



Advanced Mobile Programming

Bachelors in natural science (Government Holkar Science College)



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ADVANCED MOBILE PROGRAMMING

Practical No. 1

(A)

MainActivity.java

```
package com.example.demos;

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

public class MainActivity extends AppCompatActivity {

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

AndroidManifest.xml

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

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

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

</manifest>
```

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/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_marginTop="296dp"
    android:layout_marginEnd="131dp"
    android:text="@string/hello_world"
    android:textColor="#C51D1D"
    android:textSize="36sp" />

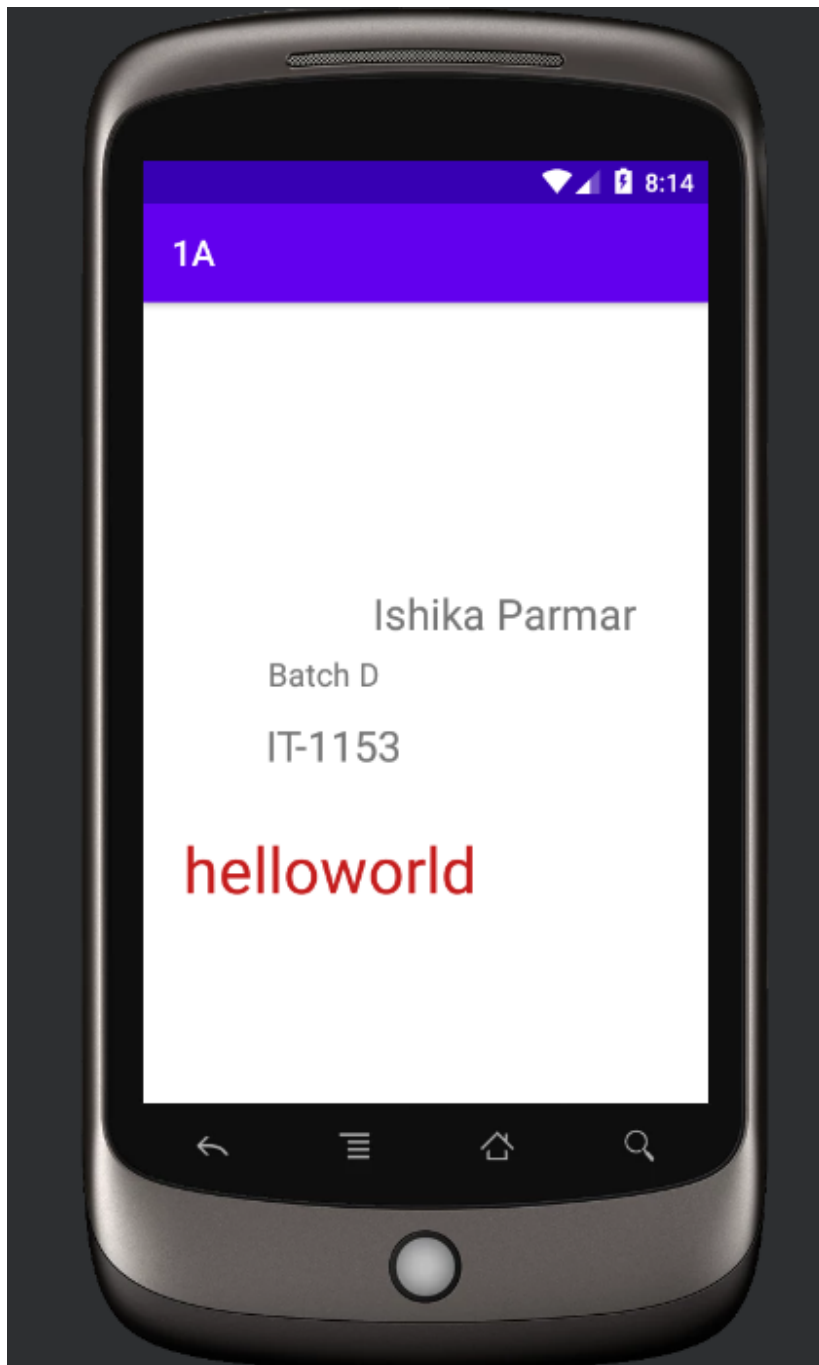
<TextView
    android:id="@+id/textView6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentTop="true"
    android:layout_marginStart="130dp"
    android:layout_marginTop="159dp"
    android:text="Ishika Parmar"
    android:textAlignment="center"
    android:textSize="24sp" />

<TextView
    android:id="@+id/textView7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_marginTop="198dp"
    android:layout_marginEnd="186dp"
    android:text="Batch D"
    android:textAlignment="center"
    android:textSize="18sp" />

<TextView
    android:id="@+id/textView8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_marginTop="234dp"
    android:layout_marginEnd="174dp"
    android:text="IT-1153"
    android:textAlignment="center"
    android:textSize="24sp" />
</RelativeLayout>

```

OUTPUT



(B)

MainActivity.java

```
package com.example.broadcastreciever;

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

public class MainActivity extends AppCompatActivity {

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

Rec.java

```
package com.example.broadcastreciever;

import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.widget.Toast;

public class Rec extends BroadcastReceiver {
    @Override
    public void onReceive(Context context, Intent intent) {
        Toast.makeText(context, "Airplane Mode", Toast.LENGTH_LONG).show();
    }
}
```

AndroidManifest.xml

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

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

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <receiver
            android:name=".Rec"
            android:enabled="true"
            android:exported="true">
            <intent-filter>
```

```
        <action android:name="android.intent.action.AIRPLANE_MODE"/>
    </intent-filter>
</receiver>
</application>
</manifest>
```

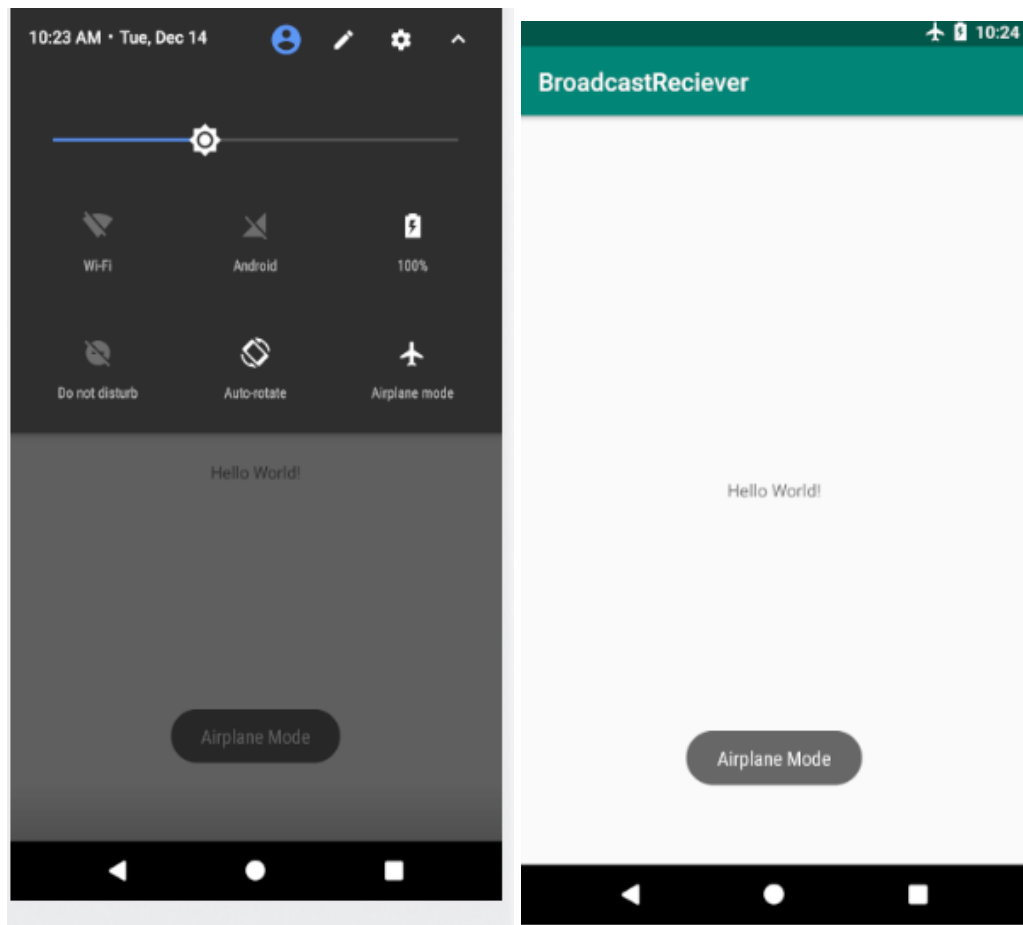
Android_main.xml

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

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

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

OUTPUT



Practical No. 2

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">

    <ImageView
        android:id="@+id/imageView2"
        android:layout_width="match_parent"
        android:layout_height="375dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_marginStart="-1dp"
        android:layout_marginTop="5dp"
        android:contentDescription="TODO"
        app:srcCompat="@drawable/zenitsu" />

    <Button
        android:id="@+id/button"
        style="@style/demo"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="106dp"
        android:layout_marginBottom="166dp"
        android:backgroundTint="@color/blue"
        android:text="@string/start_now" />

    <Button
        android:id="@+id/button3"
        style="@style/demo"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="102dp"
        android:layout_marginBottom="73dp"
        android:backgroundTint="@color/blue"
        android:text="@string/settings" />

</RelativeLayout>
```

Colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008577</color>
    <color name="colorPrimaryDark">#00574B</color>
    <color name="colorAccent">#D81B60</color>
    <color name="blue">#00BCD4</color>
</resources>
```


Styles.xml

```
<resources>

    <!-- Base application theme. -->
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <!-- Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>
    <style name="demo">
        <item name="android:layout_width">200dp</item>
        <item name="android:fontFamily">sans-serif-medium</item>
    </style>

</resources>
```

Strings.xml

```
<resources>
    <string name="app_name">project1</string>
    <string name="start_now">Start Now</string>
    <string name="settings">Settings</string>
</resources>
```

ActivityMain.java

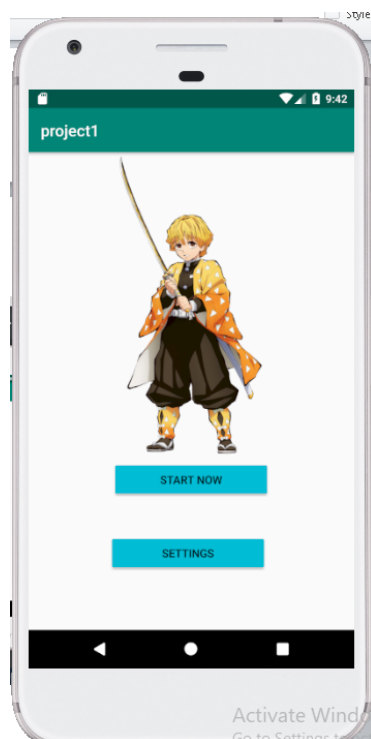
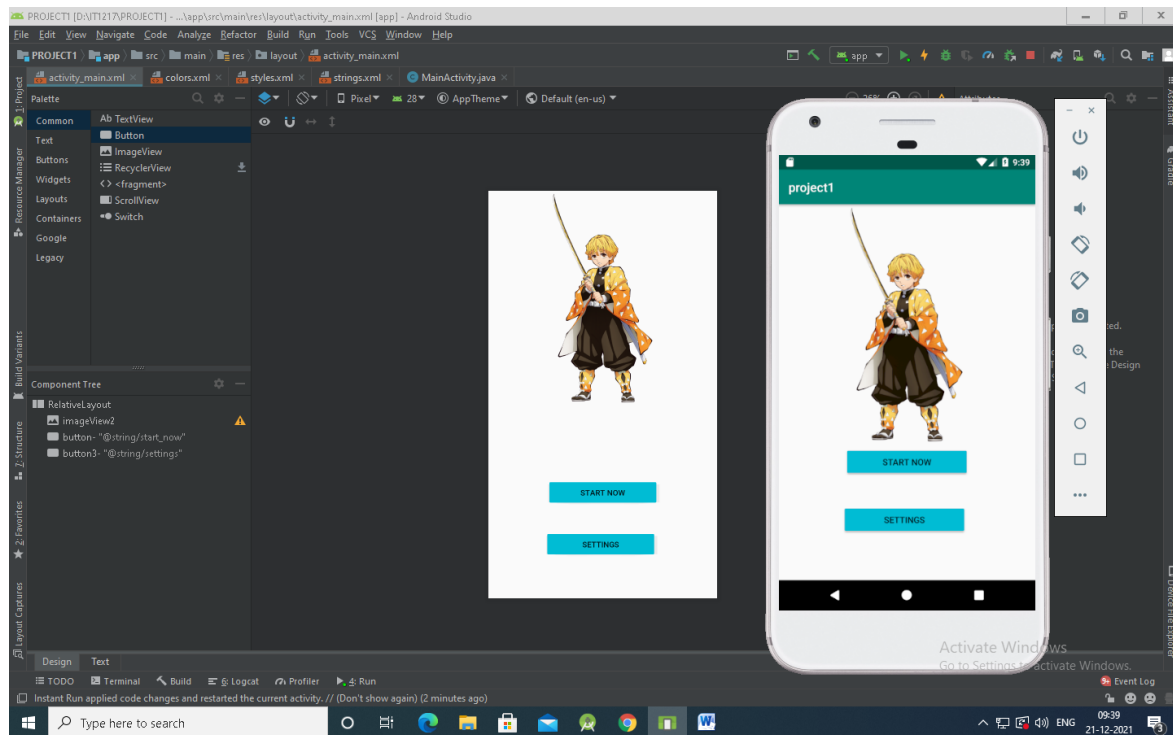
```
package com.example.project1;

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

public class MainActivity extends AppCompatActivity {

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

OUTPUT



Practical No. 3

MainActivity.java

```
package com.example.activitylifecycle;

import android.support.v7.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.d("Lifecycle", "onCreate executed");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.d("Lifecycle", "onStart executed");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.d("Lifecycle", "onPause executed");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.d("Lifecycle", "onResume executed");
    }

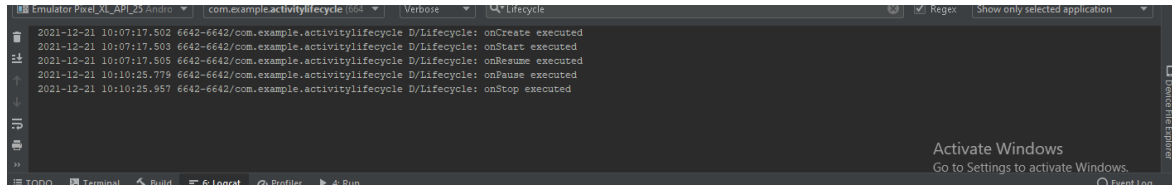
    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d("Lifecycle", "onRestart executed");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d("Lifecycle", "onDestroy executed");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Log.d("Lifecycle", "onStop executed");
    }
}
```

```
}  
}
```

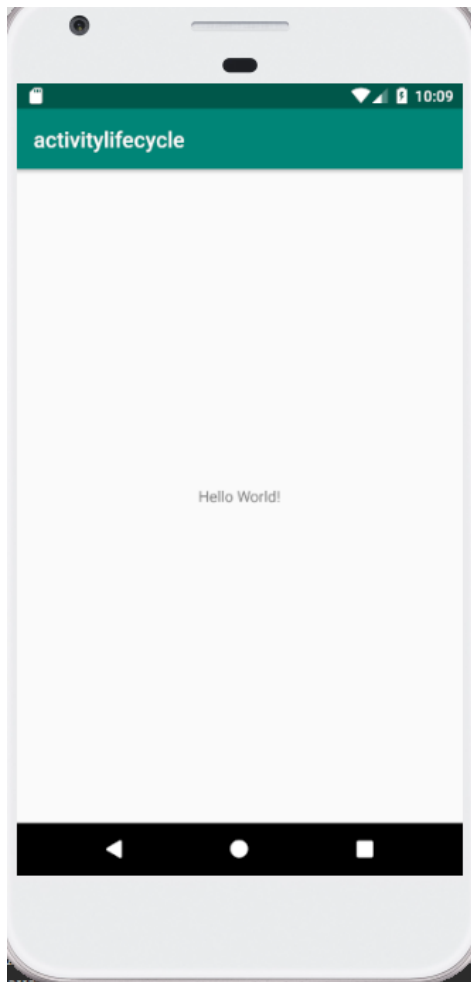
OUTPUT



The screenshot shows the Android Studio interface. The top toolbar includes buttons for Run, Stop, and other development actions. The Logcat window at the bottom displays the following log entries:

```
2021-12-21 10:07:17.502 6642-6642/com.example.activitylifecycle D/Lifecycle: onCreate executed  
2021-12-21 10:07:17.503 6642-6642/com.example.activitylifecycle D/Lifecycle: onStart executed  
2021-12-21 10:07:17.505 6642-6642/com.example.activitylifecycle D/Lifecycle: onResume executed  
2021-12-21 10:10:25.779 6642-6642/com.example.activitylifecycle D/Lifecycle: onPause executed  
2021-12-21 10:10:25.957 6642-6642/com.example.activitylifecycle D/Lifecycle: onStop executed
```

An "Activate Windows" watermark is visible in the bottom right corner of the IDE window.



