="@+id/txtVw"
        android:layout_alignParentBottom="true"
        android:layout_alignStart="@+id/btn1"
        android:layout_marginBottom="58dp"
        android:layout_marginStart="-25dp"
        android:scrollbars="horizontal|vertical"
        android:singleLine="false"
        android:visibility="visible"
        android:layout_marginLeft="-25dp"
        android:layout_alignLeft="@+id/btn1" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn1"
        android:text="Read"
        android:layout_marginStart="18dp"
        android:textSize="18sp"
        android:textStyle="bold"
        android:layout_above="@+id/txtVw"
        android:layout_alignStart="@id/edt1"
        android:layout_alignLeft="@id/edt1"
        android:layout_marginLeft="18dp" />
</RelativeLayout>
```

***MainActivity.java***

```
package com.example.practical_no_7;

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

import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;

public class MainActivity extends AppCompatActivity {

    EditText e1;
    Button b1,b2,b3;
    TextView txt1;
```

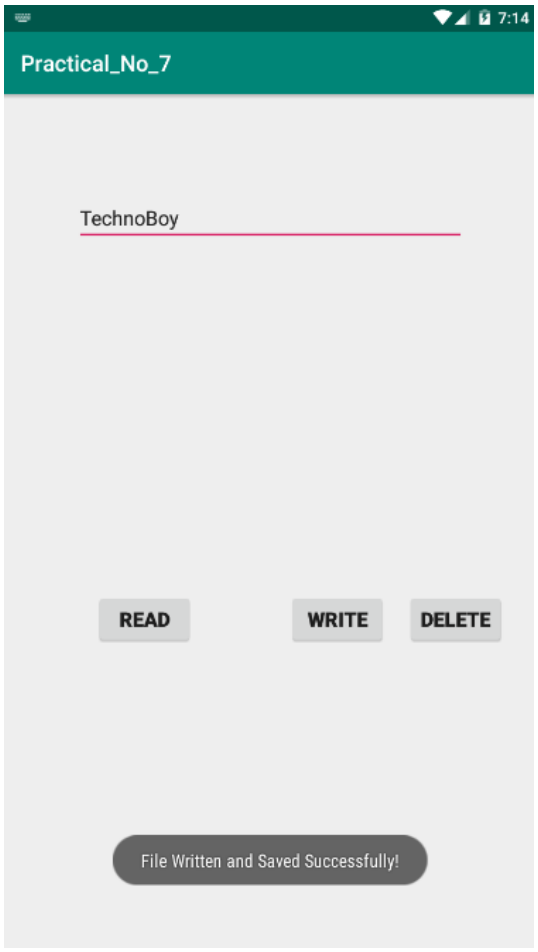
```
String fileName="LabFile.txt";
String message;
FileOutputStream fos;
FileInputStream fin;
File file;

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

    e1=findViewById(R.id.edt1);
    b1=findViewById(R.id.btn1);
    b2=findViewById(R.id.btn2);
    b3=findViewById(R.id.btn3);
    txt1=findViewById(R.id.txtVw);

    b2.setOnClickListener(
        new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                message=e1.getText().toString();
                try {
                    fos=openFileOutput(fileName,MODE_PRIVATE);
                    fos.write(message.getBytes());
                    fos.close();
                    Toast.makeText(MainActivity.this, "File Written and Saved Successfully!",
Toast.LENGTH_SHORT).show();
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        }
    );

    b1.setOnClickListener(
        new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                try {
                    fin=openFileInput(fileName);
                    int c;
                    String temp="";
                    while((c=fin.read())!=1)
                    {
                        temp=temp+ (char) c;
                    }
                    txt1.setText(temp);
                    Toast.makeText(MainActivity.this, "File Read and Saved Successfully!",
Toast.LENGTH_SHORT).show();
                } catch (FileNotFoundException e) {
                    e.printStackTrace();
                } catch (IOException e) {
                    e.printStackTrace();
                }
```

```
            }
        }
    );

    b3.setOnClickListener(
        new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                file=new File(getFilesDir(),fileName);
                if(file.exists())
                {
                    deleteFile(fileName);
                    Toast.makeText(MainActivity.this, "File Deleted Successfully!",
Toast.LENGTH_SHORT).show();
                }
                else
                {
                    Toast.makeText(MainActivity.this, "File does not exist!",
Toast.LENGTH_SHORT).show();
                }
            }
        }
    );
  }
}
```

***Strings.xml***

```
<resources>
   <string name="app_name">Practical_No_7</string>
   <string name="type_here">Type Here</string>
   <string name="write">Write</string>
   <string name="delete">Delete</string>
</resources>
```

***Output:***


7:14
Practical_No_7
TechnoBoy
READ
WRITE
DELETE
File Written and Saved Successfully!

**Practical No.: 8**

**Aim: Write a Android Program to Demonstrate List view Layout**

**Source Code:**

***activity_main.xml***

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

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="fill_parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

***MainActivity.java***

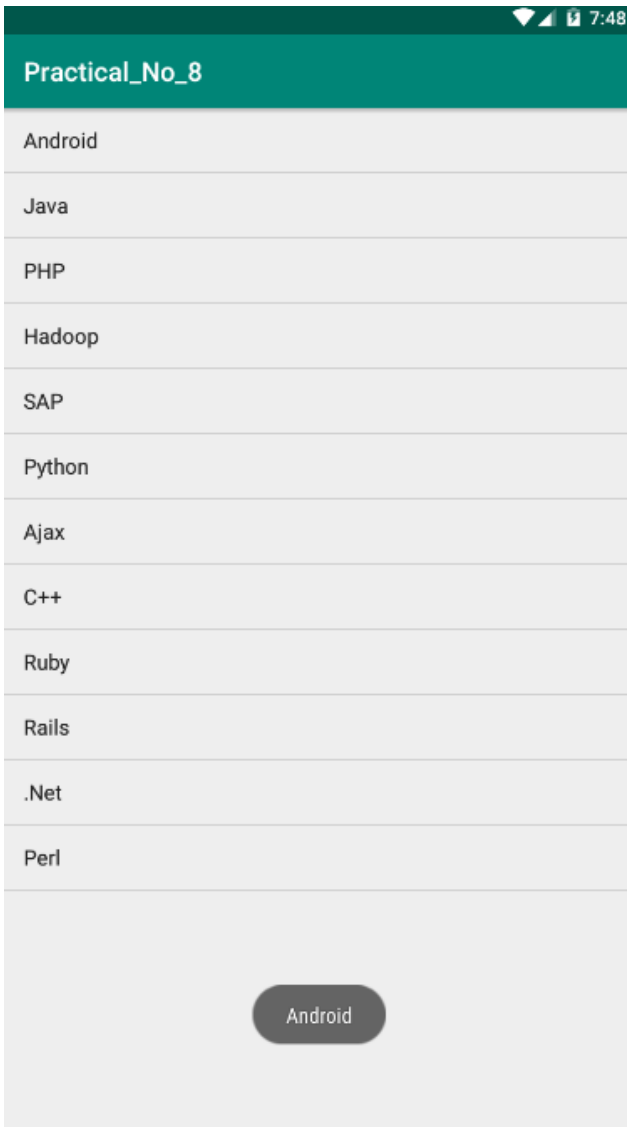
```
package com.example.practical_no_8;

import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    ListView listView;
    TextView textView;
    String[] listItem;
    ArrayAdapter<String> adapter;

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

```
        listView=findViewById(R.id.listView);
        listItem=getResources().getStringArray(R.array.array_technology);

        adapter=new
ArrayAdapter<>(this,android.R.layout.simple_list_item_1,android.R.id.text1,listItem);
        listView.setAdapter(adapter);
        listView.setOnItemClickListener(
                new AdapterView.OnItemClickListener() {
                    @Override
                    public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                        String value=adapter.getItem(position);
                        Toast.makeText(MainActivity.this, value, Toast.LENGTH_SHORT).show();
                    }
                }
        );
    }
}
```

***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_8</string>
    <string-array name="array_technology">
        <item>Android</item>
        <item>Java</item>
        <item>PHP</item>
        <item>Hadoop</item>
        <item>SAP</item>
        <item>Python</item>
        <item>Ajax</item>
        <item>C++</item>
        <item>Ruby</item>
        <item>Rails</item>
        <item>.Net</item>
        <item>Perl</item>
    </string-array>
</resources>
```

***Output:***


7:48
Practical_No_8
Android
Java
PHP
Hadoop
SAP
Python
Ajax
C++
Ruby
Rails
.Net
Perl
Android

**Practical No.9**

**Aim: Write an Android Code to Fetch WebUrl into Mobile Screen using Web View**

**Source Code:**

***AndroidManifest.xml***

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

***activity_main.xml***

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

    <TextView
        android:id="@+id/input_layout_URL_Name"
        android:layout_width="wrap_content"
        android:layout_height="0dp"
        android:layout_marginTop="60dp"
        android:text="@string/welcome_to_webview"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_editor_absoluteX="88dp" />

    <EditText
        android:id="@+id/ed_URL_Name"
        android:layout_width="wrap_content"
        android:layout_height="0dp"
        android:layout_marginTop="44dp"
        android:ems="10"
        android:hint="@string/enter_url"
        android:inputType="textPersonName"
        app:layout_constraintTop_toBottomOf="@id/input_layout_URL_Name"
        app:layout_editor_absoluteX="99dp"/>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="39dp"
        android:layout_marginTop="72dp"
        android:text="@string/enter"
        app:layout_constraintTop_toBottomOf="@id/ed_URL_Name"
        app:layout_editor_absoluteX="161dp"/>

    <WebView
        android:id="@+id/webview"
        android:layout_width="319dp"
        android:layout_height="192dp"
```

```
        android:layout_marginStart="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginTop="10dp"
        android:layout_marginBottom="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@id/button"/>

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

***ActivityMain.java***

