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LAB**

**Audyogik Shikshan Mandal's
Institute of Management & Computer Studies, Thane**



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**Audyogik Shikshan Mandal's Institute of Management
& Computer Studies, Thane**

Certificate

This is to certify that Mr. **Omkar Bharat Khandare** Student of **MCA** Course, First year, **Semester 3,** Roll No. **MC2223044** has successfully completed the required number of practical in the subject of **Mobile Computing LAB** as prescribed by the **University of Mumbai** under our supervision during the academic year 2023-2024.

Practical In-Charge
Date:

Internal Examiner
Date:

External Examiner
Date:

Director
IMCOST

College Seal:

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PRACTICAL NO. 1**AIM / TITLE : Android program to demonstrate Toste & “Hello world”**

1. Hello world
2. Toast Message

Description :

A toast is a non-modal dialog that appears and disappears in the span of a few seconds. It may also optionally have a small close “X”. Typically, toast messages display one or two- line non-critical messages that do not require user interaction.

Coding :**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"3
    android:layout_height="match_parent" tools:context=".MainActivity">

    <!-- to add image-->
    <ImageView android:id="@+id/logo"
        android:layout_width="150dp"
        android:layout_height="150dp"
        android:layout_centerInParent="true"
        android:src="@mipmap/logo" />

    <!-- to add text below logo-->
    <TextView
        android:id="@+id/logo_lable"
        android:textSize="30dp"
        android:fontFamily="sans-
        serifcondensed"
        android:textStyle="bold"
        android:textColor="@color/black"
        android:layout_centerHorizontal="true
        "
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        " android:layout_below="@id/logo"
        android:text="Mobile Lab" />

<!-- to add text in bottom -->
<TextView        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        android:textSize="15dp"
        android:textColor="@color/black"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Developed by MCA" />
<!--Practical 1-->
<!--    <TextView-->
<!--        android:textSize="50dp"-->
<!--        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" />-->

</RelativeLayout> MainActivity.java package com.example.mobilepracticals;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import        android.os.Bundle; import
android.os.Handler; public class MainActivity extends
AppCompatActivity

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

    new Handler().postDelayed(new Runnable()
        {@Override    public
        void run() { startActivity(new Intent(getApplicationContext(),
            HomeScreen.class));finish();
        }
    }
```

```
    },1500);
  }
}
```

activity_home_screen.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" android:background="#E7E7E7"
    tools:context=".HomeScreen">

    <ScrollView android:layout_width="match_parent" android:layout_height="wrap_content">
        <RelativeLayout android:layout_width="match_parent" android:layout_height="wrap_content">

            <Button
                android:id="@+id/button1"
                android:layout_width="match_parent"
                android:layout_height="80dp"
                android:layout_marginStart="20dp"
                android:layout_marginTop="20dp"
                android:layout_marginEnd="20dp"
                android:layout_marginBottom="20dp"
                android:background="@drawable/border_button"
                android:fontFamily="serif-monospace"
                android:text="Practical 1" android:textColor="#111FA5"
                android:textSize="20dp" android:textStyle="bold" />
        </RelativeLayout>

    </ScrollView>

</LinearLayout>
```

HomeScreen.java package

```
com.example.mobilepracticals; import

    android.content.DialogInterface; import

    android.content.Intent; import

    android.os.Bundle; import
    android.view.View; import
```

```

android.widget.Button;

import androidx.appcompat.app.AlertDialog; import
androidx.appcompat.app.AppCompatActivity; public class HomeScreen extends
AppCompatActivity implements View.OnClickListener{

    //declare of button
    Button btn1;

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

    //define button by calling it btn1
    =findViewById(R.id.button1);
    // btn1.setOnClickListener(this::onClick); btn1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            startActivity(new Intent(getApplicationContext(),Practical_1.class));
        }
    });
}

```

activity_practical1.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:layout_margin="30dp" android:orientation="vertical"
    tools:context=".Practical_1">
    <Button android:id="@+id/pr1_btn1"
        android:layout_width="match_parent"
        "
        android:layout_height="80dp" android:text="Practical
        1.1" android:textSize="20dp" android:layout_margin="20dp"
        app:backgroundTint="@null"
        android:background="@drawable/round_button"/>

```



```

<Button android:id="@+id/pr1_btn2"
    android:layout_width="match_parent"
    android:layout_height="80dp"
    android:layout_margin="20dp"
    android:text="Practical
    1.2"                android:textSize="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/round_button"/>

<Button android:id="@+id/pr1_btn3"
    android:layout_width="match_parent"
    "
    android:layout_height="80dp" android:layout_margin="20dp" app:backgroundTint="@null"
    android:background="@drawable/round_button"

    android:text="Practical    1.3"
    android:textSize="20dp" />

```

```

</LinearLayout>                Practical_1                package

```

```

com.example.mobilepracticals;                import

```

```

androidx.appcompat.app.AppCompatActivity; import

```

```

android.content.Intent; import

```

```

android.os.Bundle; import

```

```

android.view.View;                import

```

```

android.widget.Button;

```

```

public class Practical_1 extends AppCompatActivity

```

```

{Button    pr1btn1_3,pr1btn1_1;

```

```

@Override

```

```

protected void onCreate(Bundle savedInstanceState)

```

```

    {super.onCreate(savedInstanceState);

```

```

    setContentView(R.layout.activity_practical1);

```

```

    pr1btn1_3    =findViewById(R.id.pr1_btn3);    pr1btn1_3.setOnClickListener(new
    View.OnClickListener() {

```

```

        @Override

```

```

        public void onClick(View v) { startActivity(new

```

```

            Intent(getApplicationContext(),Prac_1_3.class)); }

```

```

    });

```

```
pr1btn1_1 =findViewById(R.id.pr1_btn1); pr1btn1_1.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) { startActivity(new
        Intent(getApplicationContext(),Prac_1_1.class));
    }
});
}
```

activity_prac11.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=".Prac_1_1">

    <EditText

        android:layout_width="wrap_content" android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:text="Hello world !" android:textSize="50dp" />

</RelativeLayout> Prac_1_1 package

com.example.mobilepracticals; import

androidx.appcompat.app.AppCompatActivity

activity; import android.os.Bundle;

public class Prac_1_1 extends

AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_prac11); }
```

```
}
```

activity_prac13.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:layout_margin="20dp" android:orientation="vertical"
    tools:context=".Prac_1_3">

    <TextView android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Tost Message" android:textSize="30dp"
        android:layout_gravity="center"
        android:textColor="@color/black"/>

    <EditText android:id="@+id/txbox1" android:layout_margin="50dp"
        android:layout_width="match_parent"
        android:layout_height="90dp" android:hint="Enter Your Name
        Here..."/>

    <Button android:id="@+id/btnclickme"
        android:layout_width="match_parent"
        android:layout_height="65dp" android:text="Click Me"
        android:textSize="20dp" app:backgroundTint="@null"
        android:background="@drawable/round_button"/>

</LinearLayout>
```

Prac_1_3

```
package com.example.mobilepracticals; import

androidx.appcompat.app.AppCompatActivity; import

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

```
import android.widget.Toast; public class
```

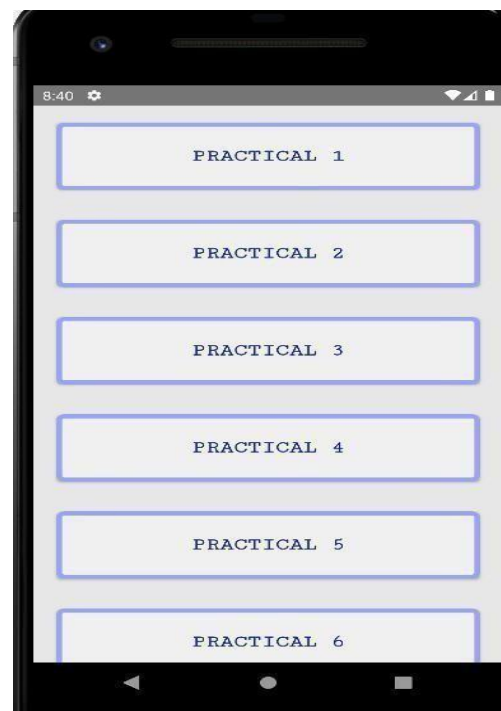
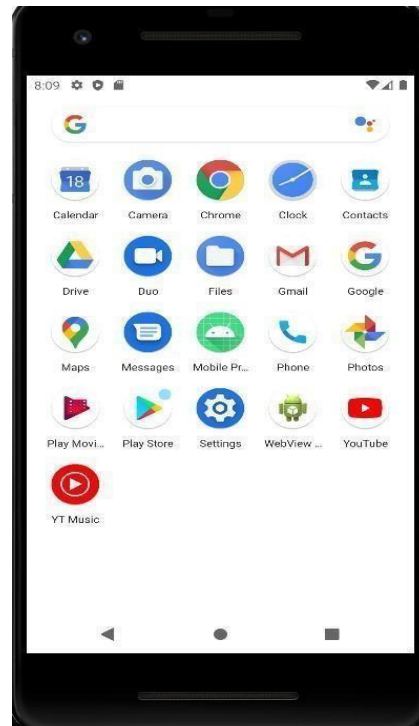
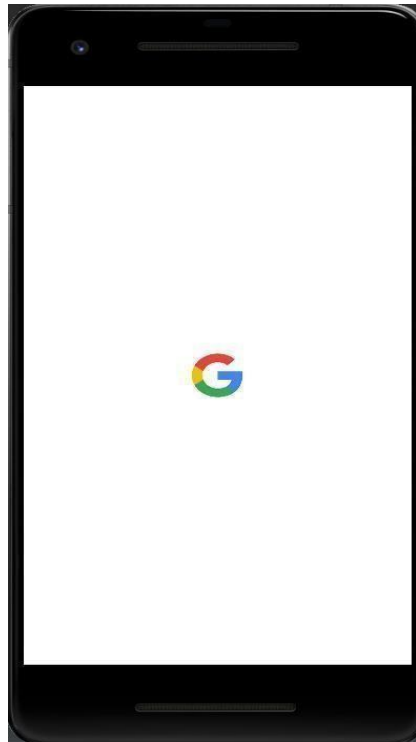
```
Prac_1_3 extends AppCompatActivity
```

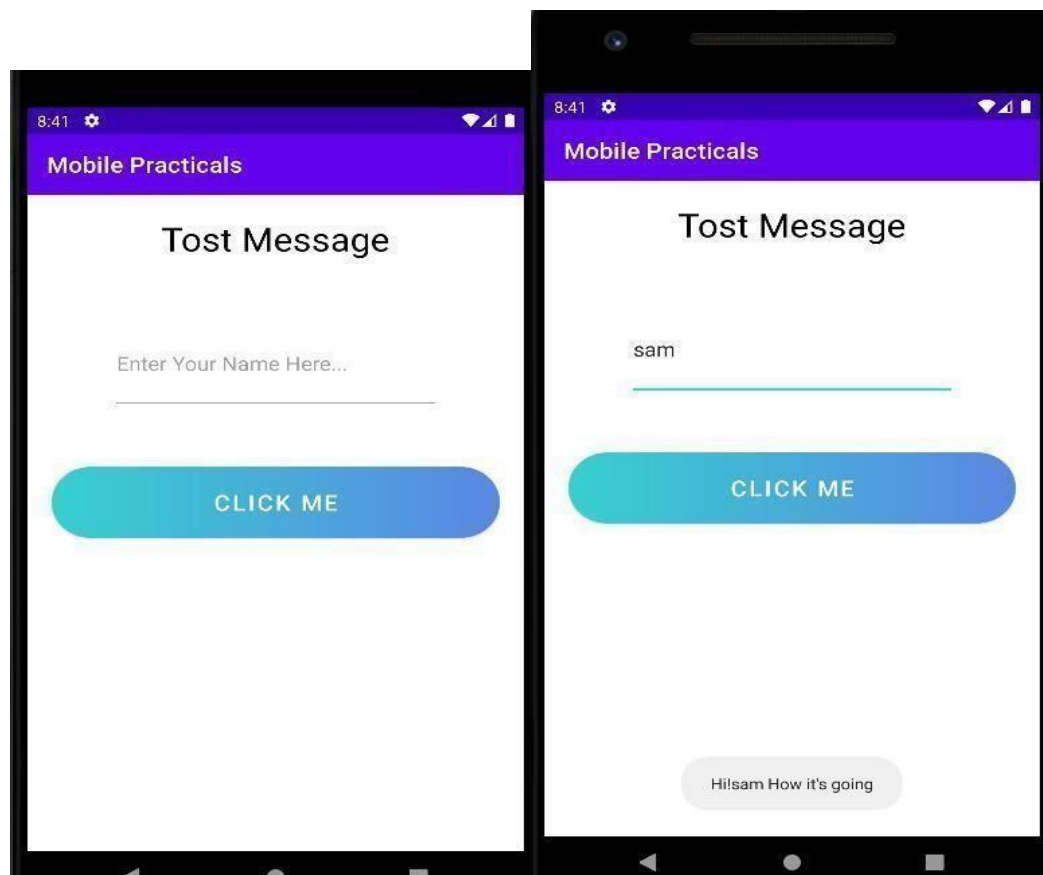
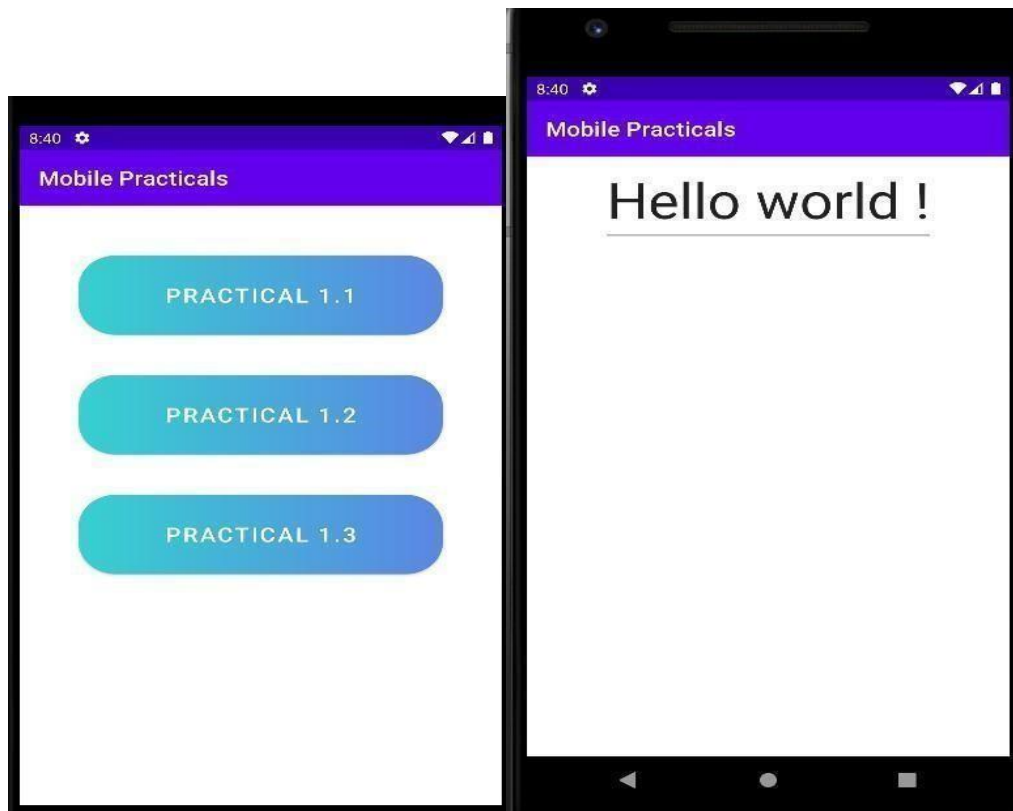
```
    {Button btnclickme; EditText
    txtbox;    String    name;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_prac13);
    txtbox=findViewById(R.id.txbox1);
    btnclickme=findViewById(R.id.btnclickme);

    btnclickme.setOnClickListener(new View.OnClickListener()
    {
        @Override public void
        onClick(View v)
        { if(TextUtils.isEmpty(txtbox.getText()))
        {
            Toast.makeText(getApplicationContext(),"PleaseEnteryour
name",Toast.LENGTH_SHORT).show();
        }
        else
        { name=txtbox.getText().toString();
            Toast.makeText(getApplicationContext(),"Hi!" +name+"Howit's
going",Toast.LENGTH_SHORT).show();

        }
    }
});
```