Practical No. 4

(A)

MainActivity.java

```
package com.example.absolutelayout;

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

public class MainActivity extends AppCompatActivity {

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

Abslayout.xml

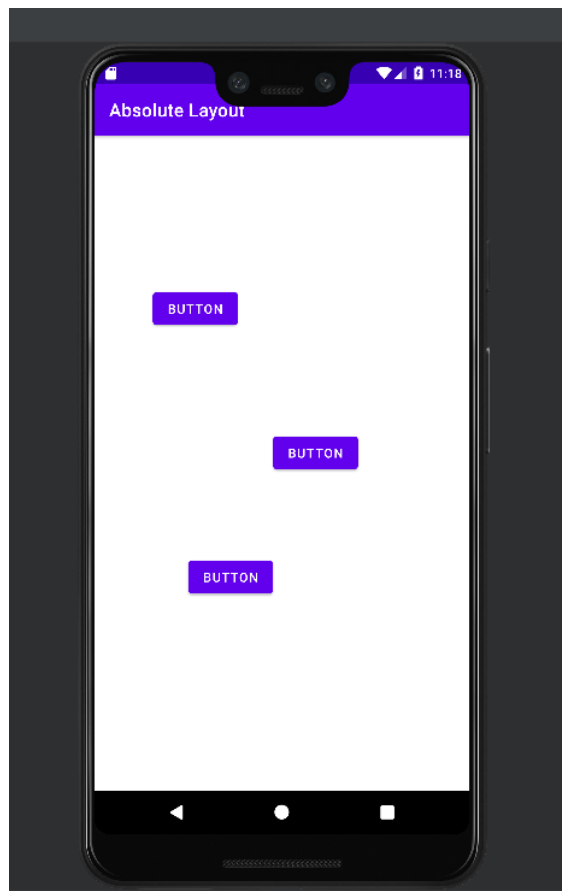
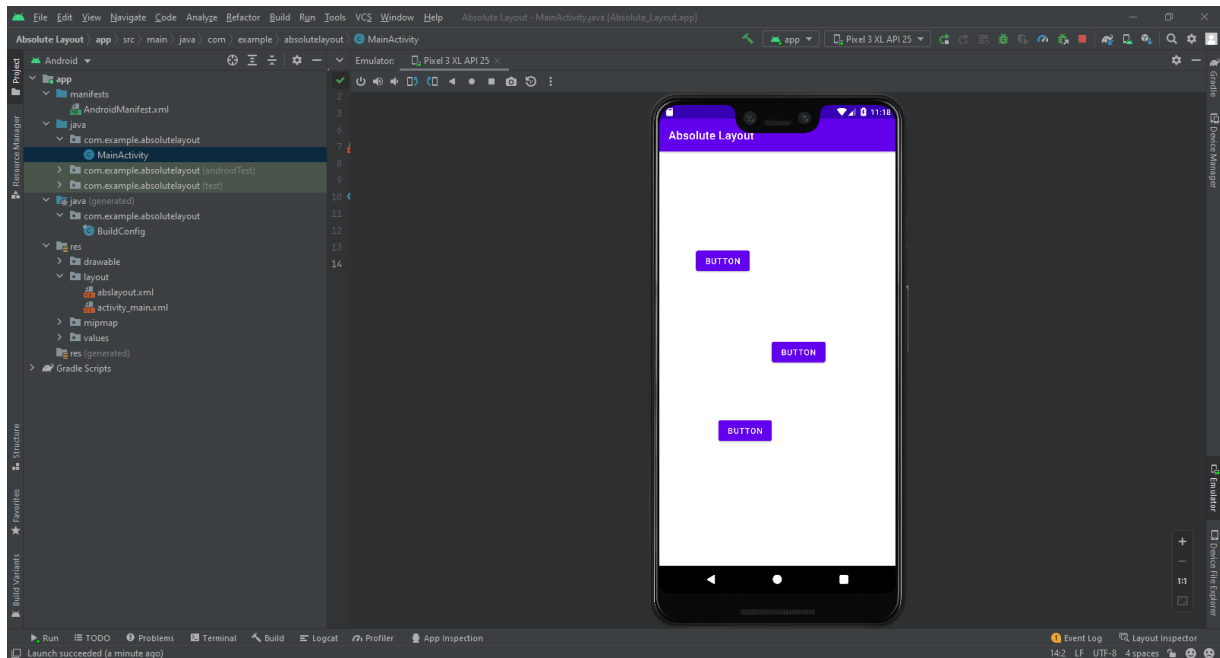
```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="64dp"
        android:layout_y="166dp"
        android:text="Button" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="196dp"
        android:layout_y="324dp"
        android:text="Button" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="103dp"
        android:layout_y="460dp"
        android:text="Button" />
</AbsoluteLayout>
```

OUTPUT



(B)

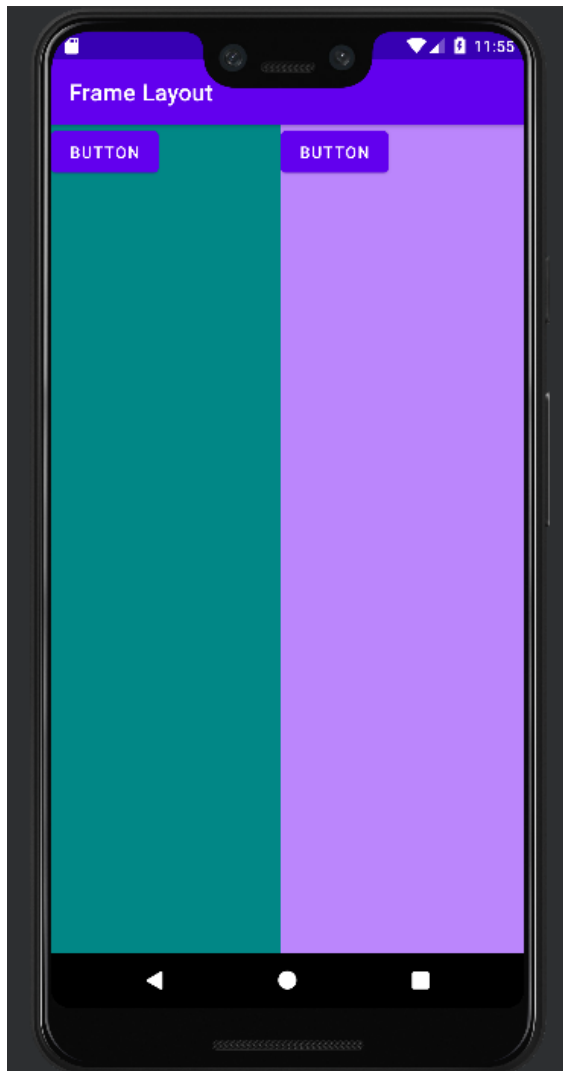
MainActivity.java

```
package com.example.frameLayout;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.frameLayout);  
    }  
}
```

FrameLayout.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <FrameLayout  
        android:layout_width="200dp"  
        android:layout_height="match_parent"  
        android:background="@color/teal_700">  
  
        <Button  
            android:layout_width="wrap_content"  
            android:layout_height="wrap_content"  
            android:id="@+id/button1"  
            android:text="Button" />  
  
    </FrameLayout>  
  
    <FrameLayout  
        android:layout_width="match_parent"  
        android:layout_height="match_parent"  
        android:background="@color/purple_200">  
  
        <Button  
            android:layout_width="wrap_content"  
            android:layout_height="wrap_content"  
            android:text="Button"/>  
  
    </FrameLayout>  
</LinearLayout>
```

OUTPUT:



(C)

MainActivity.java

```
package com.example.linearlayout;

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

public class MainActivity extends AppCompatActivity {

    @Override
```



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

linlay.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    android:orientation="vertical">  
  
    <Button  
        android:id="@+id/button"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="Button" />  
  
    <Button  
        android:id="@+id/button2"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="Button" />  
  
    <Button  
        android:id="@+id/button3"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="Button" />  
  
    <Button  
        android:id="@+id/button4"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="Button" />  
</LinearLayout>
```

OUTPUT



(D)

MainActivity.java

```
package com.example.list;

import androidx.appcompat.app.AppCompatActivity;

import android.app.ListActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;
```

```

public class MainActivity extends ListActivity {

    String [] teams = {"Mercedes","Ferrari","Red Bull","McLaren","Alpine","Alpha
Tauri"};