```
package com.example.practical_no_9;

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

public class MainActivity extends AppCompatActivity {

    Button btnEnter;
    EditText edURLName;
    private WebView webView;

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

        btnEnter=findViewById(R.id.button);
        edURLName=findViewById(R.id.ed_URL_Name);
        webView=findViewById(R.id.webview);

        webView.setWebViewClient(new MyBrowser());
        btnEnter.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        String url=edURLName.getText().toString();
                        webView.getSettings().setLoadsImagesAutomatically(true);
                        webView.setScrollBarStyle(View.SCROLLBARS_INSIDE_OVERLAY);
                        webView.loadUrl(url);
                    }
                }
        );
    }
}
```

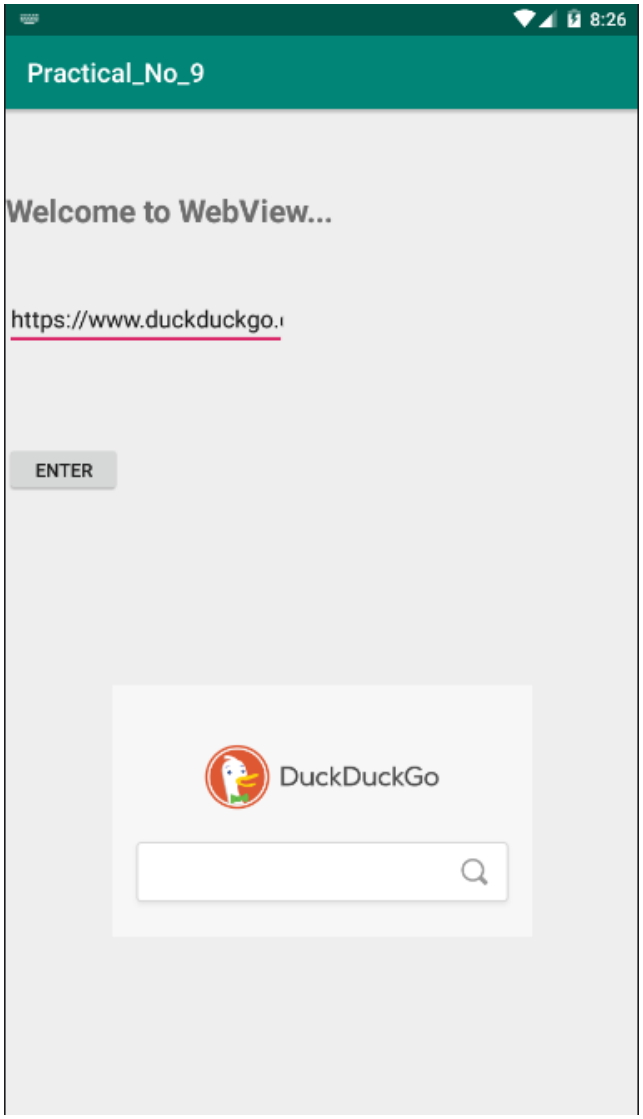
***MyBrowser.java***

```
package com.example.practical_no_9;

import android.os.Build;
import android.webkit.WebResourceRequest;
import android.webkit.WebView;
import android.webkit.WebViewClient;

import androidx.annotation.RequiresApi;

public class MyBrowser extends WebViewClient {
    @RequiresApi(api = Build.VERSION_CODES.LOLLIPOP)
    @Override
    public boolean shouldOverrideUrlLoading(WebView view, WebResourceRequest request) {
        view.loadUrl(request.getUrl().toString());
        return true;
    }
}
```

***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_9</string>
    <string name="welcome_to_webview">Welcome to WebView...</string>
    <string name="enter_url">Enter URL</string>
    <string name="enter">Enter</string>
</resources>
```

***Output:***


8:26
Practical_No_9
Welcome to WebView...
https://www.duckduckgo.
ENTER
DuckDuckGo

**Practical No.10**

**Aim: Write an Android Program to Demonstrate Grid View**

**Source Code:**

***activity_main.xml***

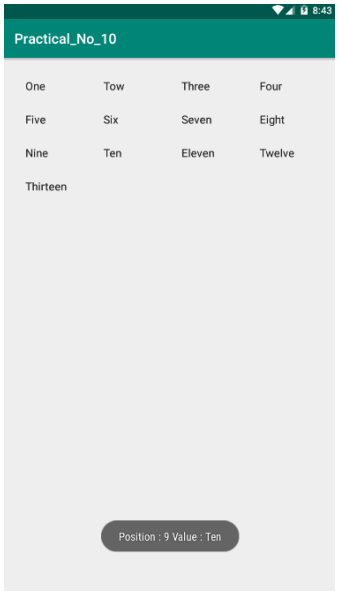
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".MainActivity">

    <GridView
        android:id="@+id/gv"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:numColumns="4"/>

</RelativeLayout>
```

***MainActivity.java***

```
package com.example.practical_no_10;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.GridView;
import android.widget.Toast;

import java.lang.reflect.Array;
import java.util.Arrays;

public class MainActivity extends AppCompatActivity {

    GridView gridViews;
    String[] numbersArray;
    ArrayAdapter<String> adapter;

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

        gridViews=findViewById(R.id.gv);
        numbersArray=new String[]{

"One","Tow","Three","Four","Five","Six","Seven","Eight","Nine","Ten","Eleven","Twelv
e","Thirteen" };
```

```
        adapter=new ArrayAdapter<>(this,android.R.layout.simple_list_item_1,numbersArray);
        gridViews.setAdapter(adapter);
        gridViews.setOnItemClickListener(
                new AdapterView.OnItemClickListener() {
                    @Override
                    public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                        String clickedItemValue= Arrays.asList(numbersArray).get(position);
                        Toast.makeText(MainActivity.this, "Position : "+position+" Value :
"+clickedItemValue, Toast.LENGTH_SHORT).show();
                    }
                }
        );
    }
}
```

***Output:***



**Practical No.11**

**Aim: Read and Write a value from External File**

**Source Code:**

***AndroidManifest.xml***

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

***activity_main.xml***

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

    <TextView
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="@string/message"
        android:textSize="24sp"/>

    <EditText
        android:id="@+id/myInputText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:lines="5"
        android:minLines="3"
        android:gravity="top|left"
        android:inputType="textMultiLine"
        android:autofillHints="">
        <requestFocus/>
    </EditText>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:weightSum="1.0"
        android:layout_marginTop="20dp">

        <Button
            android:id="@+id/saveExternalStorage"
            android:text="@string/save"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.5"/>

        <Button
            android:id="@+id/getExternalStorage"
```

```
        android:text="@string/read"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="0.5"/>
    </LinearLayout>

    <TextView
        android:id="@+id/response"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:padding="5dp"
        android:text=""
        android:textAppearance="?android:attr/textAppearanceMedium"/>

</LinearLayout>
```

***MainActivity.java***

```
package com.example.practical_no_11;

import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.os.Environment;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;

public class MainActivity extends AppCompatActivity {

    EditText inpuText;
    TextView response;
    Button saveButton,readButton;
    private String filename="SampleFile.txt";
    private String filepath="MyFileStorage";
    File myExternalFile;
    String myData="";

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

        inpuText = findViewById(R.id.myInputText);
        response = findViewById(R.id.response);
```

```
saveButton = findViewById(R.id.saveExternalStorage);

saveButton.setOnClickListener(
      new View.OnClickListener() {
         @SuppressLint("SetTextI18n")
         @Override
         public void onClick(View v) {
            try {
               FileOutputStream fos = new FileOutputStream(myExternalFile);
               fos.write(inpuText.getText().toString().getBytes());
               fos.close();
            } catch (IOException e) {
               e.printStackTrace();
            }

            inpuText.setText("");
            response.setText("SampleFile.txt saved to External Storage....");
         }
      }
);

readButton = findViewById(R.id.getExternalStorage);
readButton.setOnClickListener(
      new View.OnClickListener() {
         @SuppressLint("SetTextI18n")
         @Override
         public void onClick(View v) {
            FileInputStream fis = null;
            try {
               fis = new FileInputStream(myExternalFile);

               DataInputStream in = new DataInputStream(fis);
               BufferedReader br = new BufferedReader(new InputStreamReader(in));
               String strLine;

               while ((strLine = br.readLine()) != null) {
                  myData = myData + strLine;
               }
            } catch (IOException e) {
               e.printStackTrace();
            }

            inpuText.setText(myData);
            response.setText("SampleFile.txt data retrieved from Internal Storage...");
         }
      }
);

if(!isExternalStorageAvailable()||isExternalStorageReadOnly())
{
   saveButton.setEnabled(false);
}
else
{
   myExternalFile=new File(getExternalFilesDir(filepath),filename);
```

```
        }
    }

    private static boolean isExternalStorageReadOnly(){
        String extStorageState= Environment.getExternalStorageState();
        if (Environment.MEDIA_MOUNTED_READ_ONLY.equals(extStorageState))
        {
            return true;
        }
        return false;
    }

    private static boolean isExternalStorageAvailable(){
        String exStorageState=Environment.getExternalStorageState();
        if(Environment.MEDIA_MOUNTED.equals(exStorageState)){
            return true;
        }
        return false;
    }
}
```