Output:





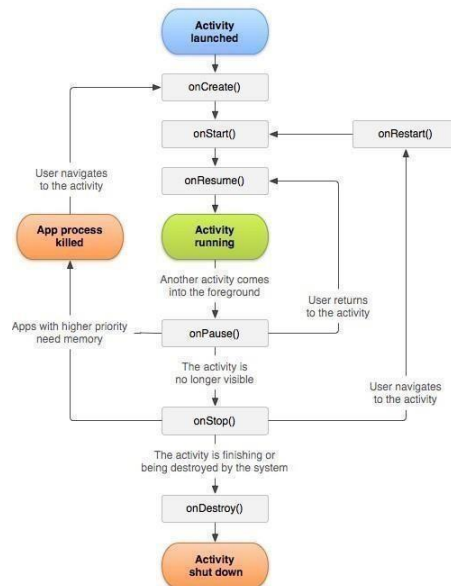
PRACTICAL NO. 2**AIM / TITLE : Activity life cycle**

1. Android program to demonstrate activity life cycle 2. Android program to demonstrate table layout using calculator 3. Android program to demonstrate back button click event

Description :

An activity is the single screen in android. It is like window or frame of Java. By the help of activity, we can place all your UI components or widgets in a single screen. As a user navigates through, out of, and back to your app, the Activity instances in your app transition through different states in their lifecycle. To navigate transitions between stages of the activity lifecycle, the Activity class provides a core set of six callbacks: To navigate transitions between stages of the activity lifecycle, the Activity class provides a core set of six callbacks: onCreate(), onStart(), onResume(), onPause(), onStop(), onRestart() and onDestroy(). The system invokes each of these callbacks as an activity enters a new state.

Android Activity Lifecycle is controlled by 7 methods of android.app. Activity class. The android Activity is the subclass of ContextThemeWrapper class.



Method	Description
onCreate	called when activity is first created.
onStart	called when activity is becoming visible to the user.
onResume	called when activity will start interacting with the user.
onPause	called when activity is not visible to the user.

onStop	called when activity is no longer visible to the user.
onRestart	called after your activity is stopped, prior to start.
onDestroy	called before the activity is destroyed.

Android TableLayout:

Android TableLayout going to be arranged groups of views into rows and columns. You will use the <TableRow> element to build a row in the table. Each row has zero or more cells; each cell can hold one View object. TableLayout containers do not display border lines for their rows, columns, or cells.

1. There is no need to provide the layout_width and layout_height for TableRow because by default, its width is match_parent and height is wrap_content.
2. A table row which has maximum views inside it, that many number of columns are created.
3. The width of the column automatically adjusts based on the size of the column with maximum width.

Coding :

activity_home_screen.xml

```
<Button android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:layout_below="@id/button1"
        android:layout_marginStart="20dp"
        android:layout_marginTop="15dp"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="20dp"
        android:background="@drawable/border_button"
        " android:fontFamily="serif-monospace"
        android:text="Practical      2"
        android:textColor="#111FA5"
        android:textSize="20dp" android:textStyle="bold" />
```

HomeScreen.java

```
Button btn1,btn2;
```

```
btn2 =findViewById(R.id.button2);  btn2.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) { startActivity(new
Intent(getApplicationContext(),Practical_2.class));
```



```
    }  
  });
```

activity_practical2.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:tools="http://schemas.android.com/tools"  
    xmlns:app="http://schemas.android.com/apk/res-auto"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent" android:orientation="vertical"  
    tools:context=".Practical_2">  
  
    <Button android:id="@+id/pr2_btn1"  
        android:layout_width="match_parent"  
        android:layout_height="80dp"  
        android:text="Practical  
        2.1" android:textSize="20dp"  
        android:layout_margin="20dp"  
        app:backgroundTint="@null" android:background="@drawable/round_button"/>  
  
    <Button android:id="@+id/pr2_btn2"  
        android:layout_width="match_parent"  
        android:layout_height="80dp"  
        android:layout_margin="20dp"  
        android:text="Practical  
        2.2" android:textSize="20dp"  
        app:backgroundTint="@null"  
        android:background="@drawable/round_button"/>  
  
    <Button android:id="@+id/pr2_btn3"  
        android:layout_width="match_parent"  
        android:layout_height="80dp"  
        android:layout_margin="20dp"  
        app:backgroundTint="@null"  
        android:background="@drawable/round_button"  
        android:text="Practical 2.3" android:textSize="20dp"  
    />
```

```
</LinearLayout>      Practical_2.java      package

com.example.mobilepracticals;                      import

androidx.appcompat.app.AppCompatActivity; import

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

public class Practical_2 extends AppCompatActivity
    {Button prc2_btn1,prc2_btn2,prc2_btn3;

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_practical2);

        prc2_btn1=findViewById(R.id.prc2_btn1);      prc2_btn1.setOnClickListener(new
        View.OnClickListener() {
            @Override
            public void onClick(View v) { startActivity(new
                Intent(getApplicationContext(),Prac_2_1.class)); finish();
            }
        });

        prc2_btn2=findViewById(R.id.prc2_btn2);      prc2_btn2.setOnClickListener(new
        View.OnClickListener() {
            @Override
            public void onClick(View v) { startActivity(new
                Intent(getApplicationContext(),Prac_2_2.class)); finish();
            }
        });

        prc2_btn3=findViewById(R.id.prc2_btn3);      prc2_btn3.setOnClickListener(new
        View.OnClickListener() {
            @Override
            public void onClick(View v) { startActivity(new
                Intent(getApplicationContext(),Prac_2_3.class)); finish(); }
        });
    }
}
```

```

}
activity_prac21.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=".Prac_2_1">

    <Button android:id="@+id/backbtn1"
        android:layout_margin="50dp"
        android:layout_width="match_parent"
        " android:layout_height="70dp"
        android:textSize="20dp" android:text="Back" />
    <TextView

        android:layout_centerHorizontal="true"
        android:layout_below="@id/backbtn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Activity      life      cycle"
        android:textSize="30dp"
        android:textStyle="bold"
        android:textColor="@color/black"

    />

</RelativeLayout>

```

Prac_2_1.java package

```

com.example.mobilepracticals;

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

com.sdsmdg.tastytoast.TastyToast;  public  class

Prac_2_1 extends AppCompatActivity

```

```
{Button    backbtn;

@Override
public void onBackPressed()
    { TastyToast.makeText(getApplicationContext(), "Back Button is pressed",
TastyToast.LENGTH_LONG, TastyToast.ERROR);
    }

@Override
protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState); setContentView(R.layout.activity_prac21);
      backbtn=findViewById(R.id.backbtn1);
      TastyToast.makeText(getApplicationContext(), "onCreate Event",
TastyToast.LENGTH_LONG, TastyToast.SUCCESS); backbtn.setOnClickListener(new
      View.OnClickListener() {
          @Override
          public void onClick(View v) { startActivity(new
              Intent(Prac_2_1.this,Practical_2.class)); finish(); }
      });
    }

@Override
protected void onStart()
    {super.onStart(); TastyToast.makeText(getApplicationContext(), "onStart Event",
TastyToast.LENGTH_LONG, TastyToast.WARNING);
    }

@Override
protected void onPause()
    {super.onPause(); TastyToast.makeText(getApplicationContext(), "onPause Event",
TastyToast.LENGTH_LONG, TastyToast.DEFAULT);
    }

@Override
protected void onResume()
    {super.onResume(); TastyToast.makeText(getApplicationContext(), "onResume Event",
TastyToast.LENGTH_LONG, TastyToast.INFO);
    }

@Override
protected void onRestart()
    {super.onRestart(); TastyToast.makeText(getApplicationContext(), "onRestart Event",
TastyToast.LENGTH_LONG, TastyToast.CONFUSING);
```

```
}

@Override
protected void onDestroy()
{
    super.onDestroy(); TastyToast.makeText(getApplicationContext(), "onDestroy Event",
    TastyToast.LENGTH_LONG, TastyToast.ERROR); }
}
```

activity_prac22.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=".Prac_2_2">

    <LinearLayout android:layout_margin="20dp"
        android:orientation="vertical"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <EditText android:id="@+id/caltxt"
            android:editable="false" android:clickable="false"
            android:textSize="35dp" android:cursorVisible="true"
            android:layout_width="match_parent"
            android:layout_height="80dp"
            android:layout_margin="30dp"
            />

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

            <Button android:id="@+id/cal7"
                android:layout_width="70dp"
                android:layout_height="70dp"
                android:layout_margin="10dp"
                android:background="@drawable/border_button"
                android:text="7" android:textColor="@color/black"
                android:textSize="35dp" app:backgroundTint="@null"
                />
```

```
<Button android:id="@+id/cal8"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:layout_margin="10dp"
    android:background="@drawable/border_button"
    android:text="8"        android:textColor="@color/black"
    android:textSize="35dp" app:backgroundTint="@null"
/>
```

```
<Button android:id="@+id/cal9"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:layout_margin="10dp"
    android:background="@drawable/border_button"
    android:text="9"        android:textColor="@color/black"
    android:textSize="35dp" app:backgroundTint="@null"
/>
```

```
<Button  android:id="@+id/caldiv"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:layout_margin="10dp"
    android:background="@drawable/border_button"
    android:text="/"        android:textColor="@color/black"
    android:textSize="35dp" app:backgroundTint="@null" />
```

```
</LinearLayout>
```

```
<GridLayout android:layout_width="match_parent" android:layout_height="wrap_content">
```

```
<Button android:id="@+id/cal4"
    android:layout_margin="10dp"
    android:text="4"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    " app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
<Button android:id="@+id/cal5"
    android:layout_margin="10dp"
    android:text="5"
    android:textSize="35dp"
```

```
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    " app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
<Button android:id="@+id/cal6"
    android:layout_margin="10dp"
    android:text="6"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    " app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
<Button
    android:id="@+id/calmul"
    android:layout_margin="10dp"
    android:text="x"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
</GridLayout>
```

```
<GridLayout android:layout_width="match_parent" android:layout_height="wrap_content">
```

```
<Button android:id="@+id/cal1"
    android:layout_margin="10dp"
    android:text="1"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    " app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
<Button android:id="@+id/cal2"
    android:layout_margin="10dp"
    android:text="2"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    " app:backgroundTint="@null"
    android:background="@drawable/border_button"/>

<Button android:id="@+id/cal3"
    android:layout_margin="10dp"
    "
    android:text="3"
    android:textSize="35dp"          android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    app:backgroundTint="@null"
    android:background="@drawable/border_button"/>

<Button
    android:id="@+id/calsub"
    android:layout_margin="10dp"
    android:text="-"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
</GridLayout>
```

```
<GridLayout android:layout_width="match_parent" android:layout_height="wrap_content">
```

```
<Button android:id="@+id/cal0"
    android:layout_margin="10dp"
    "
    android:text="0"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    app:backgroundTint="@null"
```



```
android:background="@drawable/border_button"/>
```

```
<Button
    android:id="@+id/calpo"
    android:layout_margin="10dp"
    android:text="."
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black"
    app:backgroundTint="@null"
    android:background="@drawable/border_button"/>
```

```
<Button android:id="@+id/caladd"
    android:layout_margin="10dp"
    android:text="+"
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black "
    app:backgroundTint="@null"
    android:background="@drawable/border
    _button"/>
```

```
<Button android:id="@+id/calequal"
    android:layout_margin="10dp" android:text=""
    android:textSize="35dp"
    android:layout_width="70dp"
    android:layout_height="70dp"
    android:textColor="@color/black "
    app:backgroundTint="@null"
    android:background="@drawable/border_button"/
>
```

```
</GridLayout>
```

```
</LinearLayout>
```

```
</RelativeLayout>
```

Prac_2_2.java

```
package com.example.mobilepracticals; import

androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; import
android.view.View; import
    android.widget.Button; import
android.widget.EditText; import
com.sdsmdg.tastytoast.TastyToast; import

net.objecthunter.exp4j.Expression;          import
net.objecthunter.exp4j.ExpressionBuilder; import
java.nio.charset.StandardCharsets;

public class Prac_2_2 extends AppCompatActivity implements View.OnClickListener {

    Button btn1,btn2,btn3,btn4,btn5,btn6,btn7,btn8,btn9,btn0,btnadd,btnsub,btndiv,btnmul,btnequal,btnpoint;
    EditText txtinput; String txtIP=""; int c=0;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_prac22);
        txtinput=findViewById(R.id.caltxt);
        btn0=findViewById(R.id.cal0);
        btn1=findViewById(R.id.cal1);
        btn2=findViewById(R.id.cal2);
        btn3=findViewById(R.id.cal3);
        btn4=findViewById(R.id.cal4);
        btn5=findViewById(R.id.cal5);
        btn6=findViewById(R.id.cal6);
        btn7=findViewById(R.id.cal7);
        btn8=findViewById(R.id.cal8);
        btn9=findViewById(R.id.cal9);
        btnequal=findViewById(R.id.calequal);
        btnadd=findViewById(R.id.caladd);
        btnsub=findViewById(R.id.calsub);
        btndiv=findViewById(R.id.caldiv);
        btnmul=findViewById(R.id.calmul);
        btnpoint=findViewById(R.id.calpo);
    }
}
```

```
btn0.setOnClickListener(this);
btn1.setOnClickListener(this);
btn2.setOnClickListener(this);
btn3.setOnClickListener(this);
btn4.setOnClickListener(this);
btn5.setOnClickListener(this);
btn6.setOnClickListener(this);
btn7.setOnClickListener(this);
btn8.setOnClickListener(this);
btn9.setOnClickListener(this);
btnpoint.setOnClickListener(this);
btnmul.setOnClickListener(this);
btndiv.setOnClickListener(this);
btnsub.setOnClickListener(this);
btnadd.setOnClickListener(this);
btnequal.setOnClickListener(this);

}
```

```
@Override public void
onClick(View v) {
```

```
    switch (v.getId()) { case R.id.cal0:
        txtinput.setText(txtinput.getText()+"0"); break;

        case R.id.cal1:
            txtinput.setText(txtinput.getText()+"1"); break;
    case R.id.cal2: txtinput.setText(txtinput.getText()+"2"); break;
    case R.id.cal3: txtinput.setText(txtinput.getText()+"3");
        break;
    case R.id.cal4: txtinput.setText(txtinput.getText()+"4");
        break;
    case R.id.cal5: txtinput.setText(txtinput.getText()+"5");
        break;
    case R.id.cal6: txtinput.setText(txtinput.getText()+"6");
        break;
    case R.id.cal7: txtinput.setText(txtinput.getText()+"7");
        break;
    case R.id.cal8: txtinput.setText(txtinput.getText()+"8");
        break;
    case R.id.cal9: txtinput.setText(txtinput.getText()+"9");
        break; case R.id.calpo:
```

```
        if(c==1)
        {
            TastyToast.makeText(getApplicationContext(),"Cant
add",TastyToast.LENGTH_SHORT,TastyToast.ERROR);
        }
        else
        { txtinput.setText(txtinput.getText()+".");
        c++; } break;
    case R.id.calequal:
//        txtinput.setText(txtinput.getText()+"="); Expression expression=new
ExpressionBuilder(txtinput.getText().toString()).build(); double
        op=expression.evaluate(); txtinput.setText(op+" "); break;

    case R.id.caladd:
        c=0;
        txtinput.setText(txtinput.getText()+""); break;

    case R.id.calsub:
        c=0;
        txtinput.setText(txtinput.getText()+"-"); break;

    case R.id.caldiv:
        c=0;
        txtinput.setText(txtinput.getText()+"/"); break;

    case R.id.calmul:
        c=0;
        txtinput.setText(txtinput.getText()+"*"); break;

    }
}
}
```

activity_prac23.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"
```

```
xmlns:app="http://schemas.android.com/apk/res-auto"
android:layout_width="match_parent"          android:layout_height="match_parent"
android:layout_margin="20dp" tools:context=".Prac_2_3">