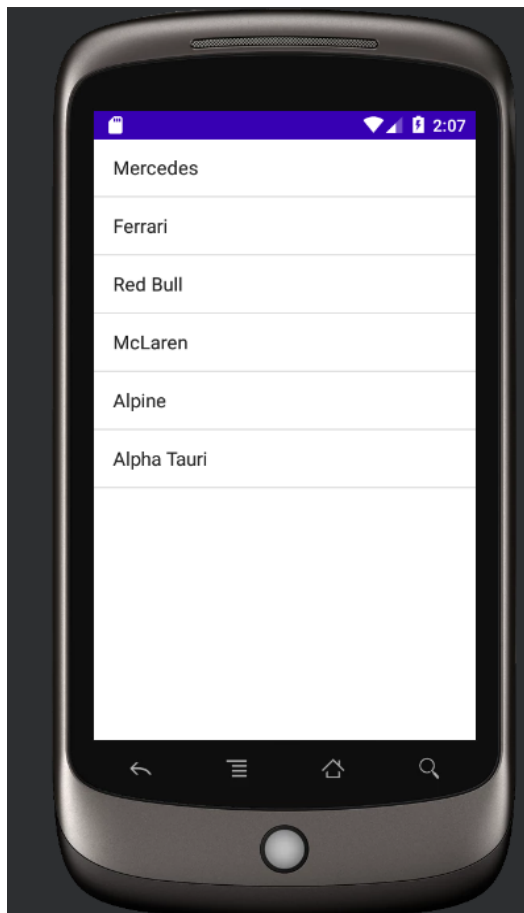
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setListAdapter(new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,teams));
    }

    @Override
    protected void onListItemClick(ListView l, View v, int position, long id) {
        Toast.makeText(this, "You Selected " + teams[position],
Toast.LENGTH_SHORT).show();
    }
}

```

OUTPUT



(E)

MainActivity.java

```
package com.example.relativelayout;

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

public class MainActivity extends AppCompatActivity {

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

Relative.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">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_marginStart="39dp"
        android:layout_marginTop="228dp"
        android:text="Button" />

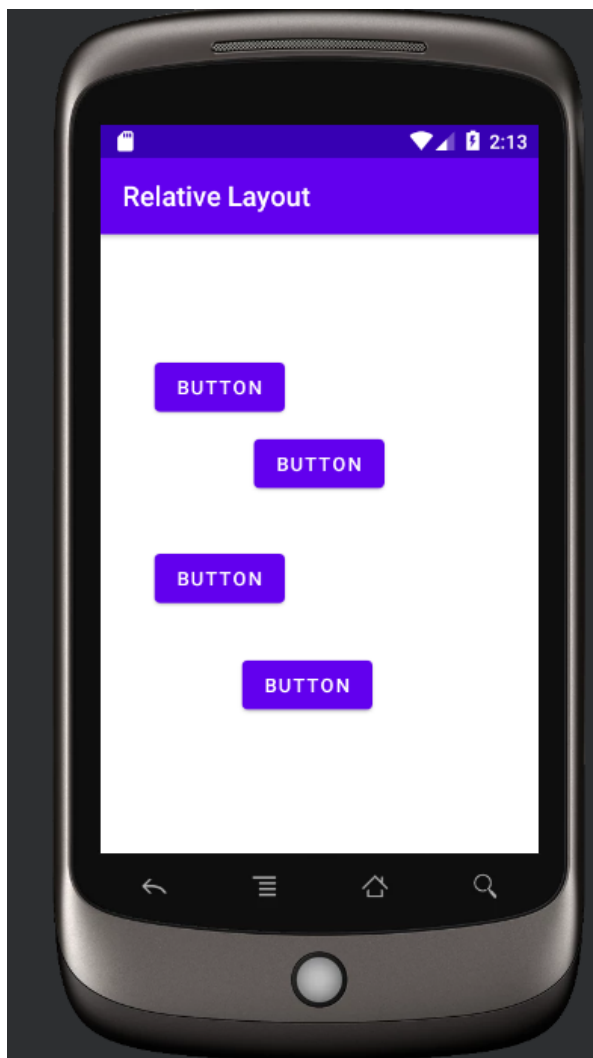
    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginTop="306dp"
        android:layout_marginEnd="121dp"
        android:text="Button" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentBottom="true" />
```

```
        android:layout_marginStart="39dp"
        android:layout_marginBottom="317dp"
        android:text="Button" />

<Button
    android:id="@+id/button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="144dp"
    android:text="Button" />
</RelativeLayout>
```

OUTPUT



(F)

MainActivity.java

```
package com.example.tablelayout;

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

public class MainActivity extends AppCompatActivity {

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

tablelay.xml

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

    <TableRow
        android:layout_width="match_parent"
        android:layout_height="match_parent" >

        <TextView
            android:id="@+id/textView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:background="#00BCD4"
            android:text="Table 1"
            android:textSize="40sp"/>
    </TableRow>

    <TableRow
        android:layout_width="match_parent"
        android:layout_height="match_parent" >

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

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
```

```

        android:text="Button" />

</TableRow>

<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent" >

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button" />

    <Button
        android:id="@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button" />

    <Button
        android:id="@+id/button5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button" />

</TableRow>
</TableLayout>

```

OUTPUT



Practical No. 5

(A)

MainActivity.java

```
package com.example.a5a;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    Button b1,b2;
    TextView tv,tv2;
    CheckBox c1,c2,c3;
    RadioGroup r1;
    RadioButton rb1;
    EditText e1,e2;

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

        b1 = findViewById(R.id.OkBtn);
        b2 = findViewById(R.id.ClearBtn);
        tv = findViewById(R.id.textView);
        tv2 = findViewById(R.id.textView2);
        c1 = findViewById(R.id.checkBox);
        c2 = findViewById(R.id.checkBox2);
        c3 = findViewById(R.id.checkBox3);
        r1 = findViewById(R.id.RG);
        rb1 = findViewById(R.id.radioButton);
        e1 = findViewById(R.id.editTextTextPersonName);
        e2 = findViewById(R.id.editTextTextPersonName2);

    }

    public void clear(View v){

        e1.setText(null);
        e2.setText(null);
        tv.setText(null);
        tv2.setText(null);
        c1.setChecked(false);
        c2.setChecked(false);
    }
}
```



```

        c3.setChecked(false);
        r1.clearCheck();
    }

    public void submit(View v){
        StringBuffer sb = new StringBuffer();
        sb.append(e1.getText().toString()+"\n");
        sb.append(e2.getText().toString()+"\n");

        if(c1.isChecked()==true){
            sb.append(c1.getText());
        }
        if(c2.isChecked()==true){
            sb.append(c2.getText());
        }
        if(c3.isChecked()==true){
            sb.append(c3.getText());
        }

        int selection = r1.getCheckedRadioButtonId();
        rb1 = findViewById(selection);
        sb.append(rb1.getText().toString());

        tv2.setText(sb.toString());
    }
}

```

Activity_main.xml

```

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name" />

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType=""
        android:minHeight="48dp" />

    <EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="match_parent"

```

```

        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="number"
        android:minHeight="48dp" />

<CheckBox
    android:id="@+id/checkboxBox"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="First Option" />

<CheckBox
    android:id="@+id/checkboxBox2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Second Option" />

<CheckBox
    android:id="@+id/checkboxBox3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Third Option" />

<RadioGroup
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/RG">

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

    <RadioButton
        android:id="@+id/radioButton2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Scuderia" />

</RadioGroup>

<Button
    android:id="@+id/OkBtn"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="submit"
    android:text="Submit" />