***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_11</string>
    <string name="message">Reading and Writing to External Storage</string>
    <string name="save">SAVE</string>
    <string name="read">READ</string>
</resources>
```

***Output:***


12:54
Practical_No_11
Reading and Writing to External Storage
SAVE
READ
SampleFile.txt saved to External Storage....


12:55
Practical_No_11
Reading and Writing to External Storage
program done by TechnoBoy
SAVE
READ
SampleFile.txt data retrieved from Internal Storage...

**Practical No.:12**

**Aim: Rating bar in Android**

**Source Code:**

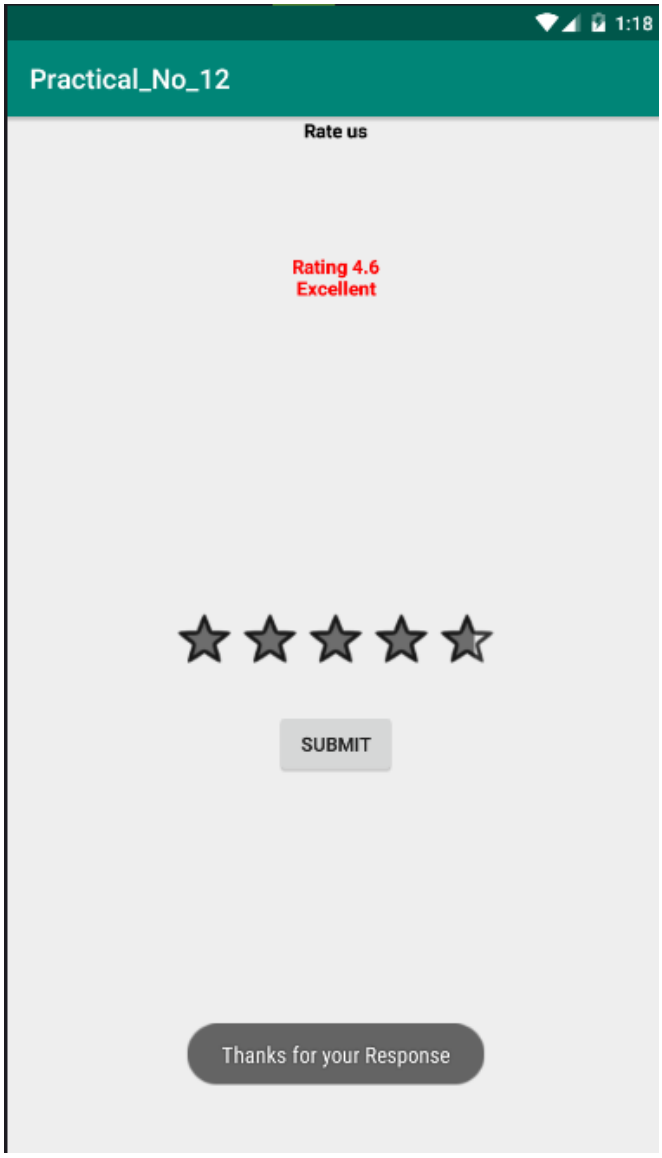
***Activity_main.xml***

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

   <RatingBar
      android:id="@+id/ratingBar"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_centerHorizontal="true"
      android:layout_centerVertical="true"
      android:stepSize="0.2"/>

   <TextView
      android:id="@+id/textView"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_below="@+id/textView1"
      android:layout_centerHorizontal="true"
      android:layout_marginBottom="20dp"
      android:textStyle="bold"
      android:textColor="#ff0000"/>

   <TextView
      android:id="@+id/textView1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_centerHorizontal="true"
      android:layout_marginBottom="80dp"
      android:textStyle="bold"
      android:text="Rate us"
      android:textColor="#000000"/>

   <Button
      android:id="@+id/submitButton"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_below="@+id/ratingBar"
      android:layout_marginTop="20dp"
      android:layout_centerHorizontal="true"
      android:text="@string/submit"
      android:onClick="onSubmit"/>
</RelativeLayout>
```

***MainActivity.java***

```
package com.example.practical_no_12;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RatingBar;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    RatingBar ratingBar;
    TextView textView,textView1;
    Button button;

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

        ratingBar=findViewById(R.id.ratingBar);
        textView=findViewById(R.id.textView);
        textView1=findViewById(R.id.textView1);
        button=findViewById(R.id.submitButton);
    }

    @SuppressLint("SetTextI18n")
    public void onSubmit(View view)
    {
        float ratingvalue=ratingBar.getRating();
        if(ratingvalue<2)
        {
            textView.setText("Rating "+ratingvalue+"\n is worst");
        }
        else if(ratingvalue<=3 && ratingvalue>=2)
        {
            textView.setText("Rating "+ratingvalue+"\n we will try better");
        }
        else if(ratingvalue>3 && ratingvalue<=4)
        {
            textView.setText("Rating "+ratingvalue+"\n It is good");
        }
        else if(ratingvalue>4)
        {
            textView.setText("Rating "+ratingvalue+"\n Excellent");
        }

        Toast.makeText(this, "Thanks for your Response", Toast.LENGTH_SHORT).show();
    }
```

***Output:***


1:18
Practical_No_12
Rate us
Rating 4.6
Excellent
SUBMIT
Thanks for your Response

**Practical No.: 13.1**

**Aim: Simple Progress Bar in Android**

**Source Code:**

***activity_main.xml***

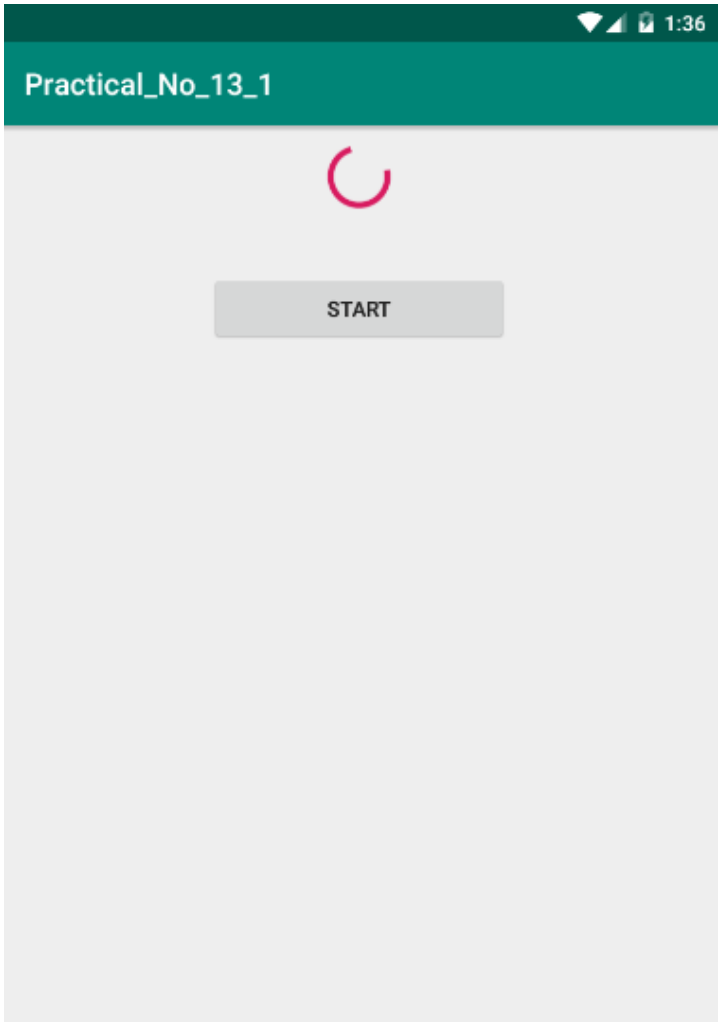
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"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

    <ProgressBar
        android:id="@+id/simpleProgressBar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:visibility="invisible"/>

    <Button
        android:id="@+id/startButton"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/simpleProgressBar"
        android:text="Start"
        android:layout_marginTop="40dp"
        android:layout_centerHorizontal="true"/>

</RelativeLayout>
```

***MainActivity.java***

```
package com.example.practical_no_13_1;

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

public class MainActivity extends AppCompatActivity {

    ProgressBar progressBar;
    Button button;

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

```
        progressBar=findViewById(R.id.simpleProgressBar);
        button=findViewById(R.id.startButton);

        button.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        progressBar.setVisibility(View.VISIBLE);
                    }
                }
        );
    }
}
```

***Output:***



**Practical No.: 13.2**

**Aim: Horizontal Progress bar in Android**

**Source code:**

***Activity_main.xml***

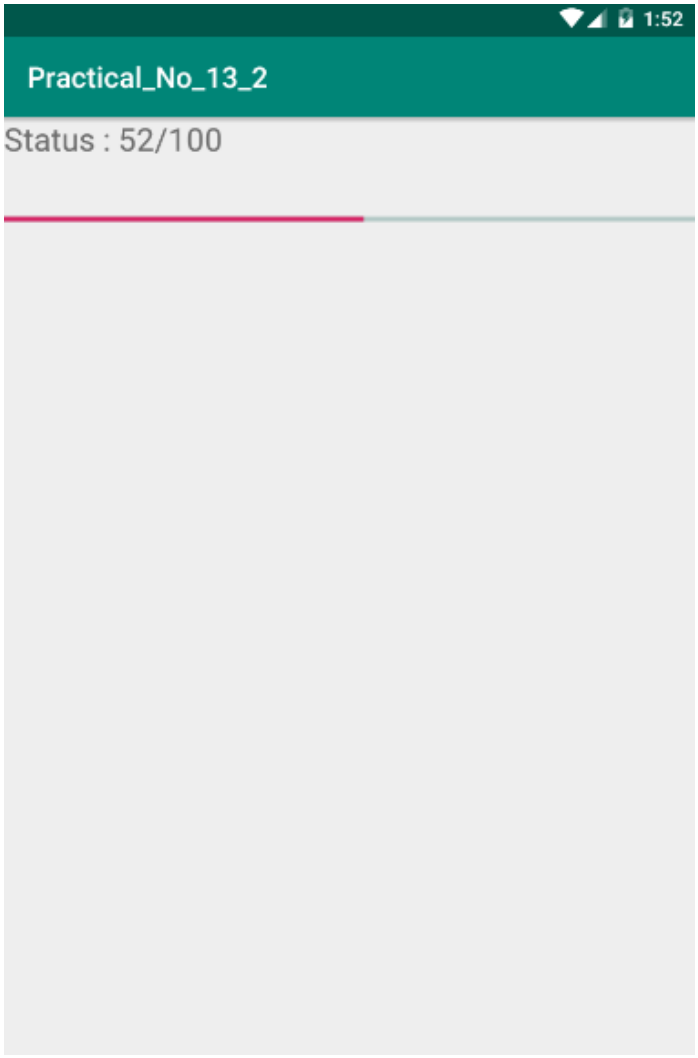
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"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