<TextView android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:text="Click the Back Button to trigger pop-up" android:textColor="@color/black"
    android:textSize="35dp"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="36dp" />

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

Prac_2_3.java package

```
com.example.mobilepracticals;
```

```
import android.content.DialogInterface;    import
android.os.Bundle;
```

```
import androidx.appcompat.app.AlertDialog; import
androidx.appcompat.app.AppCompatActivity; public class
```

```
Prac_2_3 extends AppCompatActivity {
```

```
    AlertDialog.Builder builder;
```

```
    @Override
    public void onBackPressed() {
//        super.onBackPressed();        builder=new
        AlertDialog.Builder(this);
        builder.setMessage("Want to exit")
            .setCancelable(false)
            .setTitle(R.string.app_name)
            .setPositiveButton("Yes", new DialogInterface.OnClickListener()
                { @Override
                    public void onClick(DialogInterface dialog, int which)
                    { finish();
                    }
                })
            .setNegativeButton("No", new DialogInterface.OnClickListener()
                { @Override
```

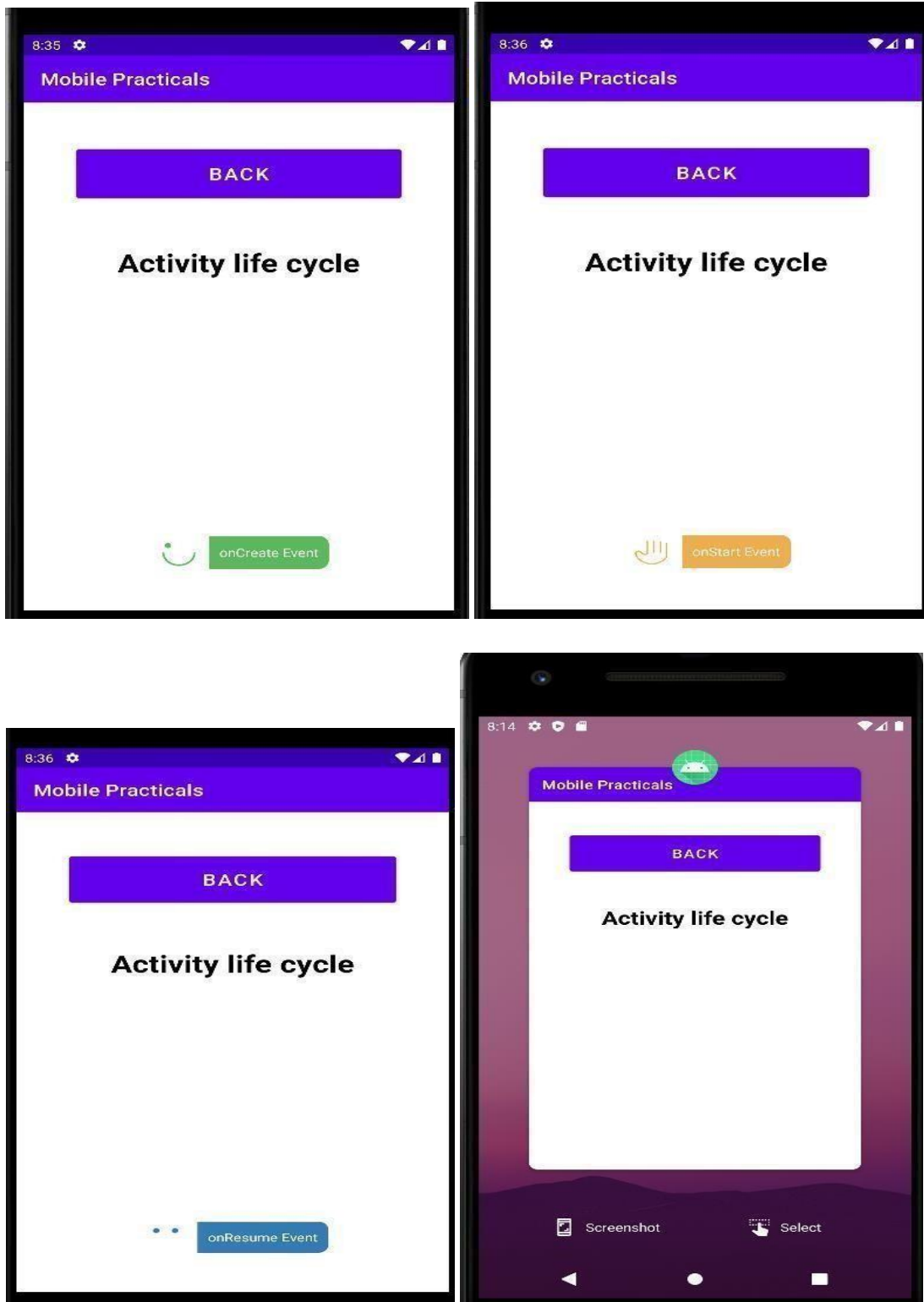
```
        public void onClick(DialogInterface dialog, int which)
        {
            dialog.cancel();
        }
    });

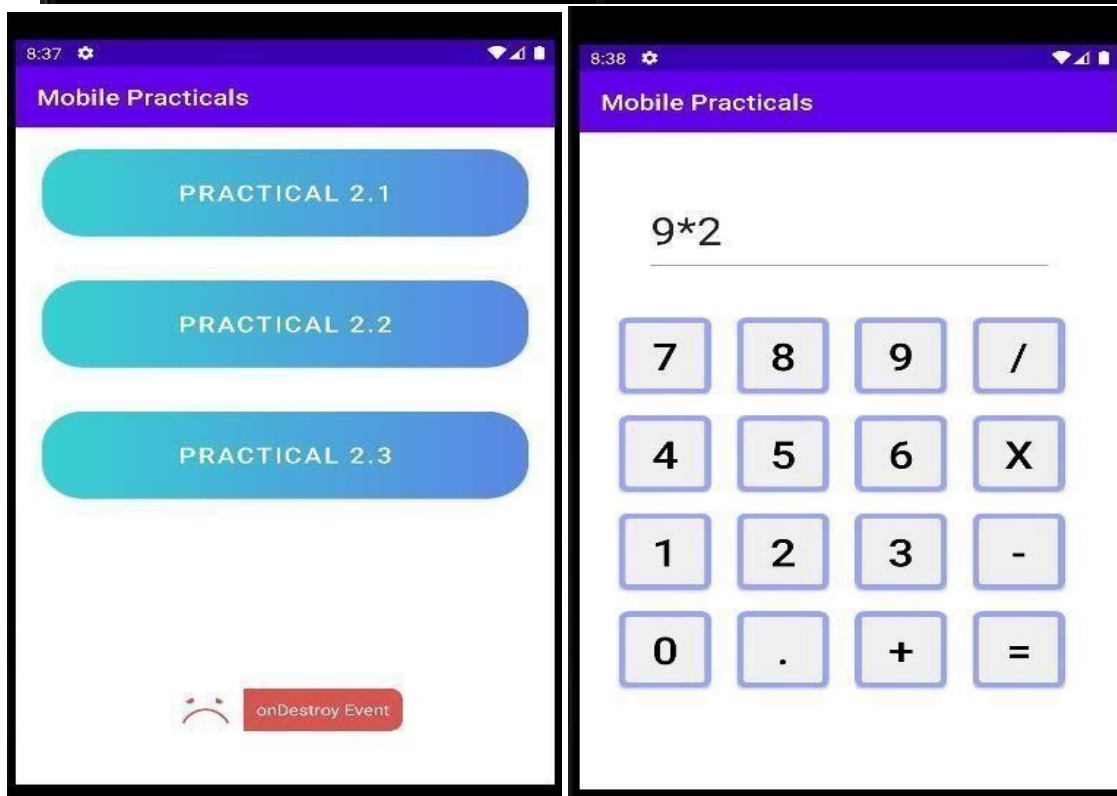
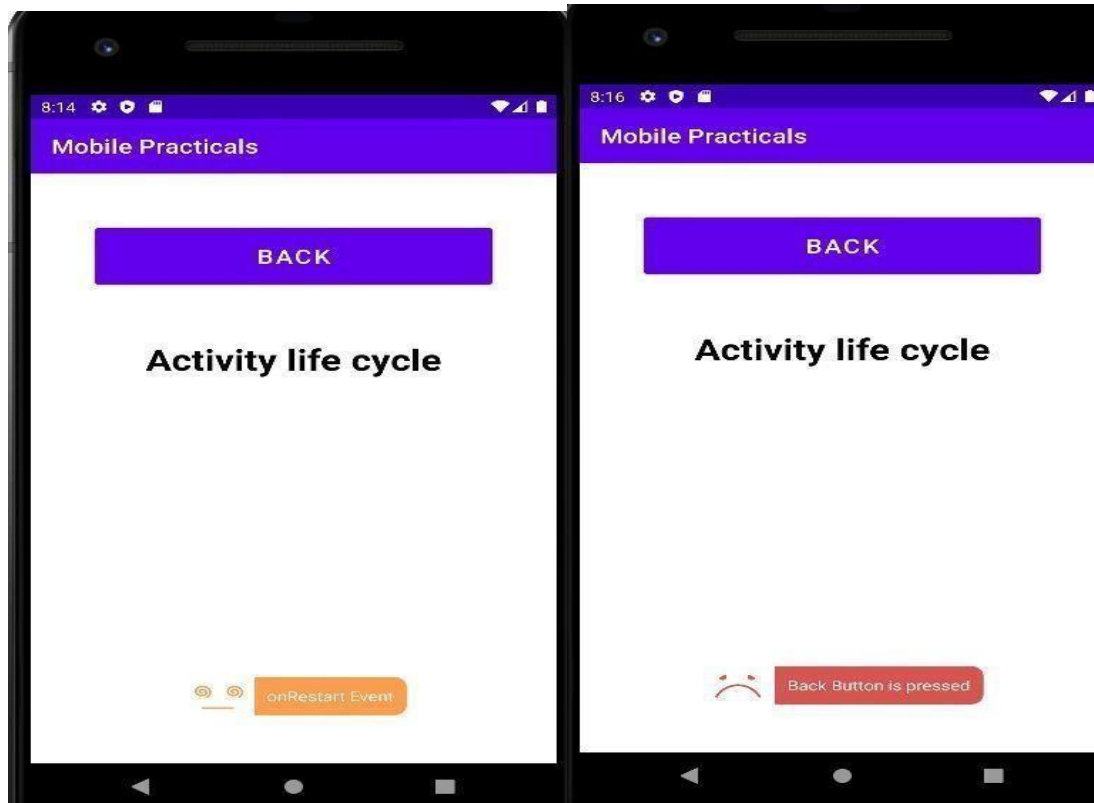
    AlertDialog dialog=builder.create();
    dialog.show();
}
```

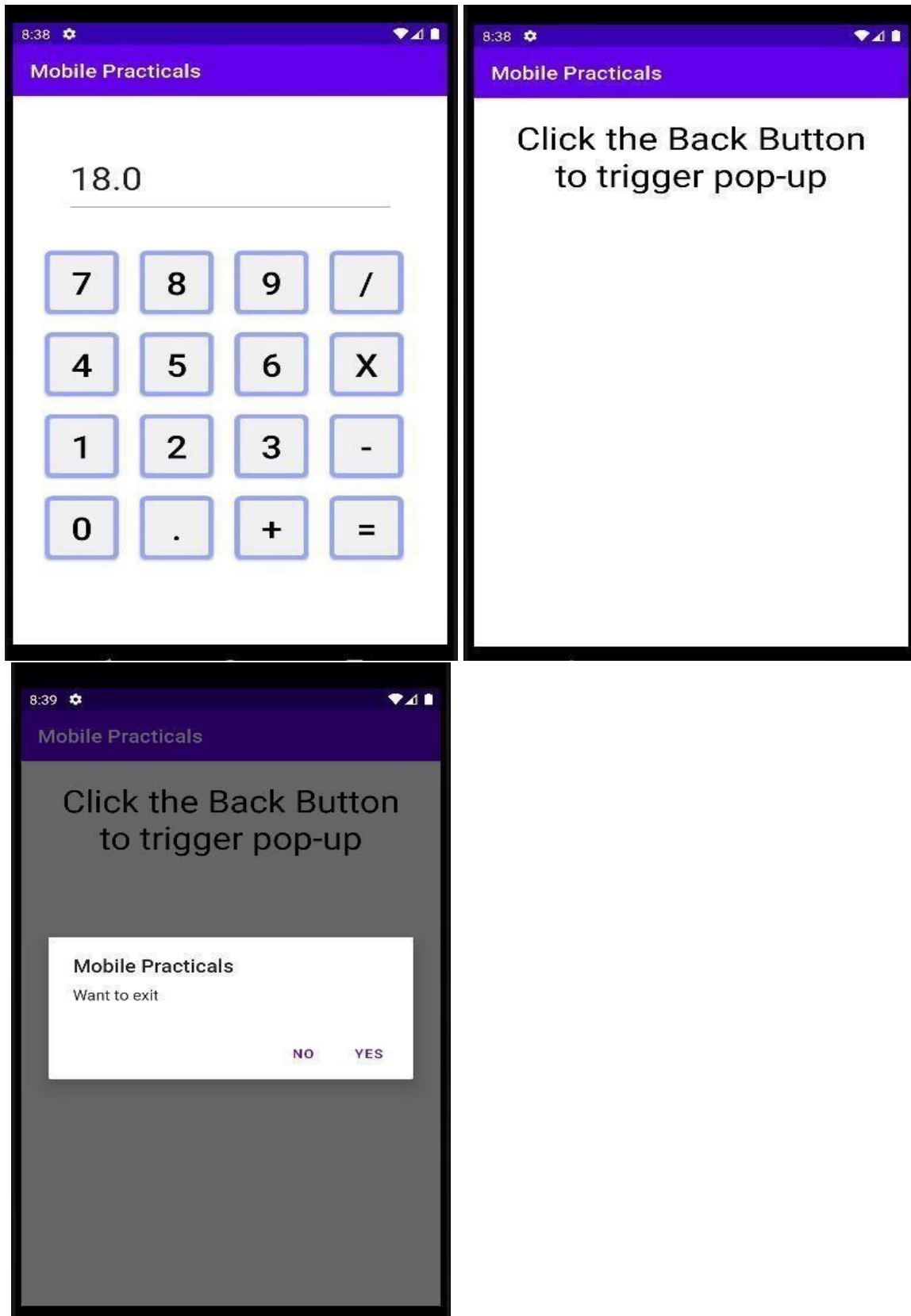
```
@Override protected void onCreate(Bundle
savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_prac23);
}
```

Output:









PRACTICAL NO. 3**AIM / TITLE: To demonstrate listview**

1. Android program to send message from 1 page to another
2. Android program to demonstrate list view
3. Android program to convert \$ to Rs & vice versa

Description:

Android ListView is a view which groups several items and display them in vertical scrollable list. The list items are automatically inserted to the list using an Adapter that pulls content from a source such as an array or database.