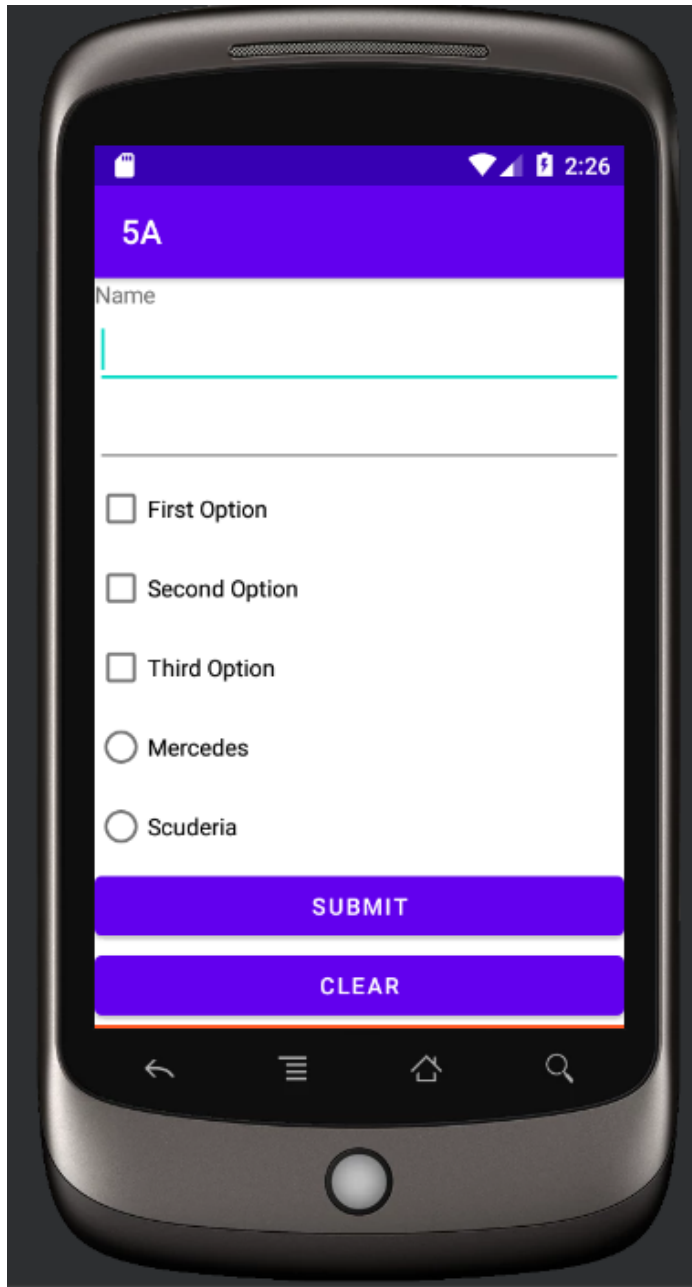
<Button
    android:id="@+id/ClearBtn"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Clear"
    android:onClick="clear"/>

<TextView

```

```
android:id="@+id/textView2"  
android:layout_width="match_parent"  
android:layout_height="match_parent"  
android:background="#FF5722"  
android:textSize="34sp"/>  
</LinearLayout>
```

OUTPUT



(B)

MainActivity.java

```
package com.example.a5b_menubartool;

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

import android.graphics.Color;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.LinearLayout;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    LinearLayout ll;
    Toolbar tbar;

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

        ll = findViewById(R.id.LinearLayout);
        tbar = findViewById(R.id.ToolbarId);

        setSupportActionBar(tbar);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater mi = getMenuInflater();
        mi.inflate(R.menu.menu_layout, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {

            case R.id.Mercedes:
                Toast.makeText(this, "Selected Mercedes",
                    Toast.LENGTH_SHORT).show();
                ll.setBackgroundColor(Color.GRAY);

            case R.id.Ferrari:
                Toast.makeText(this, "Selected Ferrari",
                    Toast.LENGTH_SHORT).show();
                ll.setBackgroundColor(Color.RED);

            case R.id.RedBull:
```

```

        Toast.makeText(this, "Selected Red Bull",
Toast.LENGTH_SHORT).show();
        ll.setBackgroundColor(Color.BLUE);

        default:
            return super.onOptionsItemSelected(item);
    }

}
}

```

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"
    android:id="@+id/LinearLayout">

    <include
        layout="@layout/app_bar_layout"/>
</LinearLayout>

```

App_bar_layout.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.appcompat.widget.Toolbar
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="100dp"
    android:background="@color/teal_700"
    android:id="@+id/ToolbarId">

</androidx.appcompat.widget.Toolbar>

```

Practical No. 6

MainActivity.java

```
package com.example.a6_alertdialog;

import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.FragmentManager;

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

public class MainActivity extends AppCompatActivity {

    Button b1, b2;
    FragmentManager fm = getSupportFragmentManager();

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

        b1 = findViewById(R.id.button1);
        b2 = findViewById(R.id.button2);

        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                alert_dialog ad = new alert_dialog();
                ad.show(fm, "alert_dialog");
            }
        });
    }

    public void button1_click(View v){

        dialog_frag df = new dialog_frag();
        df.show(fm, "dialog_frag");
    }
}
```

Alert_dialog.java

```
package com.example.a6_alertdialog;

import android.app.AlertDialog;
import android.app.Dialog;
import android.content.DialogInterface;
```

```

import android.os.Bundle;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.DialogFragment;

public class alert_dialog extends DialogFragment {

    @NonNull
    @Override
    public Dialog onCreateDialog(@Nullable Bundle savedInstanceState) {
        return new
AlertDialog.Builder(getActivity()).setIcon(R.drawable.ic_launcher_background).s
setTitle("This is Title").setMessage("This is the
Message").setPositiveButton("Okay", new DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialogInterface, int i) {
        Toast.makeText(getContext(), "clicked on positive Button",
Toast.LENGTH_SHORT).show();
    }
}).setNegativeButton("Discard", new DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialogInterface, int i) {
        Toast.makeText(getContext(), "Clicked on Negative Button",
Toast.LENGTH_SHORT).show();
    }
}).setNeutralButton("Cancel", new DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialogInterface, int i) {
        Toast.makeText(getContext(), "Clicked on Cancel Button",
Toast.LENGTH_SHORT).show();
    }
}).create();
    }
}

```

Dialog_frag.java

```

package com.example.a6_alertdialog;

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

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.DialogFragment;

public class dialog_frag extends DialogFragment {

    @Nullable
    @Override

```

```

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

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

```

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:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Dialog Fragment"
        android:onClick="button1_click"
        android:textSize="35sp"/>

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Alert Dialog"
        android:textSize="35sp"/>
</LinearLayout>

```

Second_layout.xml

```

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

    <TextView
        android:id="@+id/textView1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/teal_700"
        android:gravity="center"
        android:text="Dialog fragment"
    >

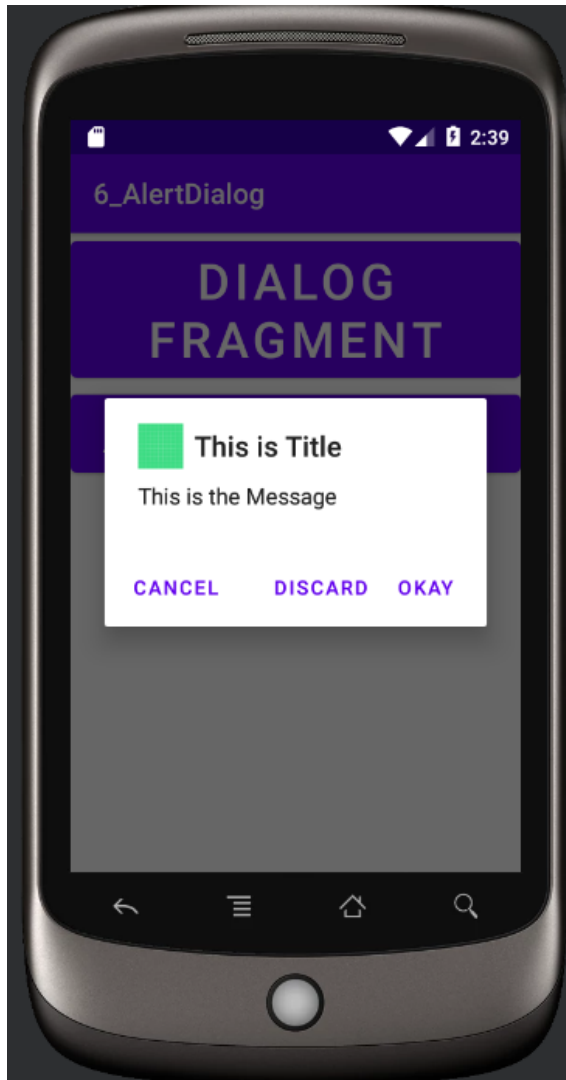
```



```
        android:textSize="35sp" />  
</LinearLayout>
```

OUTPUT





Practical No. 7

(A)

MainActivity.java

```
package com.example.explicitintent;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    Button b;
    EditText e;

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

        b = findViewById(R.id.button);
        e = findViewById(R.id.edittext);

        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s = e.getText().toString();
                Intent i = new Intent(getApplicationContext(), MyReceiver.class);
                i.putExtra("msg", s);
                startActivity(i);
            }
        });
    }
}
```

MyReceiver.java

```
package com.example.explicitintent;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

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

```

public class MyReceiver extends AppCompatActivity {

    TextView t;

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

        setContentView(R.layout.second_file);
        t = findViewById(R.id.textView);

        Intent i = getIntent();
        String s1 = i.getStringExtra("msg");
        t.setText("Good Evening"+s1);
    }
}

```

Activity_main.xml

```

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter Your Data"
        android:textSize="25sp" />

    <EditText
        android:id="@+id/edittext"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:textSize="25sp"
        tools:ignore="SpeakableTextPresentCheck" />