    <ProgressBar
        android:id="@+id/horizontalProgressBar"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        style="?android:attr/progressBarStyleHorizontal"
        android:layout_marginTop="16dp"
        android:indeterminate="false"
        android:max="100"
        android:minHeight="100dp"
        android:progress="2"
        android:progressBackgroundTint="@color/colorPrimaryDark"/>

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center_horizontal"
        android:text="@string/status"
        android:textSize="22sp"/>

</RelativeLayout>
```

***MainActivity.java***

```
package com.example.practical_no_13_2;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Handler;
import android.widget.ProgressBar;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    ProgressBar progressBar;
    int progressStatusCounter=0;
    TextView textView;
    Handler progressHandler=new Handler();

    @Override
```

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

        progressBar=findViewById(R.id.horizontalProgressBar);
        textView=findViewById(R.id.textView);

        new Thread(new Runnable() {
            @Override
            public void run() {
                while(progressStatusCounter<100)
                {
                    progressStatusCounter+=2;
                    progressHandler.post(new Runnable() {
                        @Override
                        public void run() {
                            progressBar.setProgress(progressStatusCounter);
                            textView.setText("Status :
"+progressStatusCounter+"/"+progressBar.getMax());
                        }
                    });
                    try {
                        Thread.sleep(300);
                    } catch (InterruptedException e) {
                        e.printStackTrace();
                    }
                }
            }
        }).start();
    }
}
```

***Output:***



**Practical No.: 14**

**Aim: Create an Android Application to Demonstrate Seek Bar**

**Source Code:**

***activity_main.xml***

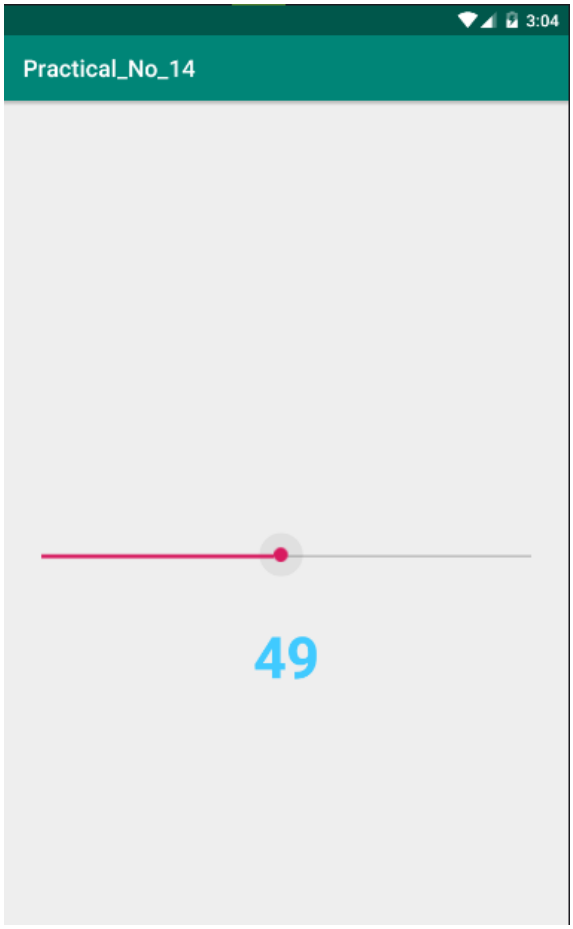
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".MainActivity">

    <SeekBar
        android:id="@+id/seekBar"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"/>

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"
        android:layout_above="@id/seekBar"
        android:textStyle="bold"
        android:textColor="#40caff"
        android:layout_marginBottom="251dp"/>

</RelativeLayout>
```

***MainActivity.java***

```
package com.example.practical_no_14;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.SeekBar;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    SeekBar seekBar;
    TextView textView;

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

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

        seekBar=findViewById(R.id.seekBar);
        textView=findViewById(R.id.textView);

        seekBar.setOnSeekBarChangeListener(
                new SeekBar.OnSeekBarChangeListener() {
                    @Override
                    public void onProgressChanged(SeekBar seekBar, int progress, boolean fromUser) {
                        textView.setTextSize(progress);
                        String a= String.valueOf(progress++);
                        textView.setText(""+a);
                    }

                    @Override
                    public void onStartTrackingTouch(SeekBar seekBar) {

                    }

                    @Override
                    public void onStopTrackingTouch(SeekBar seekBar) {

                    }
                }
        );
    }
}
```

***Output:***



**Practical No.: 15**

**Aim: Database connection to insert record into Database**

***Source Code:***

***activity_main.xml***

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

    <Button
        android:id="@+id/btnshow"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/show"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.73"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/btninsert"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/insert"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/btnshow"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/gotname"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="@string/enter_your_name"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toTopOf="@+id/btninsert"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:autofillHints="" />

    <EditText
        android:id="@+id/gothouse"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
```

```
        android:inputType="textPersonName"
        android:hint="@string/house_name"
        app:layout_constraintBottom_toTopOf="@+id/btninsert"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/gotname"
        app:layout_constraintVertical_bias="0.271" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

***MainActivity.java***

```
package com.technoboy.practical_no_15;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    dbhelper db;
    EditText name,house;
    Button show,add;

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

        db=new dbhelper(this);
        name=findViewById(R.id.gotname);
        house=findViewById(R.id.gothouse);
        show=findViewById(R.id.btnshow);
        add=findViewById(R.id.btninsert);

        add.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                      boolean result = db.add(name.getText().toString().trim(), house.getText().toString());
                        if(result==true)
                        {
                            message("Success","Data Inserted Successfully");
                        }
                        else
                        {
                            message("Error","Unable to Insert Data");
                        }
                    }
```

```
        }
    );

    show.setOnClickListener(
        new View.OnClickListener() {
          @Override
          public void onClick(View v) {
            Cursor data=db.show();
            if(data.getCount()==0)
            {
              message("Error","No data found in Database");
            }
            StringBuffer bufferdata=new StringBuffer();
            while (data.moveToNext())
            {
              bufferdata.append(data.getString(0)+" --> "+data.getString(1)+" -->
"+data.getString(2)+"\n");
            }
            message("Data",bufferdata.toString());
          }
        }
    );
  }

  public void message(String Title,String Message)
  {
    AlertDialog.Builder builder=new AlertDialog.Builder(this);
    builder.setCancelable(true)
        .setTitle(Title)
        .setMessage(Message)
        .setPositiveButton("Ok", new DialogInterface.OnClickListener() {
          @Override
          public void onClick(DialogInterface dialog, int which) {
            dialog.cancel();
          }
        });

    AlertDialog alertDialog=builder.create();
    alertDialog.show();
  }
}
```

***dbhelper.java***

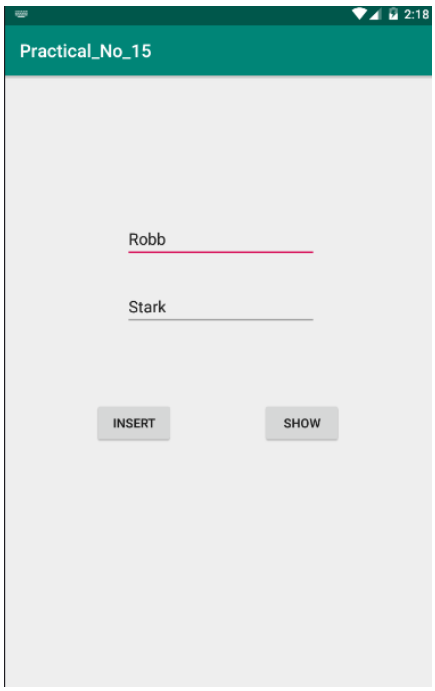
```
package com.technoboy.practical_no_15;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import androidx.annotation.Nullable;
import java.nio.DoubleBuffer;
```

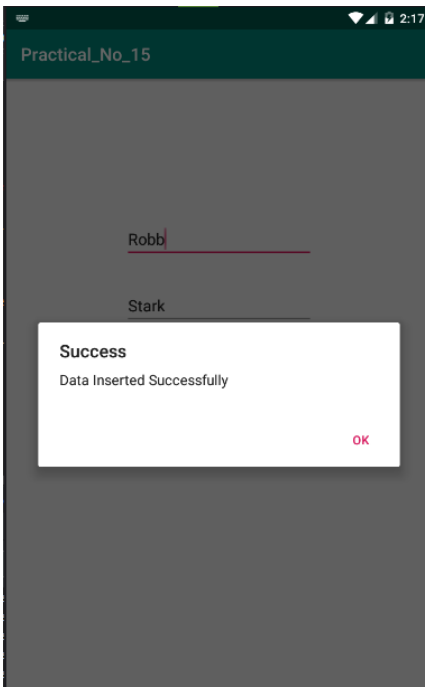
```
public class dbhelper extends SQLiteOpenHelper {