Coding:**activity_home_screen.xml**

```
<Button android:id="@+id/button3"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:layout_below="@id/button2"
        android:layout_marginStart="20dp"
        android:layout_marginTop="15dp"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="20dp"
        android:background="@drawable/border_button"
        android:text="Practical      3"
        android:textSize="20dp" android:fontFamily="serifmonospace"
        android:textColor="#111FA5" android:textStyle="bold"/>
```

HomeScreen.java package

```
com.example.mobilepracticals;
```

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

```
android.widget.Button;

import androidx.appcompat.app.AlertDialog; import
androidx.appcompat.app.AppCompatActivity; public class HomeScreen extends
AppCompatActivity implements View.OnClickListener{

    //declare of button
    Button btn3; String
    data="";

    AlertDialog.Builder    builder;

    @Override
    public void onBackPressed() {
// super.onBackPressed(); builder=new
        AlertDialog.Builder(this);
        builder.setMessage("Want to exit")
            .setCancelable(false)
            .setTitle(R.string.app_name)
            .setPositiveButton("Yes", new DialogInterface.OnClickListener()
                { @Override
                    public void onClick(DialogInterface dialog, int which)
                    { finish();
                    }
                })
            .setNegativeButton("No", new DialogInterface.OnClickListener()
                { @Override
                    public void onClick(DialogInterface dialog, int which)
                    { dialog.cancel();
                    }
                })
        );
        AlertDialog    dialog=builder.create();
        dialog.show();
    }

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

```

        btn3 =findViewById(R.id.button3); btn3.setOnClickListener(this);

    }

    @Override
    public void onClick(View v) {
//        Toast.makeText(this, "You click "+ v.getId(), Toast.LENGTH_SHORT).show(); switch
        (v.getId())
        { case R.id.button3:

                Intent intent= new Intent(getApplicationContext(),Practical_3.class); startActivity(intent);
                break;

        }

    }
}

```

activity_practical3.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=".Practical_3">

    <Button android:id="@+id/pr3_btn1"
        android:layout_width="match_parent"
        "
        android:layout_height="80dp" android:text="Practical 3.1"
        android:textSize="20dp" android:layout_margin="20dp"
        app:backgroundTint="@null"
        android:background="@drawable/round_button"/>
    <Button android:id="@+id/pr3_btn2"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:layout_margin="20dp"
        android:text="Practical

```

```

        3.2"                                android:textSize="20dp"
        app:backgroundTint="@null"
        android:background="@drawable/round_button"/>

<Button                                android:id="@+id/pr3_btn3"
    android:layout_width="match_parent"
    android:layout_height="80dp"
    android:layout_margin="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/round_button"
    android:text="Practical 3.3" android:textSize="20dp"
/>

</LinearLayout>    Practical_3.java    package

com.example.mobilepracticals;                import

androidx.appcompat.app.AppCompatActivity; import

android.content.Intent; import
android.os.Bundle; import
android.view.View;                import
android.widget.Button; public class Practical_3 extends AppCompatActivity

implements View.OnClickListener

    {Button prc3_btn1,prc3_btn2,prc3_btn3; String data="";

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_practical3);
        prc3_btn1=findViewById(R.id.pr3_btn1);
        prc3_btn1.setOnClickListener(this);
        prc3_btn2=findViewById(R.id.pr3_btn2);
        prc3_btn2.setOnClickListener(this);

        prc3_btn3=findViewById(R.id.pr3_btn3
    ); prc3_btn3.setOnClickListener(this); }

    @Override
    public void onClick(View v)
        {switch (v.getId())

```

```

        { case R.id.pr3_btn1: data+="Practical
          3.1 is on display";

                                Intent intent=new Intent(getApplicationContext(),Prac_3_1.class);
                                intent.putExtra("Msg",data); startActivity(intent); break;

        case R.id.pr3_btn2: startActivity(new
          Intent(getApplicationContext(),Prac_3_2.class)); break;

        case R.id.pr3_btn3: startActivity(new
          Intent(getApplicationContext(),Prac_3_3.class)); break;

        }
    }
}

```

activity_prac31.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_margin="20dp"
android:layout_height="match_parent" tools:context=".Prac_3_1">

    <TextView
        android:id="@+id/prac3textbox"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center" android:text="Hello"
        android:textColor="@color/black" android:textSize="40dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.337"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteX="127dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Prac_3_1.java

package

```

com.example.mobilepracticals;          import

androidx.appcompat.app.AppCompatActivity; import

android.content.Intent;    import
android.os.Bundle; import
android.widget.TextView; public class Prac_3_1

extends AppCompatActivity

    {Intent        intent;
    TextView    textView;
    String data="";

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState); setContentView(R.layout.activity_prac31);
        intent=getIntent();
        textView=findViewById(R.id.prac3textbox);

        data=intent.getStringExtra("Msg");
        textView.setText(data);
    }
}

```

activity_prac32.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=".Prac_3_2">

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

</RelativeLayout>

```

Prac_3_2.java package

```

com.example.mobilepracticals;          import

androidx.appcompat.app.AppCompatActivity; import

```

```
android.os.Bundle; import android.view.View;
import android.widget.AdapterView; import
android.widget.AdapterView;    import
android.widget.ListView; import
com.sdsmdg.tastytoast.TastyToast; public class
Prac_3_2 extends AppCompatActivity

    {ListView    listView;
    String [] cities;

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState); setContentView(R.layout.activity_prac32);

        listView=findViewById(R.id.listcitys); cities=getResources().getStringArray(R.array.cities);

        ArrayAdapter<String>    adapter=    new    ArrayAdapter<String>(getApplicationContext(),
        android.R.layout.simple_list_item_1, android.R.id.text1,cities); listView.setAdapter(adapter);

        listView.setOnItemClickListener(new AdapterView.OnItemClickListener()

            {
                @Override
                public void onItemClick(AdapterView<?> parent, View view, int position, long id)
                {
                    TastyToast.makeText(getApplicationContext(),cities[position]+"
                    Like it",TastyToast.LENGTH_LONG,TastyToast.SUCCESS); }
                });

        listView.setOnItemLongClickListener(new AdapterView.OnItemLongClickListener()
        {
            @Override
            public boolean onItemLongClick(AdapterView<?> parent, View view, int position,
            long id) {
                TastyToast.makeText(getApplicationContext(),"You    click    for    long
                time",TastyToast.LENGTH_SHORT,TastyToast.CONFUSING); return false;
            }
            });
        }
```



```
}
```

strings.xml

```
<resources>  
    <string name="app_name">Mobile Practicals</string>
```

```
<string-array name="cities">  
<item>Melbourne</item>  
    <item>Mumbai</item>  
    <item>Berlin</item>  
    <item>Toronto</item>  
    <item>London</item>  
    <item>Paris</item>  
    <item>Tokyo</item>  
    <item>Singapore</item>  
    <item>New York</item>  
    <item>Moscow</item>  
    <item>Rome</item>  
    <item>Hamburg</item>  
    <item>Shanghai</item>  
    <item>Chicago</item>  
    <item>Sydney</item>  
    <item>Berlin</item>  
    <item>Beijing</item>  
    <item>Taipei</item>  
    <item>Seoul</item>  
</string-array>
```

```
</resources>
```

activity_prac33.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" android:layout_margin="20dp"  
    tools:context=".Prac_3_3">  
  
    <EditText android:id="@+id/usdtextbox"  
        android:layout_margin="30dp"
```

```

        android:hint="USD"
        android:textSize="30dp"
        android:layout_width="match_parent"
        android:layout_height="80dp" />

```

```

<EditText android:id="@+id/rstextbox"
        android:layout_margin="30dp"
        android:hint="Rs"
        android:textSize="30dp"
        android:layout_width="match_parent"
        " android:layout_height="80dp" />

```

```

<Button android:id="@+id/reset"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:layout_margin="30dp"
        android:text="Reset"
        android:textSize="30dp" />

```

```

<Button android:id="@+id/disable"
        android:layout_marginRight="30dp"
        android:layout_marginLeft="30dp"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:text="Disable"
        android:textSize="30dp" />

```

```

</LinearLayout>          Prac_3_3.java          package

```

```

com.example.mobilepracticals;          import

```

```

androidx.appcompat.app.AppCompatActivity; import

```

```

android.os.Bundle; import
        android.text.TextUtils; import
android.view.View; import android.widget.Button;
import android.widget.EditText; public class
Prac_3_3 extends AppCompatActivity

```

```

        {EditText          usd,rs;

```

```
Button reset,disable;  
Double in=0.0,us=0.0,va=74.25;  
Long r;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState)  
    {super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_prac33);
```

```
    usd=findViewById(R.id.usdtextbox);  
    rs=findViewById(R.id.rstextbox);
```

```
    reset=findViewById(R.id.reset);  
    disable=findViewById(R.id.disable);
```

```
    disable.setOnClickListener(new View.OnClickListener()  
    {  
        @Override public void  
        onClick(View v)  
        {rs.setEnabled(false);  
        usd.setEnabled(false);  
        disable.setEnabled(false);  
        //        reset.setEnabled(false);  
    }  
    });
```

```
    reset.setOnClickListener(new View.OnClickListener()  
    {  
        @Override public void  
        onClick(View v)  
        {rs.setEnabled(true);  
        usd.setEnabled(true);  
        usd.setText("0");  
        rs.setText("0");  
        disable.setEnabled(true);  
    }  
    });
```

```
    usd.setOnFocusChangeListener(new View.OnFocusChangeListener()  
    {  
        @Override  
        public void onFocusChange(View v, boolean hasFocus)  
        {if(!TextUtils.isEmpty(usd.getText()))  
        { in=Double.parseDouble(usd.getText().toString())*va;  
        r=Math.round(in); rs.setText(String.valueOf(r));
```

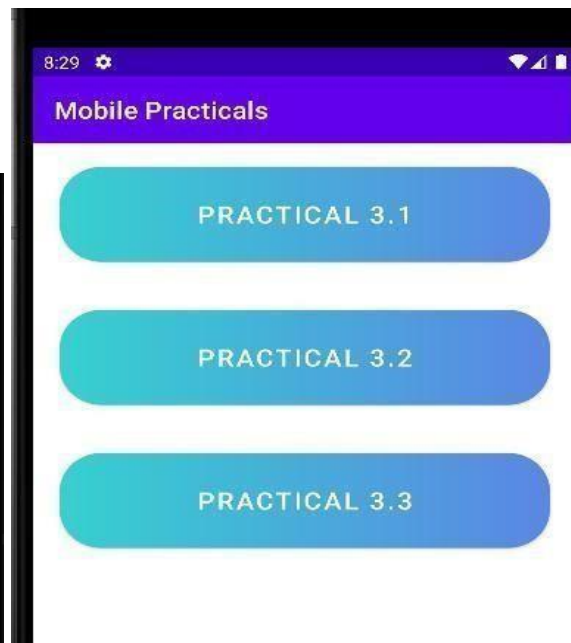
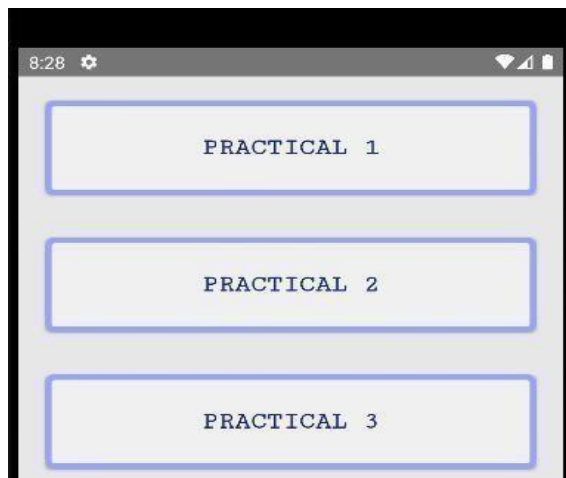
```

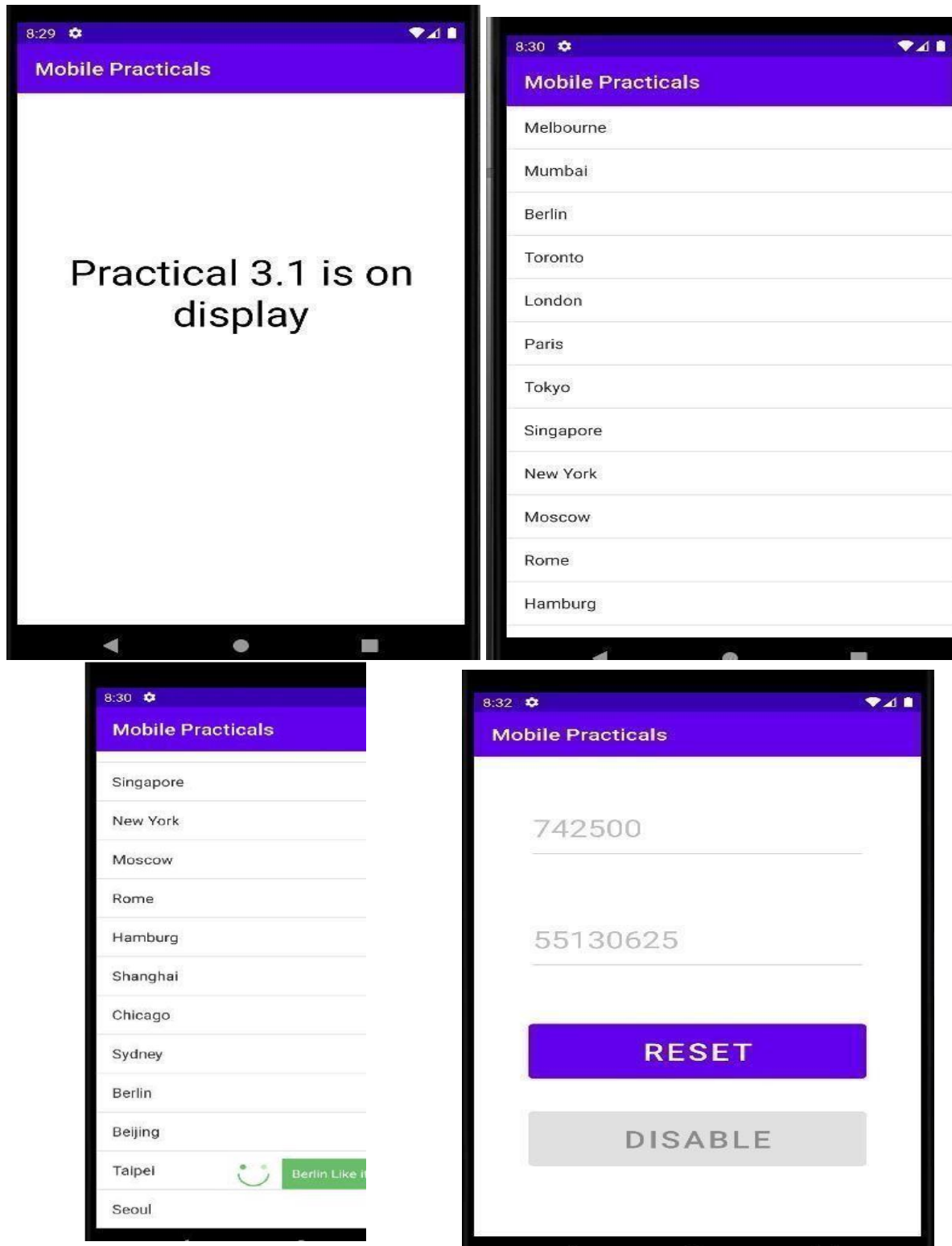
    }
  }
});

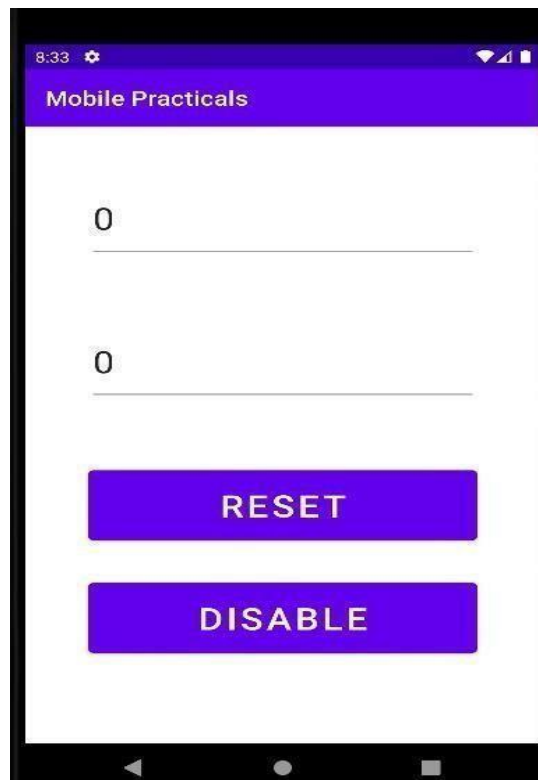
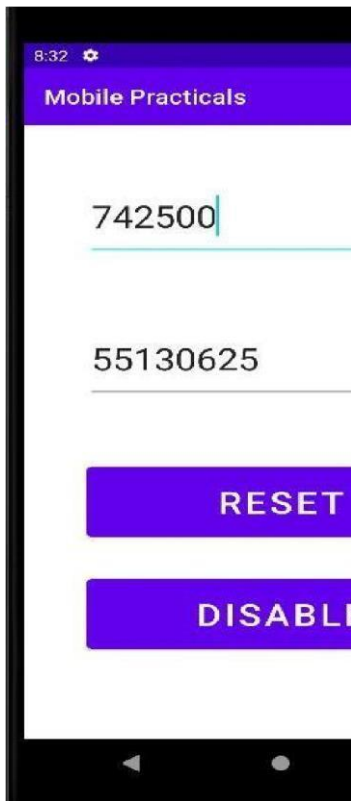
rs.setOnFocusChangeListener(new View.OnFocusChangeListener()
{
  @Override
  public void onFocusChange(View v, boolean hasFocus)
  {
    if(!TextUtils.isEmpty(rs.getText()))
    {
      us=Double.parseDouble(rs.getText().toString())*va;
//      rs.setText(us.toString()); r=Math.round(us); usd.setText(String.valueOf(r));
    }
  }
});
}
}