    <Button
        android:id="@+id/button"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:textSize="25sp" />

</LinearLayout>

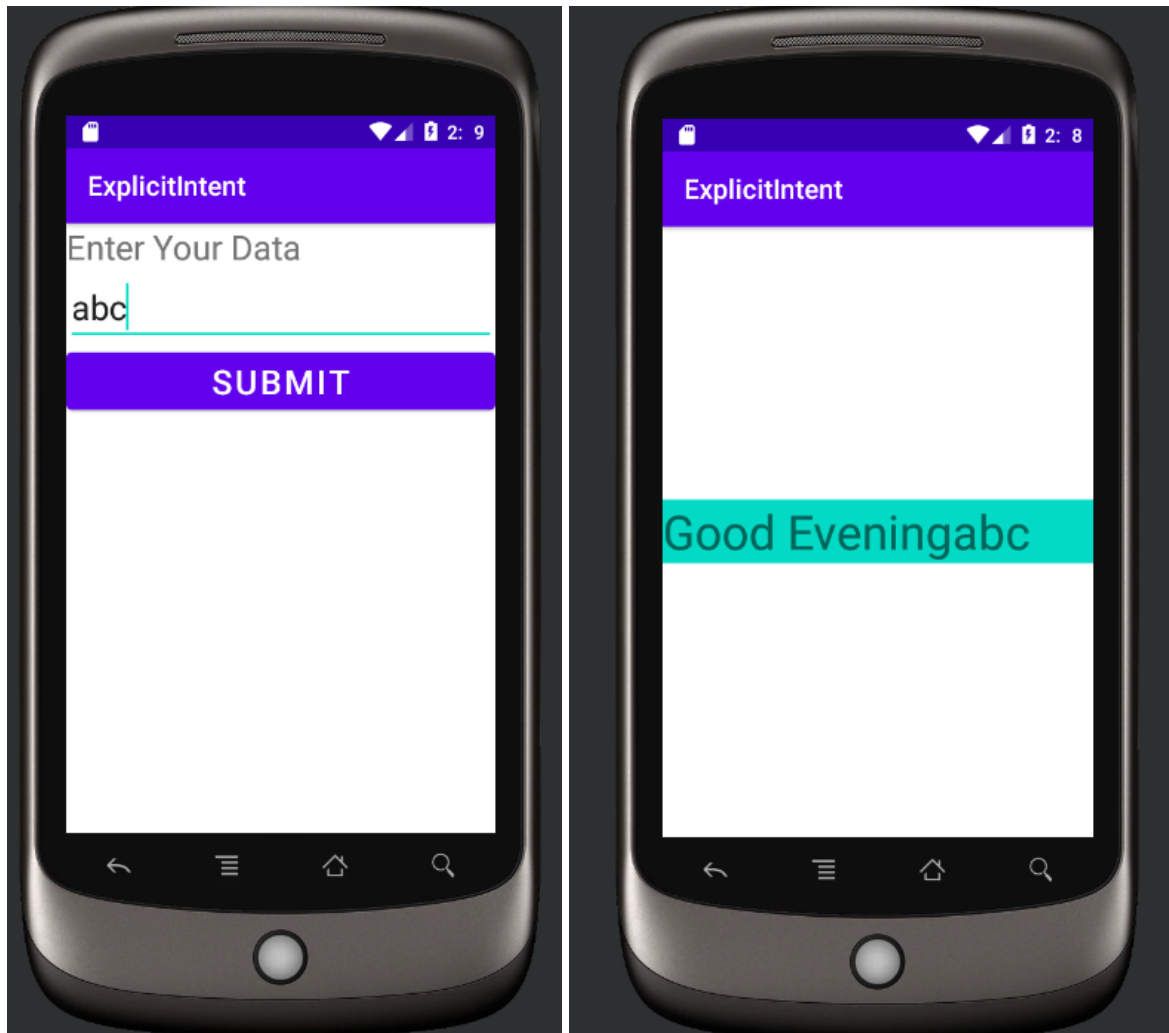
```

Second_file.xml

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:textSize="35sp"
        android:background="@color/teal_200"/>
</RelativeLayout>
```

OUTPUT



(B)

MainActivity.java

```
package com.example.implicitintent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
```

```

public class MainActivity extends AppCompatActivity {

    Button b;
    EditText e;

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

        b = findViewById(R.id.button);
        e = findViewById(R.id.editText);

        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s = e.getText().toString();
                Intent i = new Intent(Intent.ACTION_VIEW,
Uri.parse("https://www."+s));
                startActivity(i);
            }
        });
    }
}

```

Activity_main.xml

```

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter URL"
        android:textSize="35sp"/>

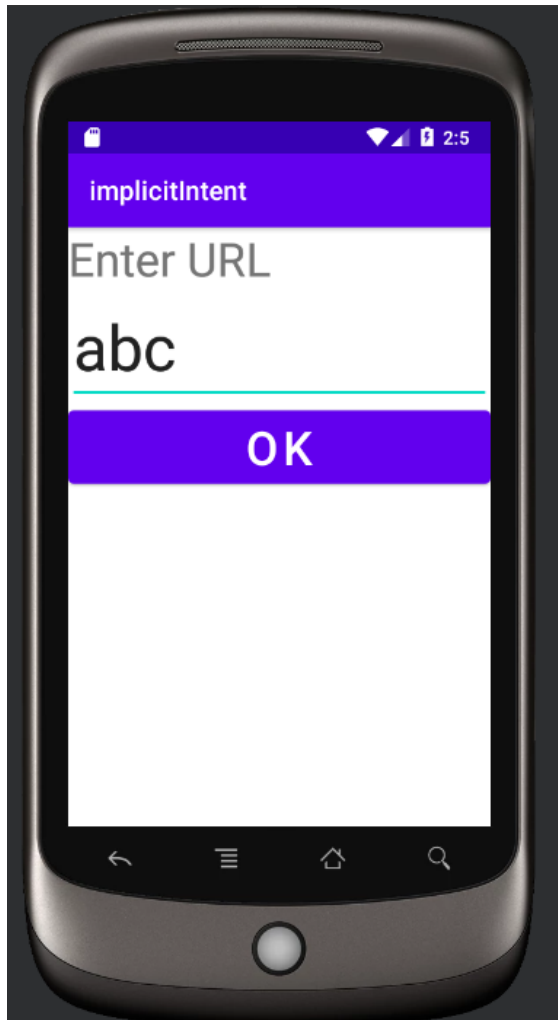
    <EditText
        android:id="@+id/editText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:textSize="48dp" />

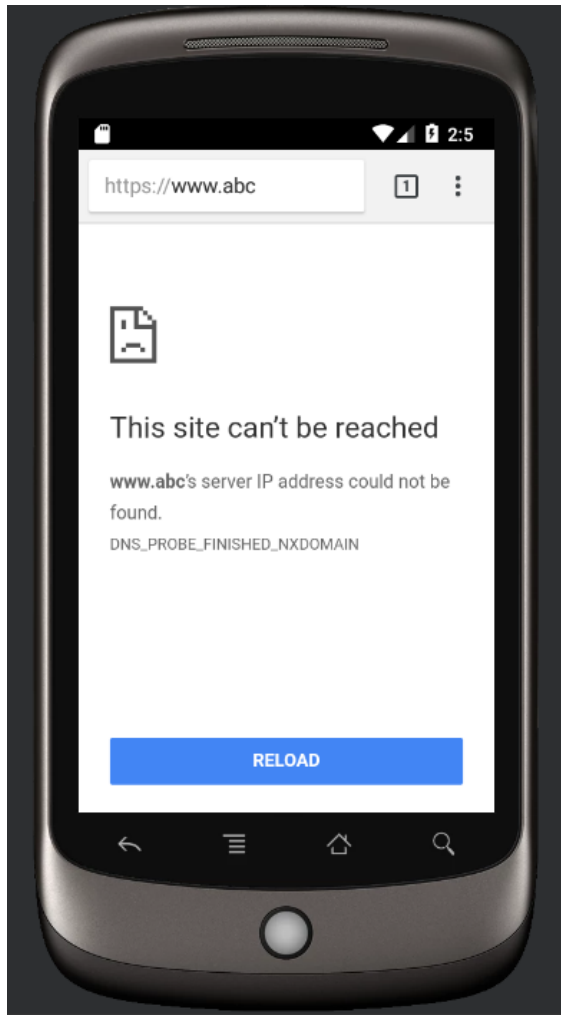
    <Button
        android:id="@+id/button"

```

```
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:text="Ok"  
        android:textSize="35sp"/>  
</LinearLayout>
```

OUTPUT





Practical No. 8

(A)