    private static final String Db_Name="got.db";
    private static final String Tb_Name="got";
    private static final String Col1="Id";
    private static final String Col2="Name";
    private static final String Col3="House";
    SQLiteDatabase db;

    public dbhelper(@Nullable Context context) {
        super(context, Db_Name, null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("CREATE TABLE "+ Tb_Name + "("+Col1+" INTEGER PRIMARY KEY
AUTOINCREMENT,"+Col2+" TEXT,"+Col3+" TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("DROP TABLE IF EXISTS "+Tb_Name);
    }
    public boolean add(String Name,String House)
    {
        db=this.getWritableDatabase();
        ContentValues data=new ContentValues();
        data.put(Col2,Name);
        data.put(Col3,House);
        long result = db.insert(Tb_Name, null, data);
        if(result==-1)
        {
            return false;
        }
        else
        {
            return true;
        }
    }
    public Cursor show()
    {
        db=this.getReadableDatabase();
        Cursor data=db.rawQuery("SELECT * FROM "+Tb_Name,null);
        return data;
    }
}
```

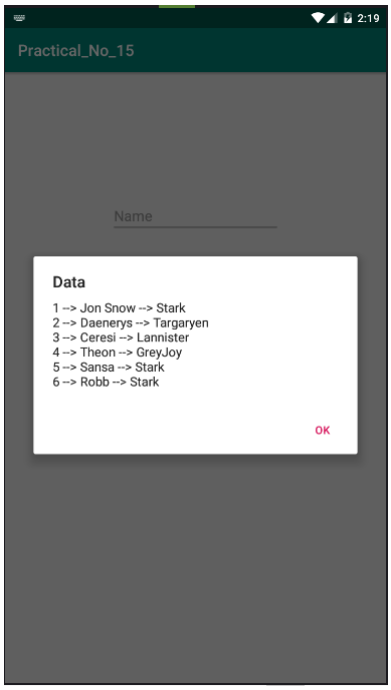
***Strings.xml***

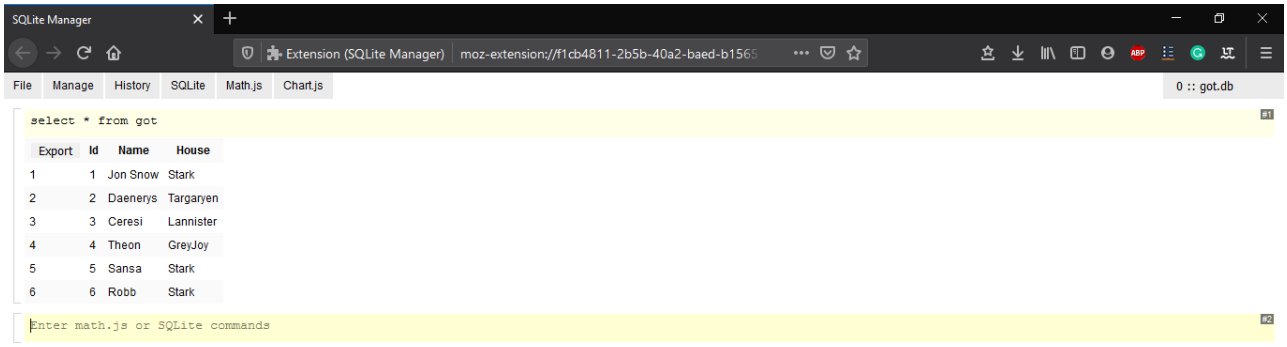
```
<resources>
    <string name="app_name">Practical_No_15</string>
    <string name="insert">Insert</string>
    <string name="show">Show</string>
    <string name="enter_your_name">Name</string>
    <string name="house_name">House Name</string>
</resources>
```

***Output:***


2:18
Practical_No_15
Robb
Stark
INSERT
SHOW


2:17
Practical_No_15
Robb
Stark
Success
Data Inserted Successfully
OK

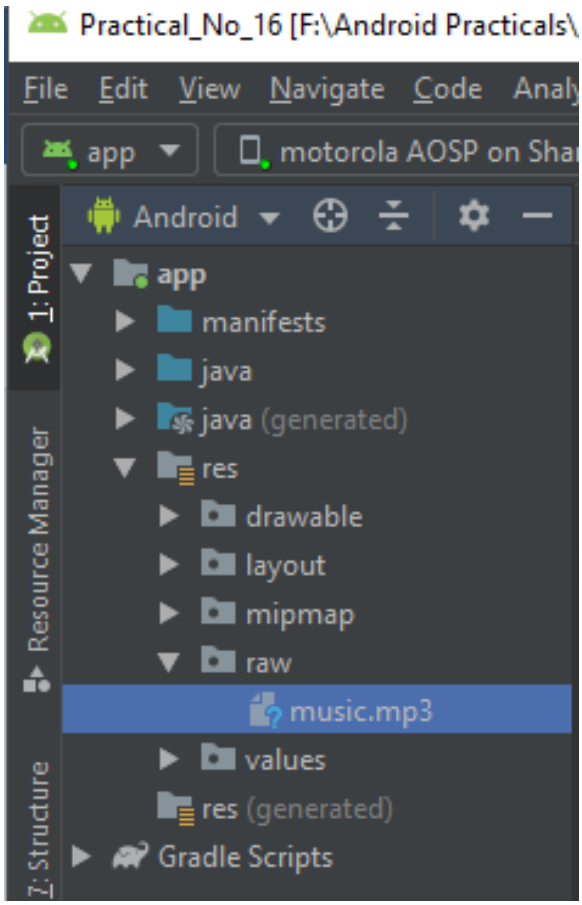

2:19
Practical_No_15
Name
Data
1 --> Jon Snow --> Stark
2 --> Daenerys --> Targaryen
3 --> Ceresi --> Lannister
4 --> Theon --> GreyJoy
5 --> Sansa --> Stark
6 --> Robb --> Stark
OK


SQLite Manager
Extension (SQLite Manager)
moz-extension://f1cb4811-2b5b-40a2-baed-b1565
File
Manage
History
SQLite
Math.js
Chart.js
0 :: got.db
select * from got
Export Id Name House
1 1 Jon Snow Stark
2 2 Daenerys Targaryen
3 3 Ceresi Lannister
4 4 Theon GreyJoy
5 5 Sansa Stark
6 6 Robb Stark
Enter math.js or SQLite commands

**Practical No.: 16**

**Aim: Play an Audio**

***Source Code:***



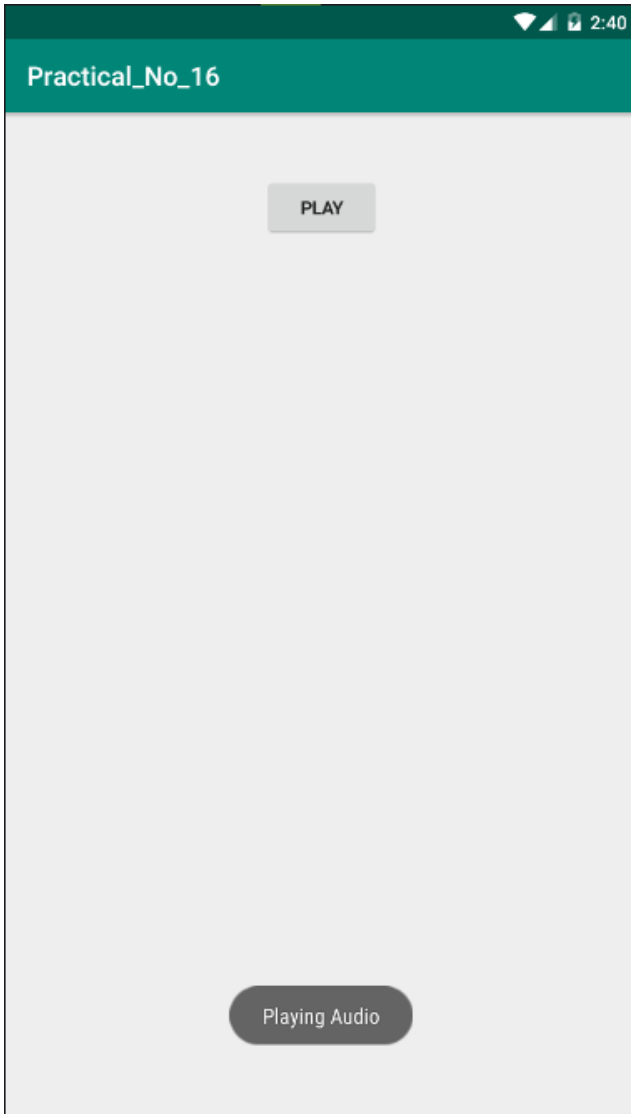

***activity_main.xml***

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

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="48dp"
        android:text="@string/play" />

</RelativeLayout>
```

***MainActivity.java***

```
package com.technoboy.practical_no_16;
import androidx.appcompat.app.AppCompatActivity;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

   MediaPlayer mediaPlayer;
   Button play;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      play=findViewById(R.id.button);
      mediaPlayer=MediaPlayer.create(MainActivity.this,R.raw.music);
      play.setOnClickListener(
            new View.OnClickListener() {
               @Override
               public void onClick(View v) {
                  mediaPlayer.start();
                  Toast.makeText(MainActivity.this, "Playing Audio",
Toast.LENGTH_SHORT).show();
               }
            });
   }}
```