```

Output:







PRACTICAL NO. 4**AIM / TITLE:**

1. Play music on click of button
2. Android program to demonstrate Broadcast Receivers

Description:**Android MediaPlayer Control:**

Android provides many ways to control playback of audio/video files and streams. One of this way is through a class called MediaPlayer. Android is providing MediaPlayer class to access built-in mediaplayer services like playing audio, video e.t.c.

In order to use MediaPlayer, we have to call a static Method create() of this class.

This method returns an instance of MediaPlayer class. Its syntax is as follows – MediaPlayer mediaPlayer = MediaPlayer.create(this, R.raw.song);

The second parameter is the name of the song that you want to play. You have to make a new folder under your project with name raw and place the music file into it.

Broadcast Receivers

Broadcast Receivers simply respond to broadcast messages from other applications or from the system itself. These messages are sometime called events or intents. For example, applications can also initiate broadcasts to let other applications know that some data has been downloaded to the device and is available for them to use, so this is broadcast receiver who will intercept this communication and will initiate appropriate action.

There are following two important steps to make BroadcastReceiver works for the system broadcasted intents –

- Creating the Broadcast Receiver.
- Registering Broadcast Receiver

There is one additional steps in case you are going to implement your custom intents then you will have to create and broadcast those intents. **Coding :**

activity_home_screen.xml

```
<Button                android:id="@+id/button4"
                        android:layout_width="match_paren
t " android:layout_height="80dp"
                        android:layout_below="@id/button3
```

```

" android:layout_marginStart="20dp"
  android:layout_marginTop="15dp"
  android:layout_marginEnd="20dp"
  android:layout_marginBottom="20dp"
"
  android:background="@drawable/bo
  rder_button" android:text="Practical
  4"      android:textSize="20dp"
  android:fontFamily="serifmonospace
  " android:textColor="#111FA5"
  android:textStyle="bold"/>

```

HomeScreen.java

```
Button btn1,btn2,btn3,btn4;
```

```

btn4      =findViewById(R.id.button4);
  btn4.setOnClickListener(this);

```

```

case                R.id.button4:                startActivity(new
Intent(getApplicationContext(),Practical_4.class));                break;

```

activity_practical4.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:layout_margin="20dp" android:orientation="vertical"
  tools:context=".Practical_4">

  <Button
    android:id="@+id/pr4_btn1"
    android:layout_width="match_parent"
    android:layout_height="80dp" android:text="Practical 4.1" android:textSize="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/round_button"/>

  <Button android:id="@+id/pr4_btn2"
    android:layout_width="match_parent
    " android:layout_height="80dp"
    android:layout_marginTop="35dp" android:text="Practical

```



```

4.2"                                android:textSize="20dp"
app:backgroundTint="@null"
android:background="@drawable/round_button"/>

```

```

</LinearLayout>    Practical 4.java    package

com.example.mobilepracticals;                import

androidx.appcompat.app.AppCompatActivity; import

android.content.Intent;
import android.os.Bundle; import android.view.View;
    import
android.widget.Button; public class Practical_4

extends AppCompatActivity

    {Button        prc4_btn1,prc4_btn2;

    @Override protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_practical4);

    prc4_btn1=findViewById(R.id.pr4_btn1);
    prc4_btn2=findViewById(R.id.pr4_btn2);

    prc4_btn1.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v) { startActivity(new
            Intent(getApplicationContext(),Prac_4_1.class)); }
        });

    prc4_btn2.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v) { startActivity(new
            Intent(getApplicationContext(),Prac_4_2.class)); }
        });
    }
}

```

activity_prac41.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" android:layout_margin="30dp"
    tools:context=".Prac_4_1">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Music Play"
        android:textSize="40dp"
        android:textColor="@color/black"
        android:layout_gravity="center"
    />

    <Button android:id="@+id/btnplay"
        android:layout_marginTop="30dp"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:text="Play"
        android:textSize="20dp"/>

    <Button android:id="@+id/btnstop"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:text="Stop"
        android:textSize="20dp"

    />

</LinearLayout>
```

Prac 4 1.java

```
package com.example.mobilepracticals; import

androidx.appcompat.app.AppCompatActivity; import

android.content.Intent;
```

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

public class Prac_4_1 extends AppCompatActivity
{Button btnstart,btnstop;

@Override
protected void onCreate(Bundle savedInstanceState)
{super.onCreate(savedInstanceState);
setContentView(R.layout.activity_prac41);

btnstart=findViewById(R.id.btnplay);
btnstop=findViewById(R.id.btnstop);

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

startService(new Intent(getApplicationContext(),MyService.class));
}
});

btnstop.setOnClickListener(new View.OnClickListener()
{
@Override
public void onClick(View v) { stopService(new
Intent(getApplicationContext(),MyService.class));
}
});
}
```

MyService.java package

```
com.example.mobilepracticals; import

android.app.Service; import

android.content.Intent; import
```

```
        android.media.MediaPlayer;

import android.os.IBinder;

import androidx.annotation.Nullable;
import com.sdsmdg.tastytoast.TastyToast;

public class MyService extends Service
{
    @Nullable
    MediaPlayer mediaPlayer;

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

    @Override public void
    onCreate() {
        //      super.onCreate();

        TastyToast.makeText(getApplicationContext(),"Playing",TastyToast.LENGTH_LONG,Ta
styToast.SUCCESS);      mediaPlayer=MediaPlayer.create(getApplicationContext(),R.raw.so);
        mediaPlayer.setLooping(false); }

    @Override
    public void onStart(Intent intent, int startId) {
        //      super.onStart(intent,      startId);
        mediaPlayer.start();
    }

    @Override
    public void onDestroy() {
        //      super.onDestroy(); mediaPlayer.stop(); }
}
```

activity_prac42.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"
android:layout_margin="20dp" tools:context=".Prac_4_2">
```

```
<TextView      android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Flight Mode Status Update"
    android:textColor="@color/black"
    android:textSize="30dp"
    tools:layout_editor_absoluteX="7dp"
    tools:layout_editor_absoluteY="64dp" />
```

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

Prac 4 2.java _____package

```
com.example.mobilepracticals;          import
```

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

```
android.content.Intent; import
```

```
    android.content.IntentFilter; import
```

```
android.os.Bundle; public class Prac_4_2 extends
```

```
AppCompatActivity
```

```
{Broadcast_Reciver      broadCastReciver;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState)
```

```
{super.onCreate(savedInstanceState);
```

```
setContentView(R.layout.activity_prac42);
```

```
broadCastReciver=new      Broadcast_Reciver();
```

```
IntentFilter      intentFilter=      new
```

```
IntentFilter(Intent.ACTION_AIRPLANE_MOD
```

```
E_CHANGED);
```

```
    this.registerReceiver(broadCastReciver,intentFilter); }
```