MainActivity.java

```
package com.example.a8a_services;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        Intent i;

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

    public void start_service(View v) {
        Intent i = new Intent(this, new_service.class);
        startService(i);
    }

    public void stop_service(View v) {
        Intent i = new Intent(this, new_service.class);
        stopService(i);
    }
}
```

New_services.java

```
package com.example.a8a_services;

import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.widget.Toast;

import androidx.annotation.Nullable;

import java.security.Provider;

public class new_service extends Service {

    @Nullable
```

```

@Override
public IBinder onBind(Intent intent) {
    return null;
}

@Override
public int onStartCommand(Intent intent, int flags, int startId) {
    Toast.makeText(this, "Service Started", Toast.LENGTH_SHORT).show();
    return START_STICKY;
}

@Override
public void onDestroy() {
    Toast.makeText(this, "Service Destroyed", Toast.LENGTH_SHORT).show();
}
}

```

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:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Start"
        android:onClick="start_service"
        android:textSize="25sp"/>

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Stop"
        android:onClick="stop_service"
        android:textSize="25sp"/>
</LinearLayout>

```

OUTPUT





(B)

MainActivity.java

```
package com.example.a8b_notification;

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

import android.app.Notification;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

```

public class MainActivity extends AppCompatActivity {

    Button b;

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

        b = findViewById(R.id.button);
    }

    public void addNotification(View v){
        NotificationCompat.Builder n = new NotificationCompat.Builder(this);
        n.setSmallIcon(R.drawable.ic_launcher_background);
        n.setContentTitle("Notification Title");
        n.setContentText("Content of the Notification");
        n.setAutoCancel(true);

        Intent i = new Intent(this, NotificationView.class);
        i.putExtra("msg","This is the notification body");

        PendingIntent pi =
PendingIntent.getActivity(this,0,i,PendingIntent.FLAG_UPDATE_CURRENT);

        n.setContentIntent(pi);

        NotificationManager m =
(NotificationManager) getSystemService(Context.NOTIFICATION_SERVICE);
        m.notify(0,n.build());
    }
}

```

NotificationView.java

```

package com.example.a8b_notification;

import android.os.Bundle;
import android.widget.TextView;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

public class NotificationView extends AppCompatActivity {
    TextView t;

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

        setContentView(R.layout.second_layout);
        t = findViewById(R.id.textView);

        String s = getIntent().getStringExtra("msg");
    }
}

```

```
        t.setText(s);  
    }  
}
```

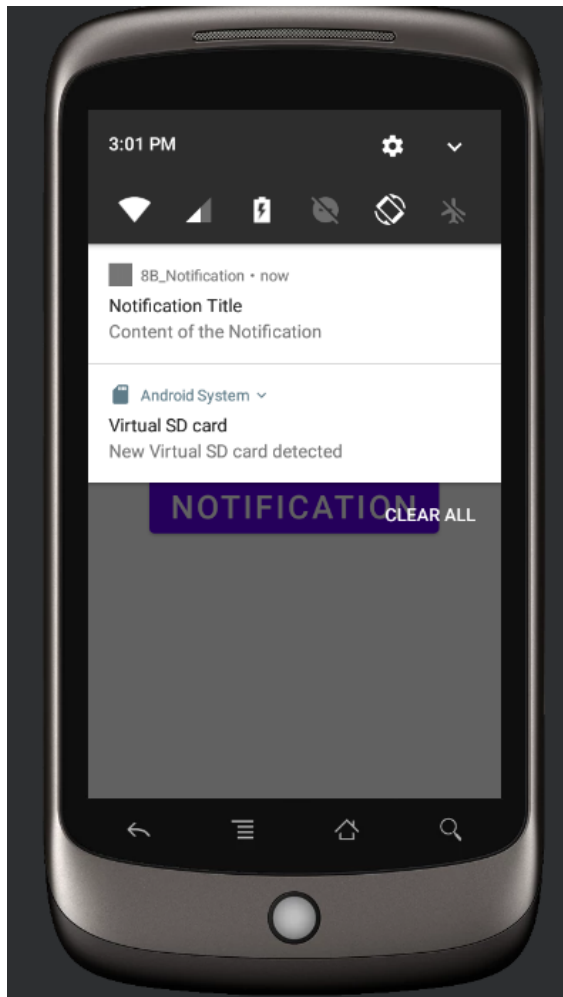
Activity_main.xml

```
<?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_centerInParent="true"  
        android:text="Notification"  
        android:textSize="25sp"  
        android:onClick="addNotification"/>  
</RelativeLayout>
```

Second_layout.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">  
  
    <TextView  
        android:id="@+id/textView"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:textSize="25sp"  
        android:background="@color/teal_700" />  
</RelativeLayout>
```

OUTPUT



Practical No.9

MainActivity.java

```
package com.example.database;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
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 {

    Button b1,b2,b3;
    EditText edt1, edt2;
    MyDb mdb;
    SQLiteDatabase sdb;

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

        b1 = findViewById(R.id.button1);
        b2 = findViewById(R.id.button2);
        b3 = findViewById(R.id.button3);

        edt1 = findViewById(R.id.Edt1);
        edt2 = findViewById(R.id.Edt2);

        mdb = new MyDb(this);
    }

    public void Login(View v){
        String u = edt1.getText().toString();
        String p = edt2.getText().toString();
        sdb = mdb.getReadableDatabase();

        String q = "select * from login where username = '" + u + "' and password = '" + p + "'";

        try{
            Cursor c = sdb.rawQuery(q,null);

            if(c.getCount() == 0){
                Toast.makeText(MainActivity.this, "User does not exist or incorrect details", Toast.LENGTH_SHORT).show();
            }else {
```

```

        while(c.moveToNext()){
            String c1 = c.getString(0);
            String c2 = c.getString(1);

            if(u.contentEquals(c1) && p.contentEquals(c2)){
                Toast.makeText(this, "Welcome User",
Toast.LENGTH_SHORT).show();
            }
        }
    } catch (Exception e) {

    }

}

public void Register(View v){
    String u = edt1.getText().toString();
    String p = edt2.getText().toString();
    sdb = mdb.getWritableDatabase();

    String q = "insert into login values('"+ u +"','"+ p +"')";
    sdb.execSQL(q);
    Toast.makeText(MainActivity.this, "Query has been executed",
Toast.LENGTH_SHORT).show();
}

public void Drop(View v){
    sdb = mdb.getWritableDatabase();
    mdb.onUpgrade(sdb,1,2);
    Toast.makeText(MainActivity.this, "All users deleted",
Toast.LENGTH_SHORT).show();
}
}

class MyDb extends SQLiteOpenHelper{

    public MyDb(Context c) { super(c,"logindb",null,1); }

    @Override
    public void onCreate(SQLiteDatabase db) {
        String s1 = "create table login(username text, password text)";
        db.execSQL(s1);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int i, int i1) {
        String s2 = "drop table if exists login";
        db.execSQL(s2);

        onCreate(db);
    }
}

```

Activity_main.xml

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

    <EditText
        android:id="@+id/Edt1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="Enter Username"
        android:textSize="25sp"/>

    <EditText
        android:id="@+id/Edt2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="Enter Password"
        android:textSize="25sp"/>

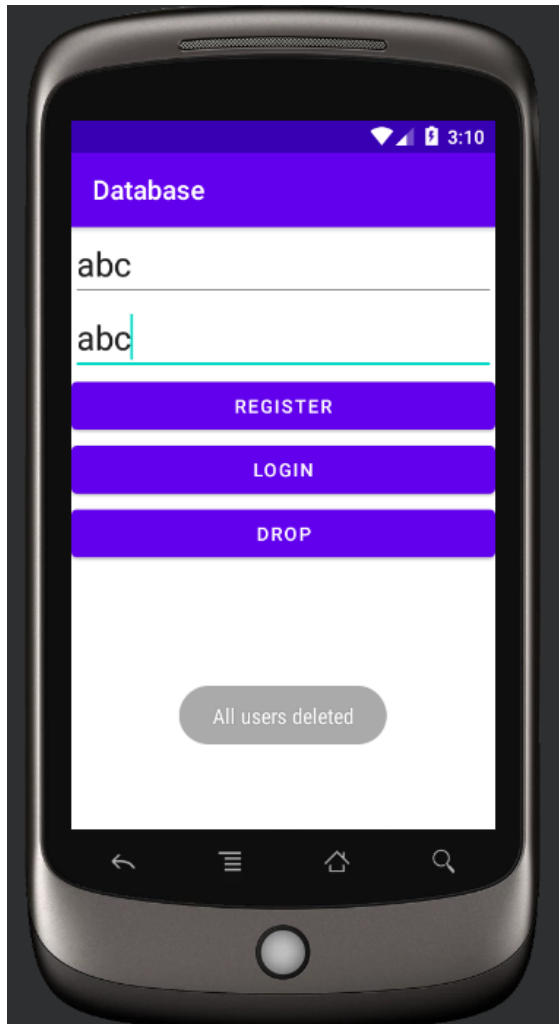
    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Register"
        android:onClick="Register"/>

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login"
        android:onClick="Login"/>

    <Button
        android:id="@+id/button3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Drop"
        android:onClick="Drop"/>
</LinearLayout>
```