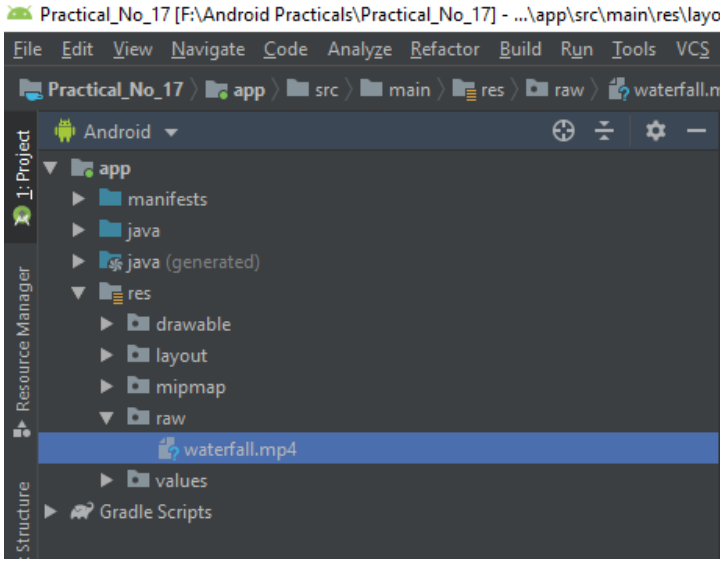
***Output:***



**Practical No.: 17**

**Aim: Play a Video**

***Source Code:***




***activity_main.xml***

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

    <VideoView
        android:id="@+id/videoView"
        android:layout_width="match_parent"
        android:layout_height="174dp"
        android:layout_alignParentTop="true"
        android:layout_marginTop="91dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        android:text="@string/play"
```

```
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/videoView" />

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

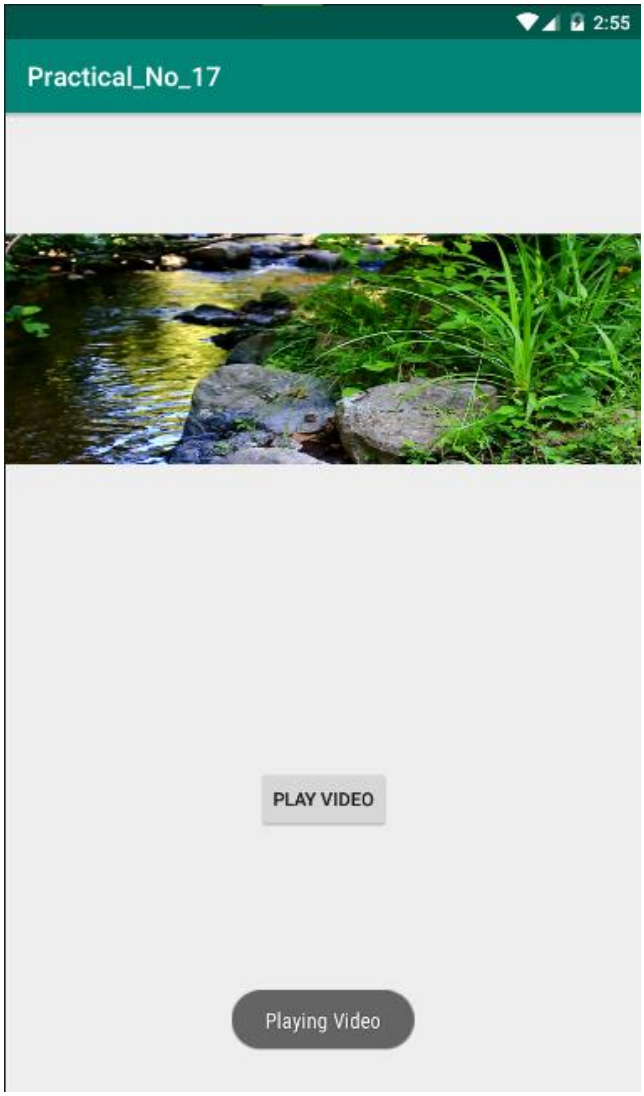
***MainActivity.java***

```
package com.technoboy.practical_no_17;

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

public class MainActivity extends AppCompatActivity {

    VideoView videoView;
    Button play;

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

        videoView=findViewById(R.id.videoView);
        play=findViewById(R.id.button);

        play.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        String videopath="android.resource://com.example.videoplay/"+R.raw.waterfall;
                        Uri uri= Uri.parse(videopath);
                        videoView.setVideoURI(uri);
                        videoView.start();
                          Toast.makeText(MainActivity.this, "Playing Video",
            Toast.LENGTH_SHORT).show();
                            }
                        }
                );
            }
        }
```

***Strings.xml***

```
<resources>
    <string name="app_name">Practical_No_17</string>
    <string name="play">Play Video</string>
</resources>
```

***Output:***



**Practical No.: 18**

**Aim: Simple Animation**

**Activity_main.xml**

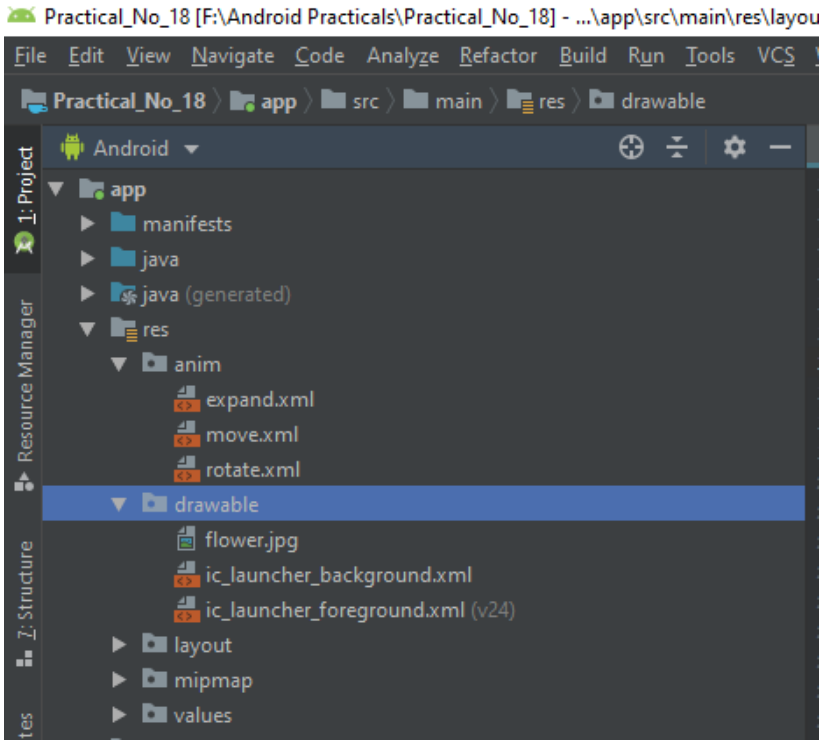
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/textView"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:textSize="30sp"
        android:text="@string/image_animation"/>

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="325dp"
        android:layout_height="208dp"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="71dp"
        android:contentDescription="@string/flowers"
        android:src="@drawable/flower" />
    <Button
        android:id="@+id/btnExpand"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignTop="@+id/btnRotate"
        android:layout_marginLeft="17dp"
        android:layout_marginStart="17dp"
        android:text="@string/expand" />
    <Button
        android:id="@+id/btnRotate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignTop="@+id/btnMove"
        android:layout_marginLeft="17dp"
        android:layout_marginStart="134dp"
        android:text="@string/rotate" />
    <Button
        android:id="@+id/btnMove"
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentEnd="true"
        android:layout_marginBottom="139dp"
        android:layout_marginEnd="39dp"
        android:layout_marginRight="39dp"
        android:text="@string/move" />

</RelativeLayout>
```

*Right click on res → New → Directory → name:* ***anim***

*Right click on* ***anim*** *folder → New Animation Resource file →* ***expand, rotate, move***

*Right Click on drawable folder → paste an image*




**Expand.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
   <scale
      android:duration="1000"
      android:fromXScale="1"
      android:fromYScale="1"
      android:pivotX="50%"
      android:pivotY="50%"
      android:toXScale="3"
      android:toYScale="3" >
   </scale>
</set>
```

**Move.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:tools="http://schemas.android.com/tools"
   xmlns:android="http://schemas.android.com/apk/res/android"
   tools:ignore="ExtraText">
   android:interpolator="@android:anim/linear_interpolator"
   android:fillAfter="true">
   <translate
      android:fromXDelta="0%p"
      android:toXDelta="75%p"
      android:duration="800" />
</set>
```

**Rotate.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
   <rotate android:fromDegrees="0"
      android:toDegrees="360"
      android:pivotX="50%"
      android:pivotY="50%"
      android:duration="600"
      android:repeatMode="restart"
      android:repeatCount="infinite"
      android:interpolator="@android:anim/cycle_interpolator"/>
</set>
```