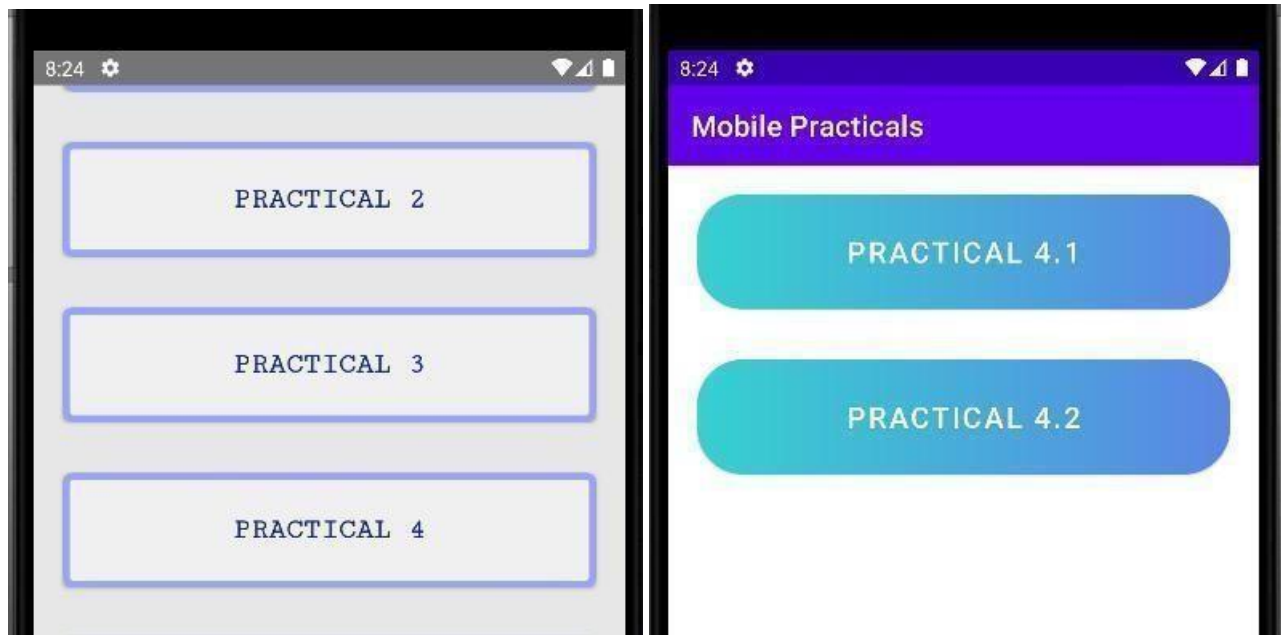
```
@Override
```

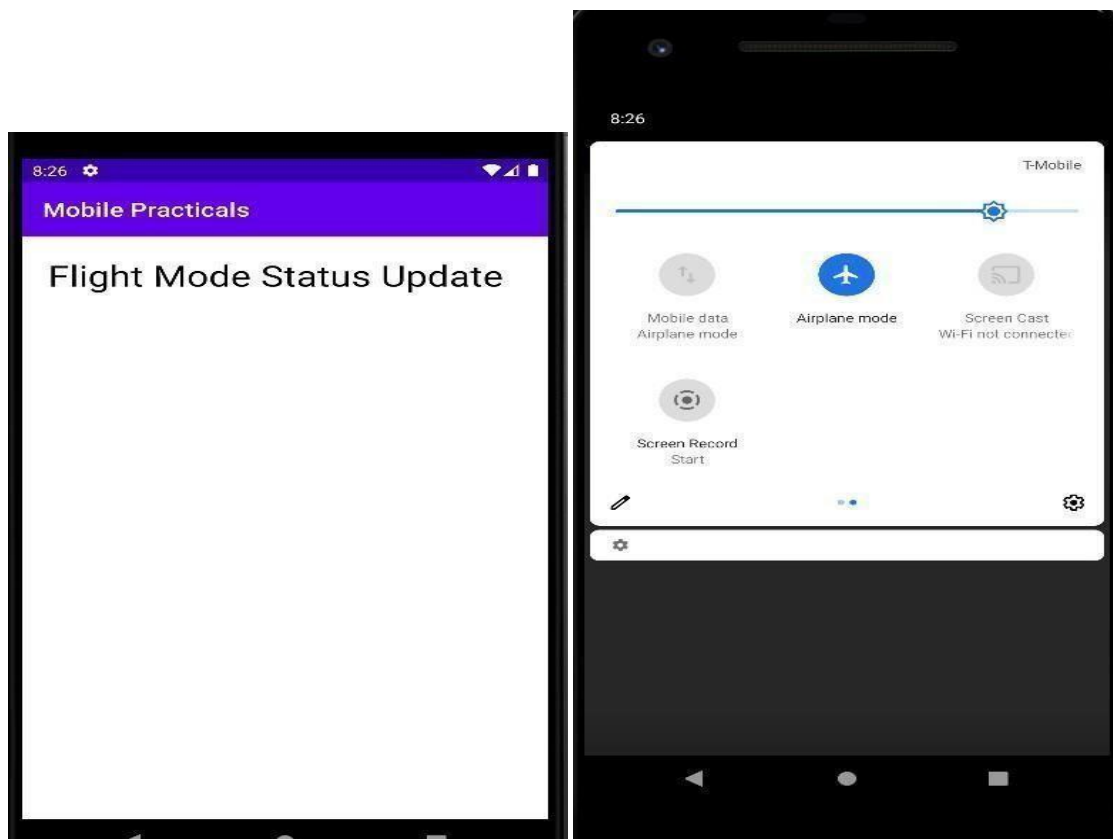
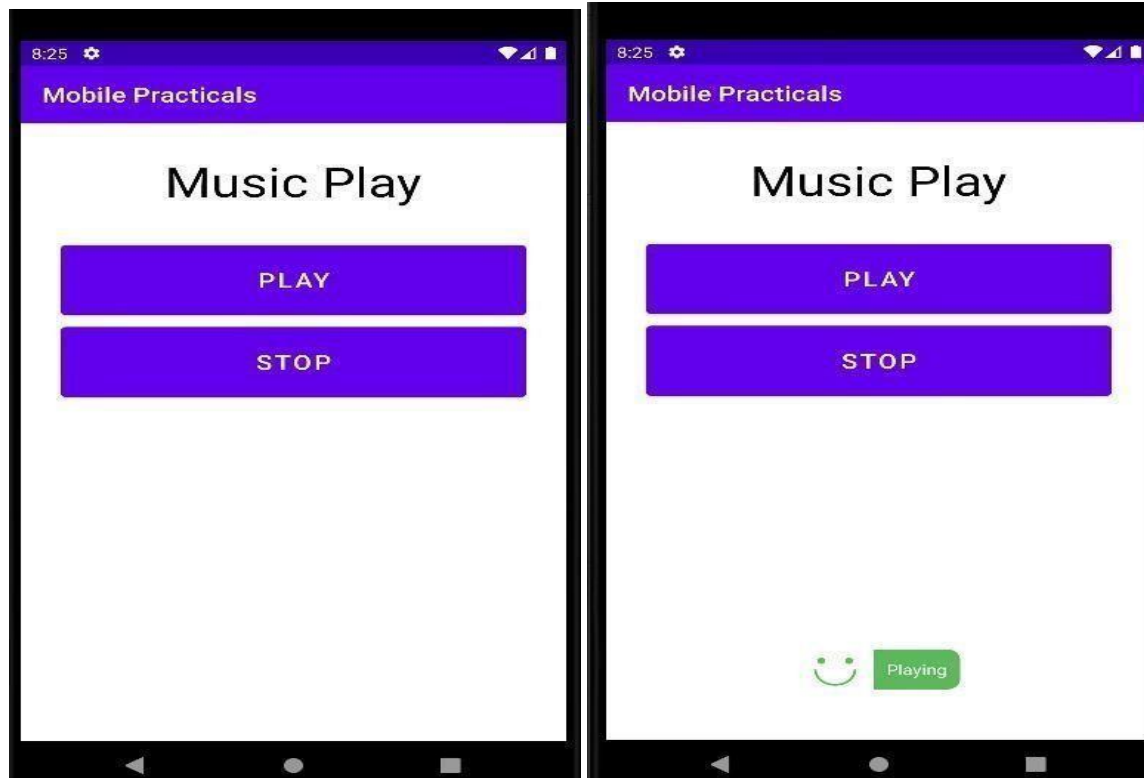
```
protected void onDestroy()
```

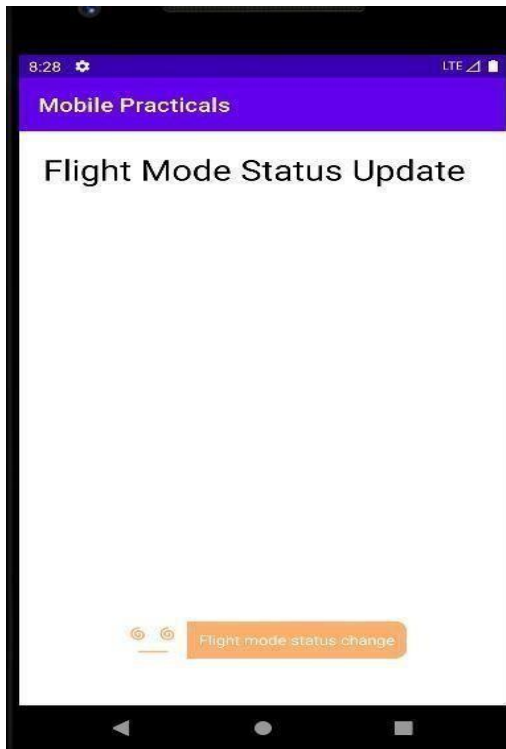
```
{      super.onDestroy();
```

```
        this.unregisterReceiver(broadCastReciver);  
    }  
}
```

Output:







PRACTICAL NO. 5**AIM / TITLE : Web View**

1. Demonstrate WebView using Web URL

Description :

Android WebView is used to display HTML in an android app. We can use android WebView to load HTML page into android app. Android WebView component is a full- fledged browser implemented as a View subclass to embed it into our android application.

Coding :**activity_practical5.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:layout_margin="20dp" tools:context=".Practical_5">

    <TextView android:id="@+id/nointernet"
        android:layout_centerInParent="true"
        android:visibility="gone"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="No internet connection"
        android:textSize="30dp"
        android:textColor="@color/black" />

    <WebView
        android:id="@+id/webview"
        android:layout_width="match_parent"
        "
        android:layout_height="wrap_conten
        t" />

</RelativeLayout>
```

AndroidManifest.xml

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

```
Practical 5.java package com.example.mobilepracticals; import
```

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

```
android.net.ConnectivityManager; import
```

```
    android.net.NetworkInfo; import
```

```
    android.os.Bundle; import
```

```
android.view.View;
```

```
import android.webkit.WebResourceRequest; import android.webkit.WebView;
```

```
import android.webkit.WebViewClient; import
```

```
android.widget.TextView; import
```

```
com.sdsmdg.tastytoast.TastyToast; public class
```

```
Practical_5 extends AppCompatActivity
```

```
    {WebView    webView;
```

```
    TextView nointernet;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState)
```

```
    {super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_practical5);
```

```
    webView=findViewById(R.id.webview);
```

```
    nointernet=findViewById(R.id.nointernet);
```

```
    webView.setWebViewClient(new mybrowser()); if(isconnected()){
```

```
//    webView.setVisibility(View.VISIBLE); nointernet.setVisibility(View.GONE);
```

```
    webView.getSettings().setLoadsImagesAutomatically(true);
```

```
    webView.getSettings().setJavaScriptEnabled(true);
```

```
    webView.getSettings().setAppCacheEnabled(true);
```

```
    webView.setScrollBarStyle(View.SCROLLBARS_INSIDE_OVERLAY);
```

```
    webView.loadUrl("https://www.amazon.in");
```

```
    }
```

```
    else
```

```
    { webView.setVisibility(View.GONE); nointernet.setVisibility(View.VISIBLE);
```

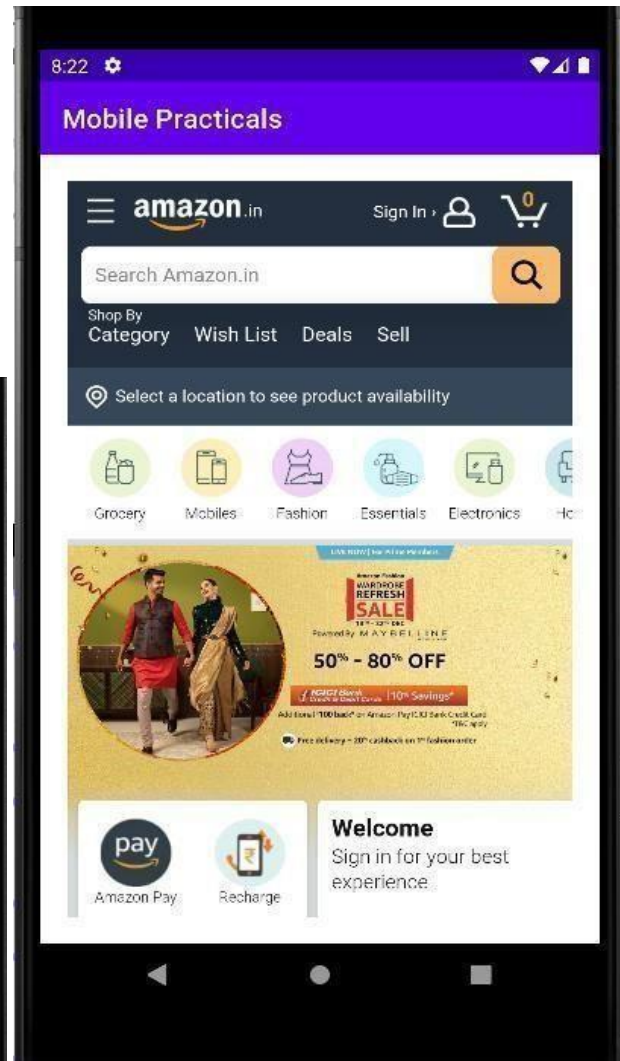
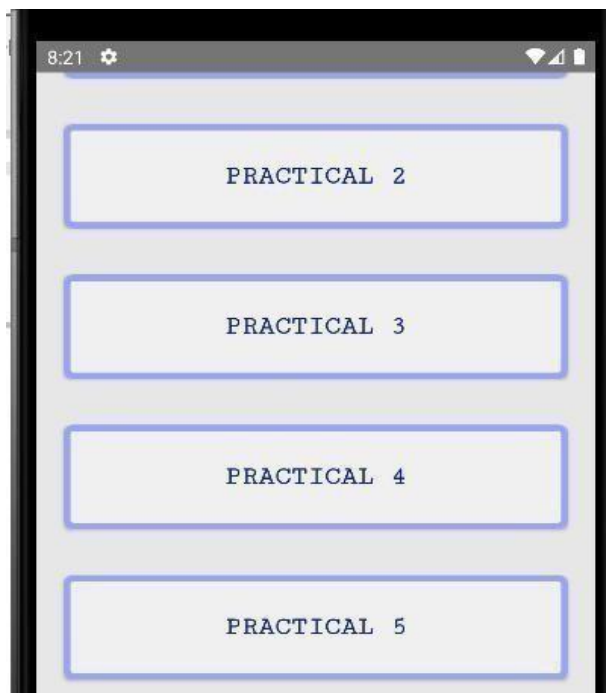
```
    }
```

```
}

private boolean isConnected(){ boolean
    wifi=false,modata=false;
    ConnectivityManager connectivityManager= (ConnectivityManager)
getSystemService(CONNECTIVITY_SERVICE);
    NetworkInfo [] networkInfos=connectivityManager.getAllNetworkInfo(); for (NetworkInfo
info:networkInfos)
    { if (info.getTypeName().equalsIgnoreCase("WIFI"))
        { if(info.isConnected())
            { wifi=true;
            }
        }
        if(info.getTypeName().equalsIgnoreCase("MOBILE DATA"))
        { if(info.isConnected())
            { modata=true;
            }
        }
    } }
    return wifi || modata;
}

private class mybrowser extends WebViewClient
{
    @Override
    public boolean shouldOverrideUrlLoading(WebView view, String url) {
//        return super.shouldOverrideUrlLoading(view, request);
        view.loadUrl(url); return
        true;
    }
}
}
```

Out
put:



PRACTICAL NO. 6

AIM / TITLE : Android program to work with Bluetooth & Wi-Fi

Description :**Android Bluetooth:**

In android, Bluetooth is a communication network protocol, which allows devices to connect wirelessly to exchange the data with other Bluetooth devices. Generally, in android applications by using Bluetooth API's we can implement Bluetooth functionalities, such as enable or disable Bluetooth, searching for available Bluetooth devices, connecting with the devices and managing the data transfer between devices within the range. Android provides Bluetooth API to perform several tasks such as:

- scan bluetooth devices
- connect and transfer data from and to other devices
- manage multiple connections etc.

In android, we can perform Bluetooth related activities by using BluetoothAdapter class in our applications.

Android Bluetooth API:

The android.bluetooth package provides a lot of interfaces classes to work with bluetooth such as:

- BluetoothAdapter
- BluetoothDevice
- BluetoothSocket
- BluetoothServerSocket
- BluetoothClass
- BluetoothProfile
- BluetoothProfile.ServiceListener
- BluetoothHeadset
- BluetoothA2dp
- BluetoothHealth
- BluetoothHealthCallback • BluetoothHealthAppConfiguration

Android Wifi:

Android allows applications to access to view the access the state of the wireless connections at very low level. Application can access almost all the information of a wifi connection. The information that an application can access includes connected network's link speed, IP address, negotiation state, other networks information. Applications can also scan, add, save, terminate and initiate Wi-Fi connections.

Android provides WifiManager API to manage all aspects of WIFI connectivity.

Coding :

activity_practical6.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_margin="30dp"
    android:layout_height="match_parent" tools:context=".Practical_6">

    <Switch android:id="@+id/pr6_switch1"
        android:text="Wi-fi"
        android:textSize="20dp"
        android:layout_centerHorizontal="true"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        />

    <Switch                android:id="@+id/pr6_switch2"
        android:layout_margin="20dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/pr6_switch1"
        android:layout_centerHorizontal="true"
        android:text="Bluetooth" android:textSize="20dp" />

</RelativeLayout>

```

AndroidManifest.xml

```

<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"
/>
<uses-permission android:name="android.permission.BLUETOOTH_CONNECT" />
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
<uses-permission android:name="android.permission.BLUETOOTH" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.CHANGE_WIFI_STATE" /> Practical 6.java

```

```
package com.example.mobilepracticals; 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.widget.CompoundButton; import
android.widget.Switch;
import android.widget.Toast; import

com.sdsmdg.tastytoast.TastyToast; public class

```

Practical_6 extends AppCompatActivity

```

{Switch wifi,bluetooth; WifiManager
wifimanager;

@Override
protected void onCreate(Bundle savedInstanceState)
{super.onCreate(savedInstanceState);
setContentView(R.layout.activity_practical6);

wifi=findViewById(R.id.pr6_switch1);
bluetooth=findViewById(R.id.pr6_switch2);

wifi.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
@Override
public void onCheckedChanged(CompoundButton buttonView, boolean isChecked)
{if (isChecked)
{
wifimanager= (WifiManager)
getApplicationContext().getSystemService(Context.WIFI_SERVICE);
wifimanager.setWifiEnabled(true);
// Toast.makeText(getApplicationContext(),"on",Toast.LENGTH_LONG).show();
TastyToast.makeText(getApplicationContext(),"ON",TastyToast.LENGTH_LONG,TastyT oast.SUCCESS);
}
else
{
wifimanager= (WifiManager)
getApplicationContext().getSystemService(Context.WIFI_SERVICE);
wifimanager.setWifiEnabled(false);
}
}
}
}