OUTPUT





Practical No. 10

(A)

MainActivity.java

```
package com.example.audiovideoapi;

import androidx.appcompat.app.AppCompatActivity;

import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.MediaController;
import android.widget.Toast;
import android.widget.VideoView;

public class MainActivity extends AppCompatActivity {

    VideoView v;
    Button b,b2,b3;
    MediaController m;
    ImageView i;
    MediaPlayer mp;

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

        b = findViewById(R.id.button);
        v = findViewById(R.id.videoView);

        b2 = findViewById(R.id.button2);
        b3 = findViewById(R.id.button3);

        i = findViewById(R.id.imageView);

        mp = MediaPlayer.create(this,R.raw.audio);
    }

    public void onClick(View view){
        m = new MediaController(this);
        v.setVideoPath("android.resource://" + getPackageName() + "/" +
R.raw.video);
        m.setAnchorView(v);
        v.setMediaController(m);
        v.start();
    }

    public void play(View view){
        i.setVisibility(view.VISIBLE);
        mp.start();
    }
}
```

```

        Toast.makeText(this, "Media has started", Toast.LENGTH_SHORT).show();
    }

    public void pause(View view){
        super.onPause();
        mp.release();
        i.setVisibility(view.INVISIBLE);
    }
}

```

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">

    <VideoView
        android:id="@+id/videoView"
        android:layout_width="match_parent"
        android:layout_height="350dp" />

    <Button
        android:id="@+id/button"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Click"
        android:textSize="25sp"
        android:onClick="onClick"/>

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Play Audio"
        android:textSize="25sp"
        android:onClick="play"/>

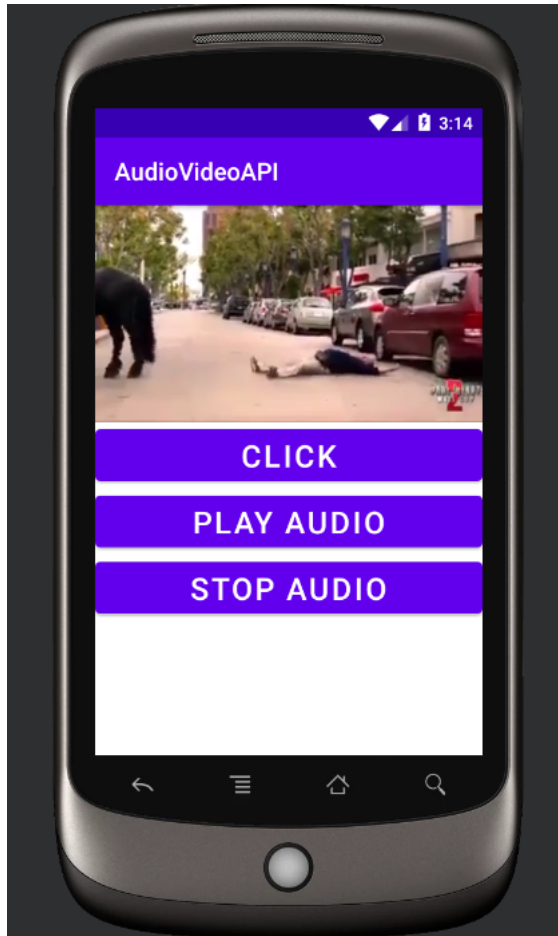
    <Button
        android:id="@+id/button3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Stop Audio"
        android:textSize="25sp"
        android:onClick="pause"/>

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

```

```
app:srcCompat="@drawable/ic_launcher_foreground"  
android:background="@color/black"  
android:visibility="invisible"/>  
</LinearLayout>
```

OUTPUT



(B)

MainActivity.java

```
package com.example.telephoneapi;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.net.Uri;
```



```

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 {

    Button b1;
    EditText Edt;

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

        b1 = findViewById(R.id.button);
        Edt = findViewById(R.id.Edt);
    }

    public void call(View v){
        Toast.makeText(this, "Button Clicked", Toast.LENGTH_SHORT).show();

        Intent i = new Intent(Intent.ACTION_CALL, Uri.parse("tel:" +
Edt.getText().toString()));

        startActivity(i);
    }
}

```

activity_main.xml

```

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

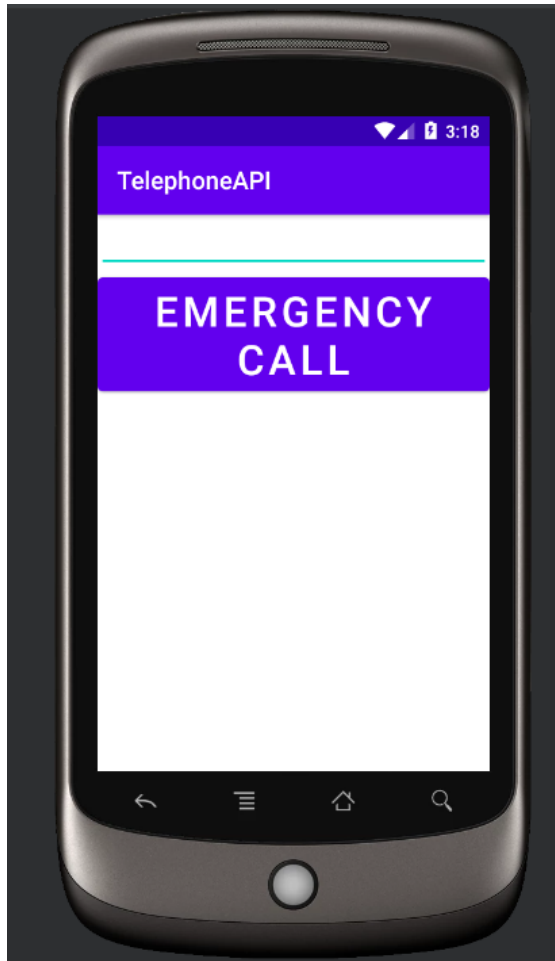
    <EditText
        android:id="@+id/Edt"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="phone"
        tools:ignore="SpeakableTextPresentCheck" />

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

```

```
        android:text="Emergency Call"  
        android:textSize="34sp"  
        android:onClick="call"/>  
</LinearLayout>
```

OUTPUT



Practical No. 11

MainActivity.java

```
package com.example.demo;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
import android.Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

import com.example.demo.R;

public class MainActivity extends AppCompatActivity {
    Button b1, b2;
    private static final int CAMERA_CODE=100;
    private static final int STORAGE_CODE=101;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.button1);

        b2=findViewById(R.id.button2);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                checkPermission(Manifest.permission.CAMERA,CAMERA_CODE);
            }
        });
        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                checkPermission(Manifest.permission.WRITE_EXTERNAL_STORAGE,STORAGE_CODE);
            }
        });
    }

    public void checkPermission(String permission, int requestCode)
    {
        if (ContextCompat.checkSelfPermission(MainActivity.this,permission)==
            PackageManager.PERMISSION_DENIED)
        {
            ActivityCompat.requestPermissions(MainActivity.this, new
            String[]{permission}, requestCode);
        }
        else
    }
```

```

        {
            Toast.makeText(MainActivity.this, "Permission already given",
Toast.LENGTH_SHORT).show();
        }
    }

    @Override
    public void onRequestPermissionsResult(int requestCode, @NonNull String[]
permissions, @NonNull
        int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        if(requestCode== CAMERA_CODE)
        {
            if(grantResults.length>0 &&
grantResults[0]==PackageManager.PERMISSION_GRANTED) {
                Toast.makeText(MainActivity.this, "Camera Permission Granted",
                    Toast.LENGTH_SHORT).show();
            }
            else
            {
                Toast.makeText(MainActivity.this, "Camera permission denied",
Toast.LENGTH_SHORT).show();
            }
        }
        else if(requestCode==STORAGE_CODE)
        {
            if(grantResults.length>0 &&
grantResults[0]==PackageManager.PERMISSION_GRANTED) {
                Toast.makeText(MainActivity.this, "Storage Permission Granted",
                    Toast.LENGTH_SHORT).show();
            }
            else
            {
                Toast.makeText(MainActivity.this, "Storage permission denied",
Toast.LENGTH_SHORT).show();
            }
        }
    }
}

```

activity_mian.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/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/camera"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.121"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.109" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/storage"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.123"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.215" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