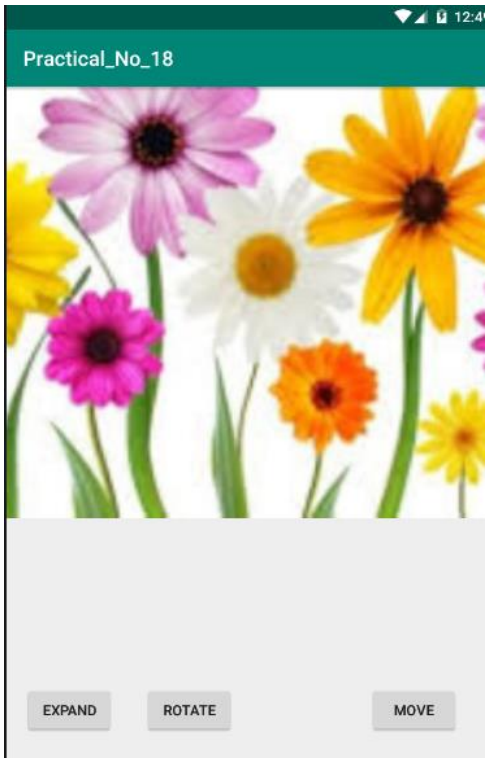
**MainActivity.java**

```
package com.example.practical_no_18;

import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Bitmap;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.view.View;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.Button;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

   Button btnExpand, btnRotate, btnMove;
   Animation animExpand, animRotate, animMove;
   ImageView imageView;
   private Bitmap bmp;
   private Bitmap operation;

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

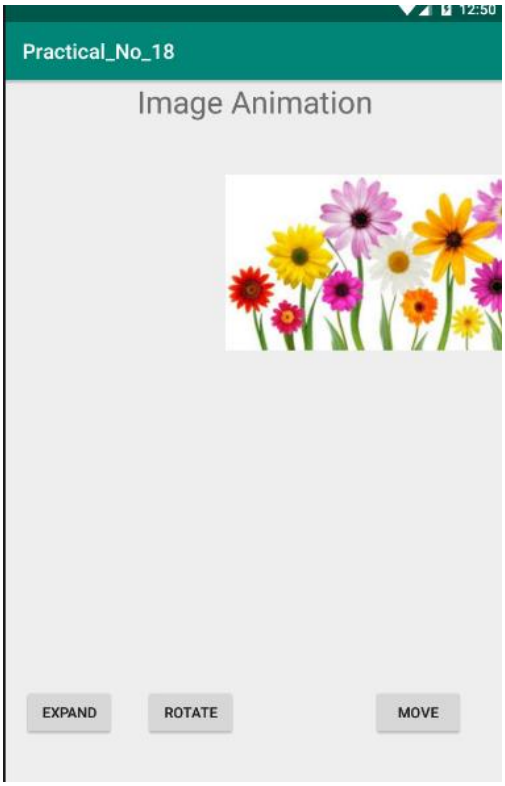
```
        btnExpand=findViewById(R.id.btnExpand);
        btnRotate=findViewById(R.id.btnRotate);
        btnMove=findViewById(R.id.btnMove);

        imageView=findViewById(R.id.imageView);
        BitmapDrawable abmp= (BitmapDrawable) imageView.getDrawable();
        bmp=abmp.getBitmap();

        //Expand
        animExpand= AnimationUtils.loadAnimation(getApplicationContext(),R.anim.expand);
        btnExpand.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        imageView.setVisibility(View.VISIBLE);
                        imageView.startAnimation(animExpand);
                    }
                }
        );

        //Rotate
        animRotate=AnimationUtils.loadAnimation(getApplicationContext(),R.anim.rotate);
        btnRotate.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        imageView.startAnimation(animRotate);
                    }
                }
        );

        //Move
        animMove=AnimationUtils.loadAnimation(getApplicationContext(),R.anim.move);
        btnMove.setOnClickListener(
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        imageView.startAnimation(animMove);
                    }
                }
        );
    }
}
```

**Output:**

Expand




Move




Rotate

**Practical No.: 19**

**Aim: Shared Preference to store Value in name-value pair**

**Activity_main.xml**

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="@string/login"
        android:textSize="40sp"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:hint="@string/username"
        android:id="@+id/username"/>


    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:hint="@string/password"
        android:id="@+id/password"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/login"
        android:textSize="20sp"
        android:layout_marginTop="10dp"
        android:id="@+id/button"/>

</LinearLayout>
```

**Strings.xml**

```
<resources>
    <string name="app_name">Practical_No_19</string>
    <string name="login">Login</string>
    <string name="username">Enter Username</string>
    <string name="password">Enter Password</string>
    <string name="home">Home</string>
```

```
    <string name="welcome">-- Welcome --</string>
    <string name="logout">Logout</string>
</resources>
```

**MainActivity.java**

```
package com.example.practical_no_19;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText username, password;
    Button button;
    SharedPreferences sharedPreferences;

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

        username=findViewById(R.id.username);
        password=findViewById(R.id.password);
        button=findViewById(R.id.button);
        sharedPreferences=getSharedPreferences("login",MODE_PRIVATE);

        //if SharedPerferences have username and password

        if(sharedPreferences.contains("username") &&
sharedPreferences.contains("passworrd"))
        {
            Intent intent=new Intent(MainActivity.this,Home.class);
            startActivity(intent);
            finish();
        }

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

    private void loginCheck()
```

```
    {
        //check username and password
        if(username.getText().toString().equals("Programmer") &&
password.getText().toString().equals("Programmer"))
        {
            SharedPreferences.Editor edit=sharedPreferences.edit();
            edit.putString("username","Programmer");
            edit.putString("password","Programmer");
            edit.commit();
            Toast.makeText(this, "Login Successful", Toast.LENGTH_SHORT).show();
            startActivity(new Intent(MainActivity.this,Home.class));
            finish();
        }
        else
        {
            Toast.makeText(this, "Incorrect Login Details", Toast.LENGTH_SHORT).show();
        }
    }
}
```

Right click on package name → New → Activity → Empty Activity → Name **Home**

**Activity_home.xml**

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="@string/home"
        android:textSize="40sp"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="@string/welcome"
        android:textSize="30sp"
        android:layout_marginTop="10dp"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:text="@string/logout"
        android:layout_marginTop="20dp"
```

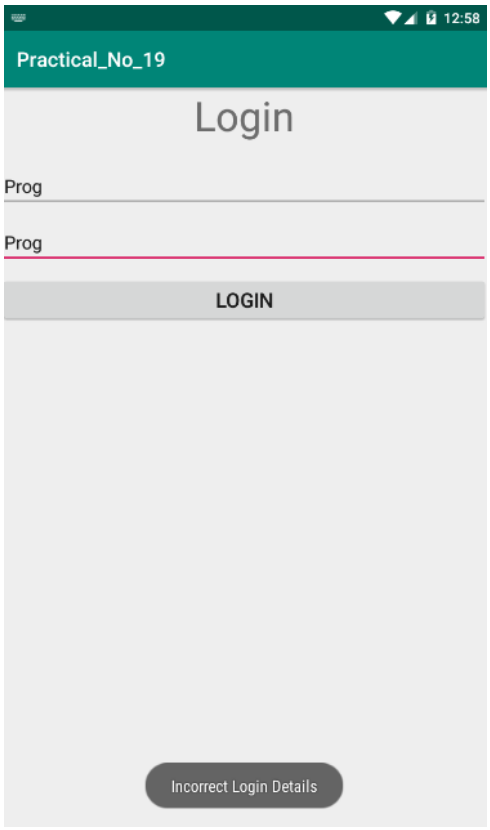
```
    android:id="@+id/logout"/>

</LinearLayout>
```

**Home.java**

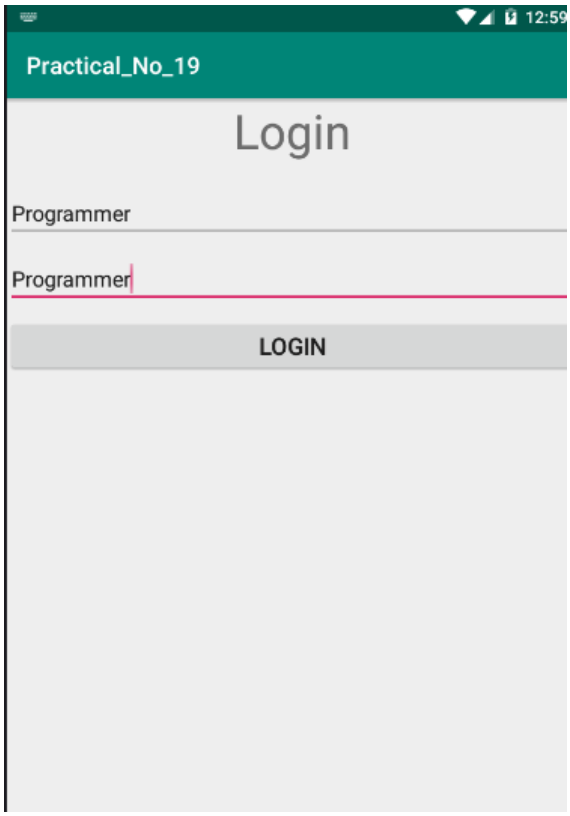
```
package com.example.practical_no_19;

import androidx.appcompat.app.AppCompatActivity;

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

public class Home extends AppCompatActivity {

   Button logout;