```

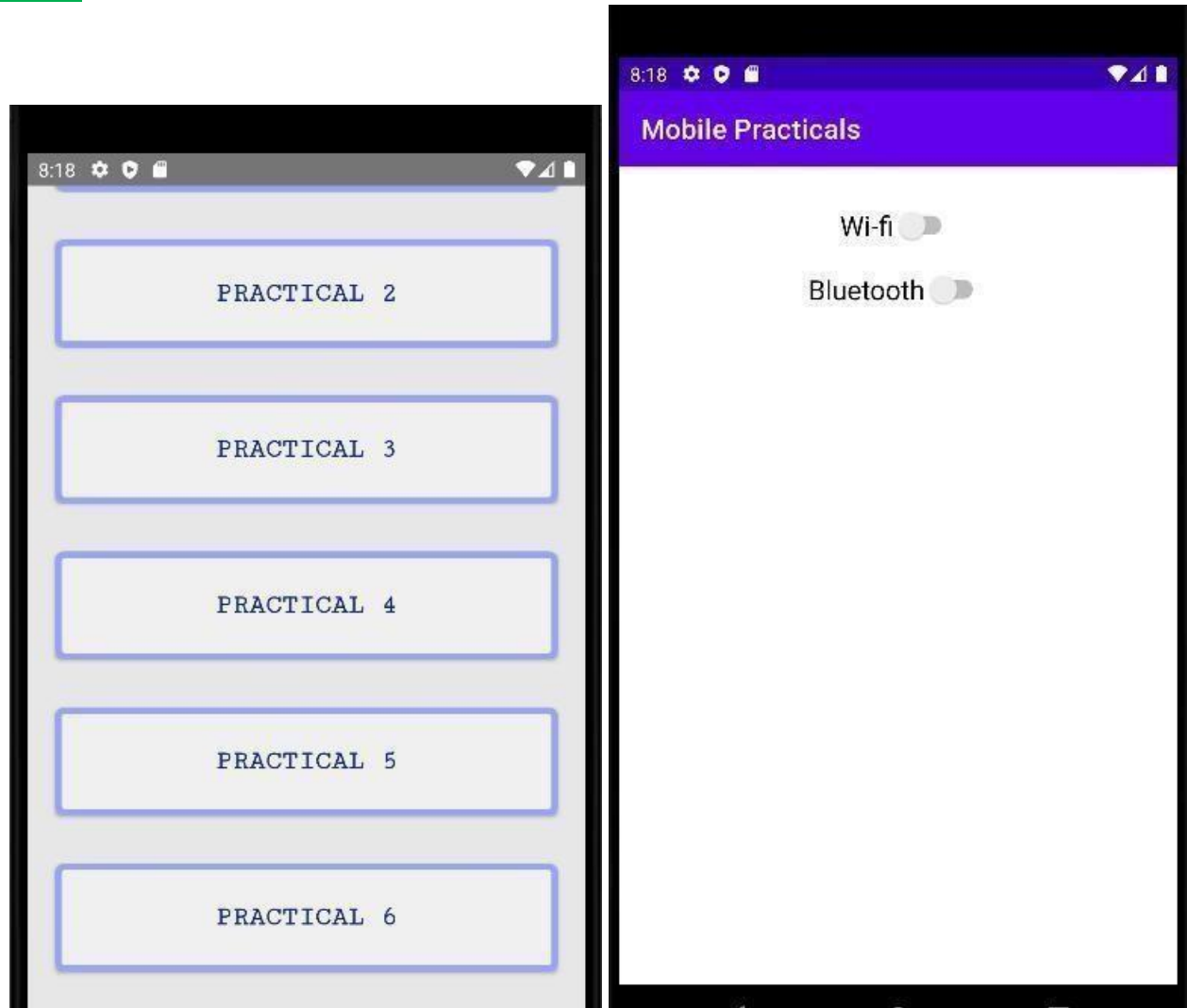
```

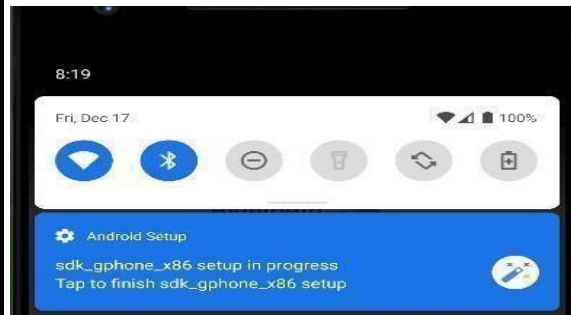
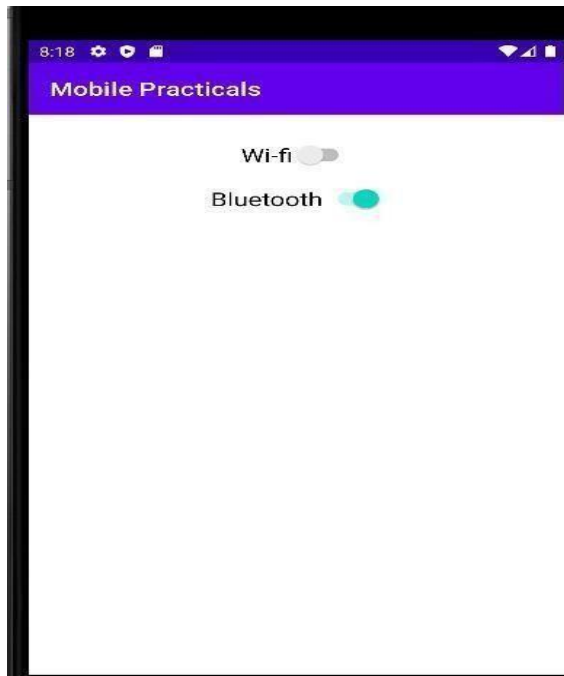
TastyToast.makeText(getApplicationContext(),"OFF",TastyToast.LENGTH_LONG,Tasty
Toast.SUCCESS); // Toast.makeText(getApplicationContext(),"off",Toast.LENGTH_LONG).show();
    }
}
});

final BluetoothAdapter bluetoothadapter =BluetoothAdapter.getDefaultAdapter();
bluetooth.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(CompoundButton buttonView, boolean isChecked)
    {if (isChecked)
    { if(bluetoothadapter==null)
    {
        TastyToast.makeText(getApplicationContext(),"Not
supported",TastyToast.LENGTH_LONG,TastyToast.ERROR);
    }
    else
    { if(!bluetoothadapter.isEnabled())
    { startActivityForResult(new
Intent(BluetoothAdapter.ACTION_REQUEST_ENABLE),1);
// Toast.makeText(getApplicationContext(),"on",Toast.LENGTH_LONG).show();

TastyToast.makeText(getApplicationContext(),"ON",TastyToast.LENGTH_LONG,TastyT oast.SUCCESS); }
//
    }
//
    }
    else
    { if(bluetoothadapter!=null)
    { bluetoothadapter.disable();
    TastyToast.makeText(getApplicationContext(),"OFF",TastyToast.LENGTH_LONG,Tasty
Toast.SUCCESS);
    }
    }
    }
    }
});
}
}
}

```


Output:



PRACTICAL NO. 7**AIM / TITLE : Android program to ask permission from users****Description :**

Every Android app runs in a limited-access sandbox. If your app needs to use resources or information outside of its own sandbox, you can declare a permission and set up a permission request that provides this access. These steps are part of the workflow for using permissions.

Coding :**activity_practical7.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"
    android:layout_margin="20dp" tools:context=".Practical_7">

    <TextView        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Permission to use Camera "
        android:textColor="@color/black"
        android:textSize="25dp"
        tools:layout_editor_absoluteX="42dp"
        tools:layout_editor_absoluteY="55dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Practical 7.java

```
package com.example.mobilepracticals;
```

```
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.widget.ListView; import

com.sdsmdg.tastytoast.TastyToast; import

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

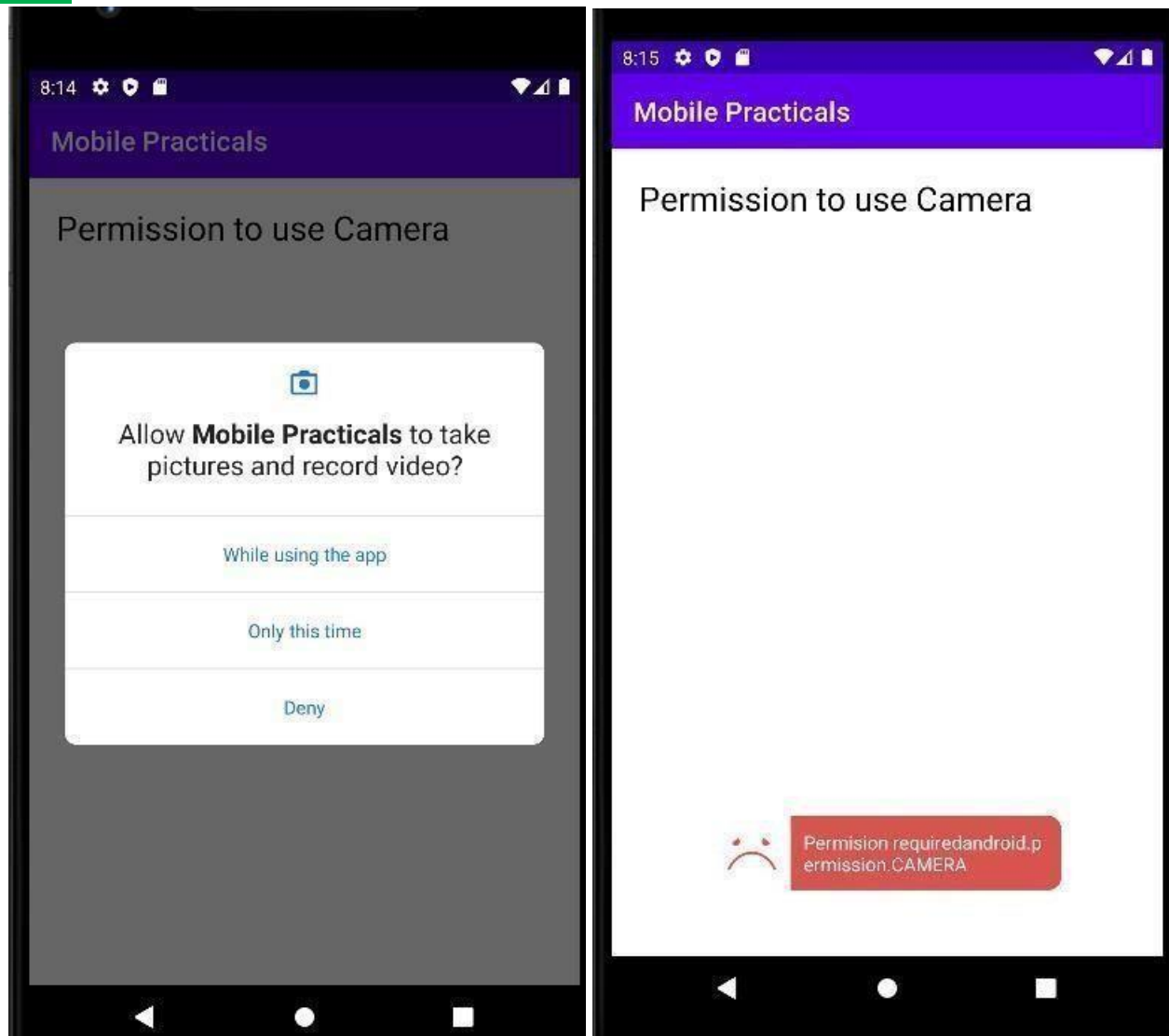
public class Practical_7 extends AppCompatActivity

    {private final static int Request_Permission=1;
    private static final String[] permission=new String[] {Manifest.permission.CAMERA};

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_practical7); check();
        }

    @Override public void onRequestPermissionsResult(int requestCode, String[] permissions, int[]
    grantResults)
    { //      super.onRequestPermissionsResult(requestCode,  permissions,  grantResults); switch
    (requestCode)
        { case Request_Permission:
            for (int i=permissions.length-1;i>=0;--i)
                { if (grantResults[i]!=PackageManager.PERMISSION_GRANTED)
                    {
                        TastyToast.makeText(this,"Permission
required"+permissions[i],TastyToast.LENGTH_LONG,TastyToast.ERROR);
                        return;
                    }
                } break;
        }
    }
    private void check() {
```

```
final List<String> denied_permission=new ArrayList<String>(); for (final String
per:permission)
{ final int res= ContextCompat.checkSelfPermission(this,per); if (res!=
    PackageManager.PERMISSION_GRANTED)
    { denied_permission.add(per);
    } }
if (!denied_permission.isEmpty())
{ final String[] permission =denied_permission.toArray(new
    String[denied_permission.size()]);
    ActivityCompat.requestPermissions(this,permission,Request_Permission);
}
else
{
    final          int          resul[]=          new          int[permission.length];
    Arrays.fill(resul,PackageManager.PERMISSION_GRANTED);
    onRequestPermissionsResult(Request_Permission,permission,resul); }
}
}
```

Output:

PRACTICAL NO. 8**AIM / TITLE : Rating Bar & Progress Bar**

1. Android program to create Rating Bar
2. Android program to create Progress Bar

Description :**Rating Bar :**

In android, RatingBar is a UI control that is used to get the rating from the user. The RatingBar is an extension of SeekBar and ProgressBar that shows a rating in stars and it allows users to set the rating value by touch or click on the stars.

The android RatingBar will always return a rating value as a floating-point number such as 1.0, 2.0, 2.5, 3.0, 3.5, etc. In android, by using android:numStars attribute we can define the number of stars to display in RatingBar. In android, by using android.widget.RatingBar component we can display the rating bar with star icons.

Android ProgressBar:

Android ProgressBar is a graphical view indicator that shows some progress. Android progress bar displays a bar representing the completing of the task. Progress bar in android is useful since it gives the user an idea of time to finish its task.

ProgressBar is a user interface control that is used to indicate the progress of an operation. For example, downloading a file, uploading a file. By default the ProgressBar will be displayed as a spinning wheel, in case if we want to show it like a horizontal bar then we need to change the style property to horizontal like style="?android:attr/progressBarStyleHorizontal".