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

      logout=findViewById(R.id.logout);
      logout.setOnClickListener(
            new View.OnClickListener() {
               @Override
               public void onClick(View v) {
                  SharedPreferences
sharedPreferences=getSharedPreferences("login",MODE_PRIVATE);
                  SharedPreferences.Editor e=sharedPreferences.edit();
                  e.clear();
                  e.commit();

                  startActivity(new Intent(Home.this,MainActivity.class));
                  finish();
               }
            }
      );
   }
}
```

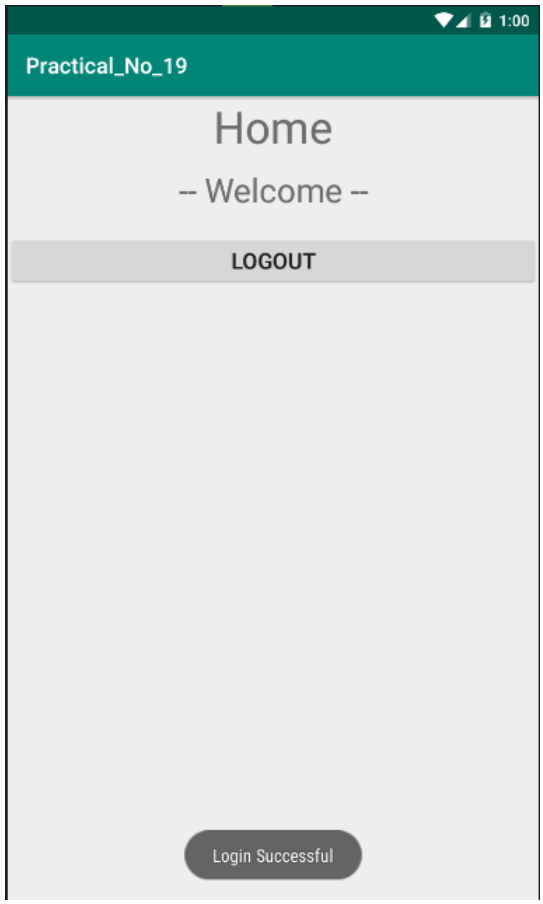
**Output:**

Incorrect Credentials




Correct Credentials



**Practical No.: 20**

**Aim: Retrieve JSON Object using Volley Library**

App → Gradle Scripts → **build.gradle** (Module.app)

```
dependencies {
   implementation fileTree(dir: 'libs', include: ['*.jar'])
   implementation 'androidx.appcompat:appcompat:1.1.0'
   implementation 'androidx.constraintlayout:constraintlayout:1.1.3'
   testImplementation 'junit:junit:4.12'
   androidTestImplementation 'androidx.test.ext:junit:1.1.1'
   androidTestImplementation 'androidx.test.espresso:espresso-core:3.2.0'
   implementation 'com.android.volley:volley:1.1.1'
}
```

***after adding click on Sync Now***

**AndroidManifest.xml**

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

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

   <TextView
      android:id="@+id/text_result"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:textSize="15sp"/>

   <Button
      android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentEnd="true"
      android:layout_alignParentRight="true"
      android:layout_alignParentBottom="true"
      android:layout_marginEnd="163dp"
      android:layout_marginRight="175dp"
      android:layout_marginBottom="202dp"
      android:background="#414af4"
```

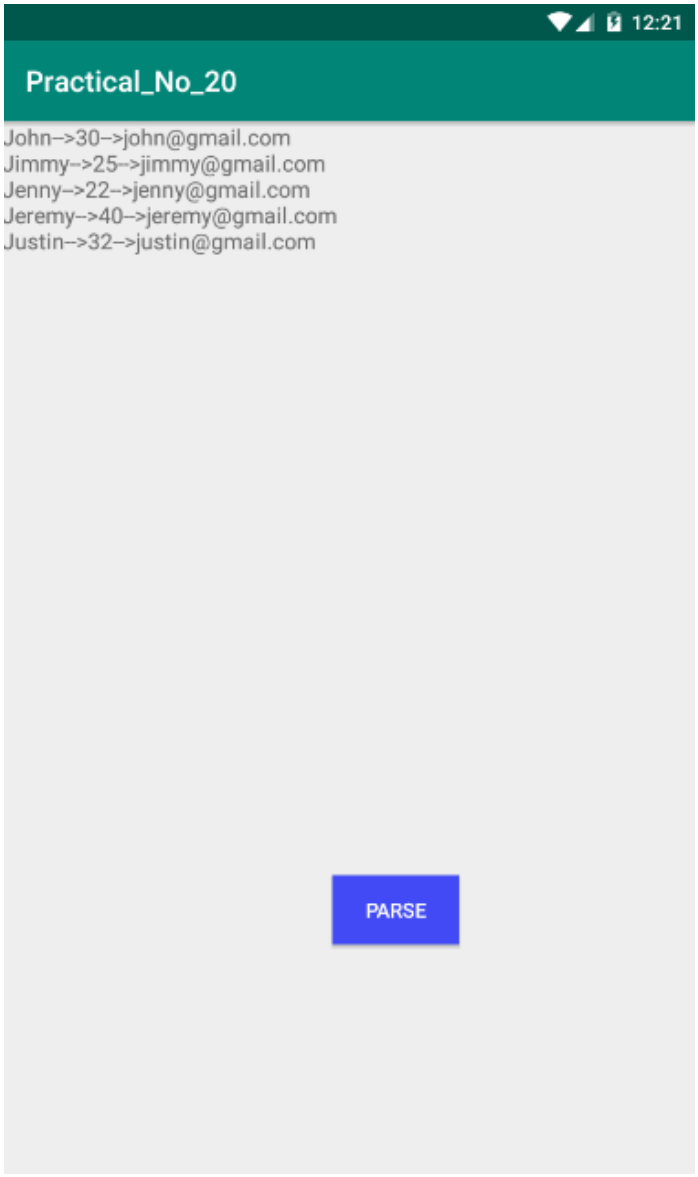
```
    android:text="@string/parse"
    android:textColor="#ffffff" />

</RelativeLayout>
```

**MainActivity.java**

```
package com.example.practical_no_20;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.JsonObjectRequest;
import com.android.volley.toolbox.Volley;

import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;

public class MainActivity extends AppCompatActivity {

  private TextView mTextViewResult;
  private RequestQueue mQueue;

  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    mTextViewResult=findViewById(R.id.text_result);
    Button buttonParse=findViewById(R.id.button);
    mQueue= Volley.newRequestQueue(this);

    buttonParse.setOnClickListener(
        new View.OnClickListener() {
          @Override
          public void onClick(View v) {
            jsonParse();
          }
        }
    );
  }
```

```
  private void jsonParse()
  {
    String url="http://api.myjson.com/bins/kp9wz";
    JsonObjectRequest request=new JsonObjectRequest(Request.Method.GET, url, null, new
Response.Listener<JSONObject>() {
      @Override
      public void onResponse(JSONObject response) {
        try {
          JSONArray jsonArray = response.getJSONArray("employees");
          for (int i = 0; i < jsonArray.length(); i++) {
            JSONObject employee = jsonArray.getJSONObject(i);
            String firstName = employee.getString("firstname");
            int age = employee.getInt("age");
            String mail = employee.getString("mail");
            mTextViewResult.append(firstName + "-->" + String.valueOf(age) + "-->" +
mail+"\n");
          }
        } catch (JSONException e) {
          e.printStackTrace();
        }

      }
    }, new Response.ErrorListener() {
      @Override
      public void onErrorResponse(VolleyError error) {
        error.printStackTrace();
      }
    });
    mQueue.add(request);
  }
}
```

***Output:***

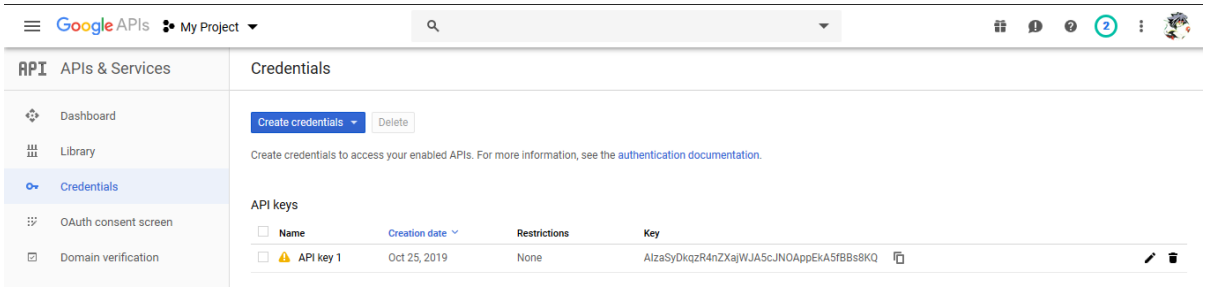

12:21
Practical_No_20
John-->30-->john@gmail.com
Jimmy-->25-->jimmy@gmail.com
Jenny-->22-->jenny@gmail.com
Jeremy-->40-->jeremy@gmail.com
Justin-->32-->justin@gmail.com
PARSE

**Practical No.: 21**

**Aim: Android Google Map to Show Current Location**

*Start a new Android Studio Project → Google Maps Activity*

**Generate API Key**




**google_maps_api.xml**

```
<resources>
    <string name="google_maps_key" templateMergeStrategy="preserve"
translatable="false">AIzaSyDkqzR4nZXajWJA5cJNOAppEkA5fBBs8KQ</string>
</resources>
```

**MapsActivity.java**

```
package com.example.practical_no_21;

import androidx.fragment.app.FragmentActivity;
import android.os.Bundle;
import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;

public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {

    private GoogleMap mMap;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_maps);
        // Obtain the SupportMapFragment and get notified when the map is ready to be used.
        SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()
                .findFragmentById(R.id.map);
        mapFragment.getMapAsync(this);
    }



    @Override
    public void onMapReady(GoogleMap googleMap) {
```

```
        mMap = googleMap;

        // Add a marker in Sydney and move the camera
        LatLng currentlocation = new LatLng(19.1876505, 72.9548407);
        mMap.addMarker(new MarkerOptions().position(currentlocation).title("Marker in College"));
        mMap.moveCamera(CameraUpdateFactory.newLatLng(currentlocation));
    }
}
```

**Output:**