Android Horizontal ProgressBar:

Horizontal progress bar is basically used to show downloading process dialogue because horizontal progress bar fill up slowly or fast as user requirement. **Coding :**

activity_practical8.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=".Practical_8">
```

```
<Button android:id="@+id/pr8_btn1"
    android:layout_width="match_parent"
    "
    android:layout_height="80dp" android:text="Practical 8.1" android:textSize="20dp"
        android:layout_margin="20dp" app:backgroundTint="@null"
    android:background="@drawable/round_button"/>
```

```
<Button android:id="@+id/pr8_btn2"
    android:layout_width="match_parent"
    " android:layout_height="80dp"
    android:layout_margin="20dp"    android:text="Practical
    8.2"    android:textSize="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/round_button"/>
```

```
<Button android:id="@+id/pr8_btn3"
    android:layout_width="match_parent"
    " android:layout_height="80dp"
    android:layout_margin="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/ro
und_button" android:text="Practical
    8.3" android:textSize="20dp" />
```

```
</LinearLayout>    Practical 8.java    package
```

```
com.example.mobilepracticals;    import
```

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

```
android.content.Intent; import
```

```
android.os.Bundle; import
```

```
android.view.View;    import
```

```
android.widget.Button;
```

```
public class Practical_8 extends AppCompatActivity
```

```
{Button    prc8_btn1,prc8_btn2,prc8_btn3;
```

```
@Override
```



```

protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_practical8);

    prc8_btn1=findViewById(R.id.prc8_btn1);    prc8_btn1.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) { startActivity(new
        Intent(getApplicationContext(),Prac_8_1.class)); }
    });

    prc8_btn2=findViewById(R.id.prc8_btn2);    prc8_btn2.setOnClickListener(new
    View.OnClickListener() {
        @Override public
void onClick(View v) {
startActivity(new Intent(getApplicationContext(),Prac_8_2.class));
        }
    });

    prc8_btn3=findViewById(R.id.prc8_btn3);    prc8_btn3.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) { startActivity(new
        Intent(getApplicationContext(),Prac_8_3.class)); }
    });
}
}

```

activity_prac81.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_margin="30dp"
    android:layout_height="match_parent" tools:context=".Prac_8_1">
    <Button android:id="@+id/rate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@drawable/border_button
        " android:text="Rate"
        android:textColor="@color/purple_700"

```

```

        android:textSize="30dp" app:backgroundTint="@null"
    />

    <RatingBar android:id="@+id/ratingstar"
        android:layout_centerHorizontal="true"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/rate"
        android:layout_margin="40dp"
        android:layout_marginTop="88dp"
        android:layout_marginBottom="20dp"
    />
</RelativeLayout>

```

Prac 8 1.java package

```

com.example.mobilepracticals;           import
androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; import android.view.View;
import android.widget.Button;           import
android.widget.RatingBar;               import
com.sdsmdg.tastytoast.TastyToast; public class
Prac_8_1 extends AppCompatActivity

{RatingBar
    ratingbar; Button
    btnrate; float ra;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_prac81);

    ratingbar = findViewById(R.id.ratingstar);
    btnrate=findViewById(R.id.rate);

    ratingbar.setRating(3.5f);
    btnrate.setOnClickListener(new View.OnClickListener()
    {@Override
    public void onClick(View v)

```

```

        {ra=ratingbar.getRating();    TastyToast.makeText(getApplicationContext(),"You rated
        with"+ra+"
stars",TastyToast.LENGTH_LONG,TastyToast.SUCCESS); }
    });
}
}

```

activity_prac82.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" android:layout_margin="25dp"
    tools:context=".Prac_8_2">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Normal    Loading    "
        android:textSize="30dp"
        android:textColor="@color/black"/>

    <ProgressBar

        android:id="@+id/progress_cir"
        android:layout_gravity="center_horizontal"
        android:layout_margin="40dp"
        android:visibility="gone"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" /> <Button
        android:id="@+id/stload"
        android:layout_width="match_parent"
        android:layout_height="80dp"    android:text="Start
        Loading"    android:layout_marginTop="20dp"
        android:textSize="25dp" />

</LinearLayout>    Prac 8 2.java    package

com.example.mobilepracticals;    import

androidx.appcompat.app.AppCompatActivity; import

```

```

android.os.Bundle; import android.view.View;
import android.widget.Button; import
android.widget.ProgressBar; public class Prac_8_2
extends AppCompatActivity

    {ProgressBar progressbar; Button
    stbutton;

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_prac82);

        stbutton=findViewById(R.id.stload);
        progressbar=findViewById(R.id.progress_cir);

        stbutton.setOnClickListener(new View.OnClickListener()
            {@Override public void
            onClick(View v)
                { progressbar.setVisibility(View.VISIBLE);
                }
            });
        }
    }
}

```

activity_prac83.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:layout_margin="30dp" tools:context=".Prac_8_3">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Percentage Loading"
        android:textSize="30dp"
        android:textColor="@color/black"/>

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

```

```
android:text="Load" android:textSize="25dp"
android:layout_marginTop="50dp"
android:layout_width="match_parent"
android:layout_height="70dp" />
```

```
</RelativeLayout> Prac 8 3.java package
```

```
com.example.mobilepracticals; import
```

```
androidx.appcompat.app.AppCompatActivity;
```

```
import android.app.ProgressDialog;
import android.os.Bundle; import
android.os.Handler; import
android.view.View; import
android.widget.Button; public class Prac_8_3
```

```
extends AppCompatActivity
```

```
{Button btnload;ProgressDialog progressdialog; int
status =0;
Handler handler=new Handler(); long s=0;
```

```
@Override
protected void onCreate(Bundle savedInstanceState)
{super.onCreate(savedInstanceState);
setContentView(R.layout.activity_prac83);
```

```
btnload=findViewById(R.id.btnload); btnload.setOnClickListener(new
View.OnClickListener() {
@Override public void
onClick(View v) {
```

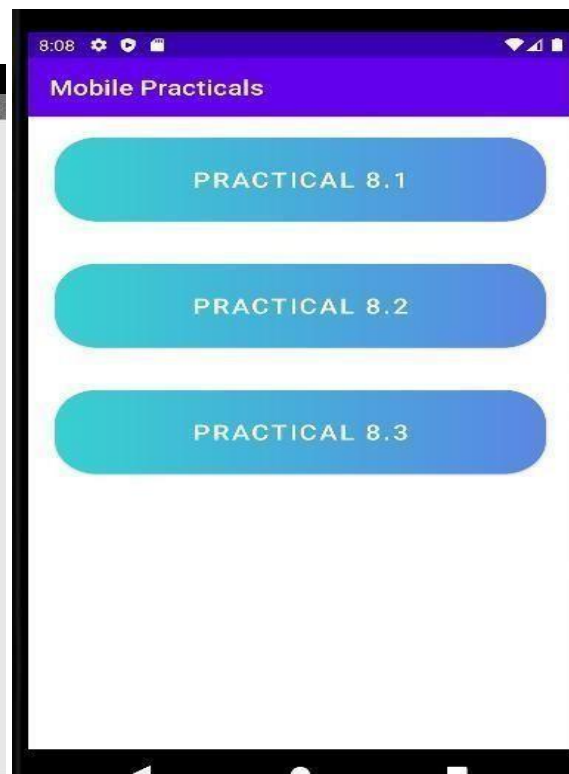
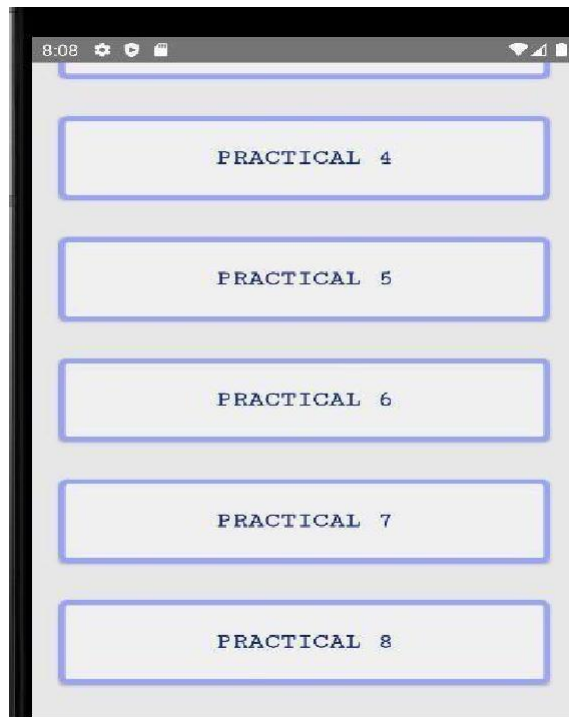
```
progressdialog= new ProgressDialog(v.getContext());
progressdialog.setCancelable(false);
progressdialog.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL)
; progressdialog.setMessage("Work in progress");
progressdialog.setProgress(0); progressdialog.setMax(100);
progressdialog.show();
```

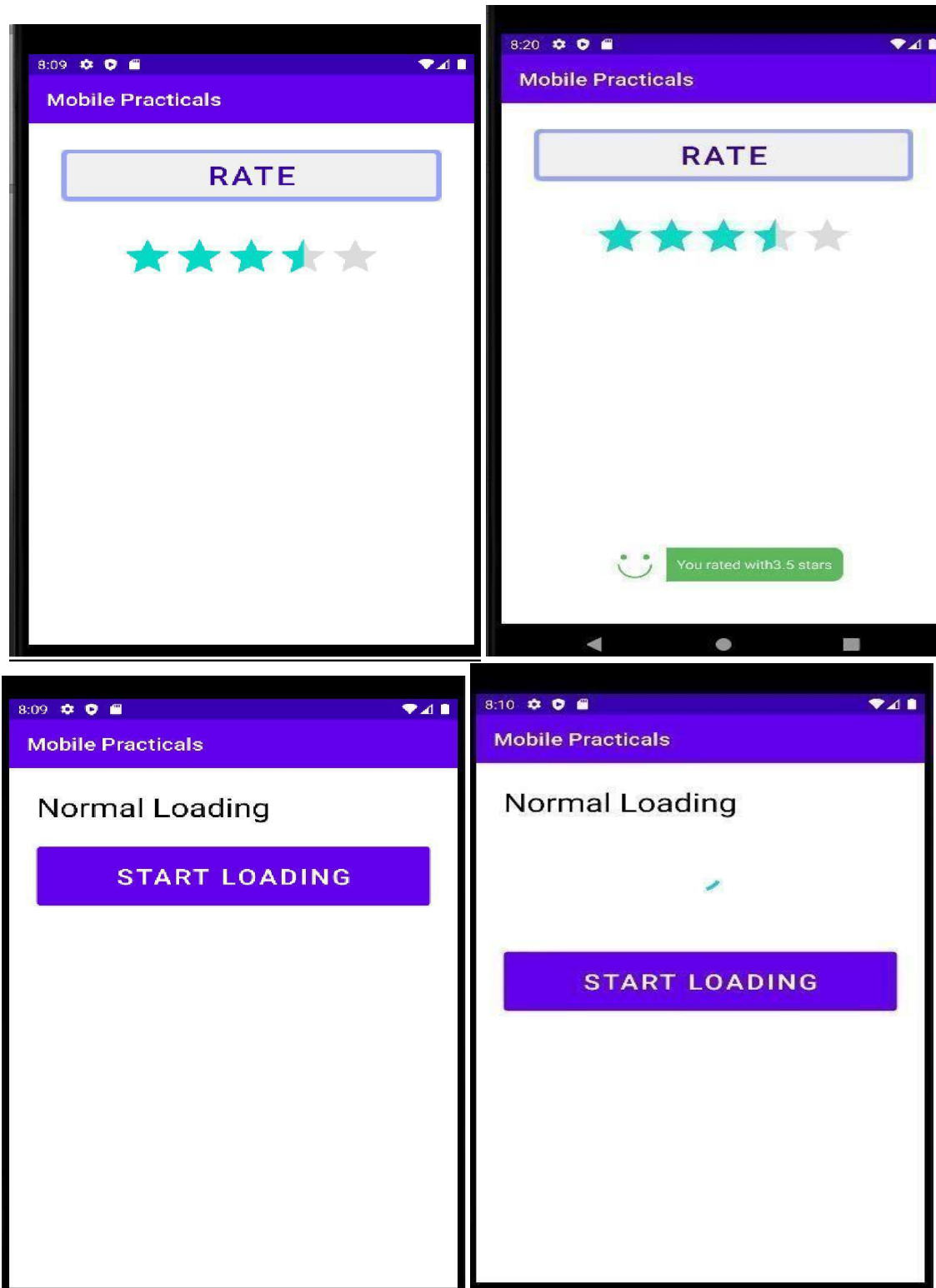
```
new Thread(new Runnable()
    {@Override public void
    run()
    {
        while
        (status<100)
        { status=perOpera(); try
        {
            Thread.sleep(1000);
        } catch (InterruptedException e)
        {e.printStackTrace();
        }
        handler.post(new Runnable()
            {@Override public void
            run()
            { progressdialog.setProgress(status);
            }
        }); } if
        (status>=100)
        { try {
            Thread.sleep(1000);
        } catch (InterruptedException e)
        {e.printStackTrace();
        }
        progressdialog.dismiss();
        }
    }
}).start();
});
}
```

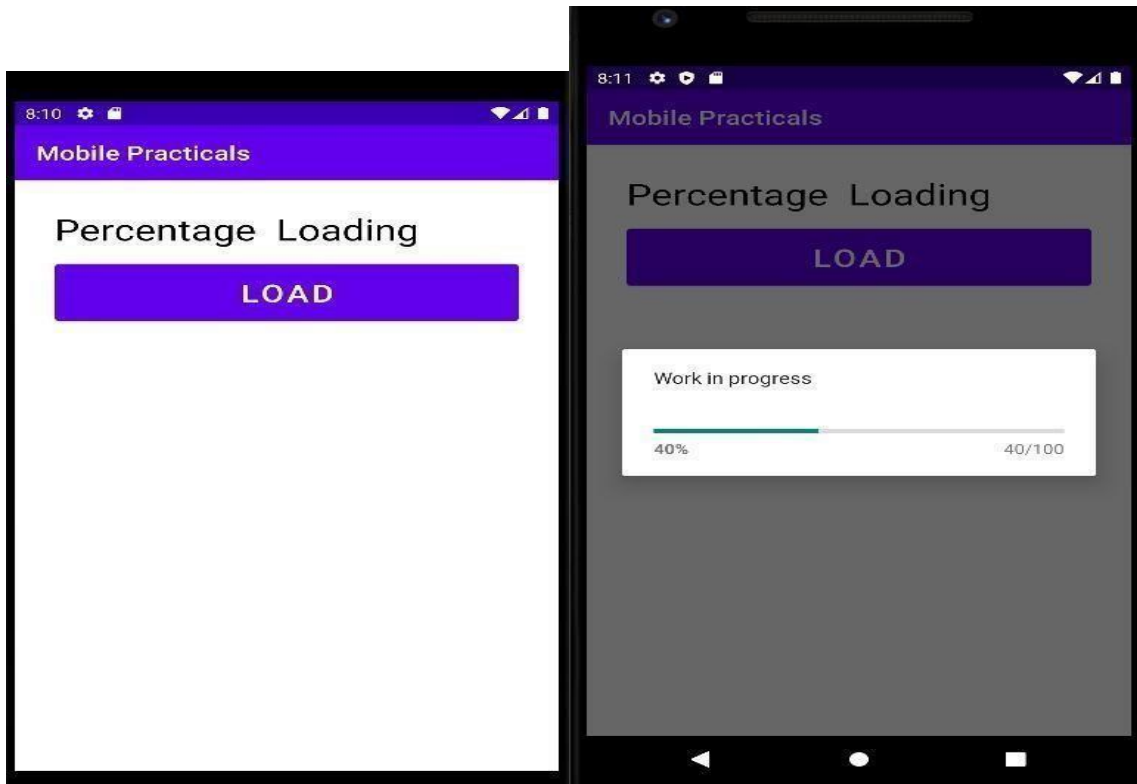
```
private int perOpera()
{while (s<=10000)
{ s++; if
(s==1000)
{ return 10; }
else if
(s==2000)
{ return 20; }
else if
(s==3000) {
return 30; }
```

```
else if  
(s==4000) {  
return 40; }  
else if  
(s==5000) {  
return 50; }  
else if  
(s==6000) {  
return 60; }  
else if  
(s==7000) {  
return 70; }  
else if  
(s==8000) {  
return 80; }  
else if  
(s==9000)  
{ return 90;  
} }  
return  
100; } }
```

Output:







PRACTICAL NO. 9**AIM / TITLE : Android program to perform CURD operation using SQLite**

1. Android program to perform CURD operation

Description :

SQLite is a opensource SQL database that stores data to a text file on a device. Android comes in with built in SQLite database implementation.

SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC, ODBC e.t.c

Coding :**activity_practical9.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=".Practical_9">

    <androidx.swiperefreshlayout.widget.SwipeRefreshLayout
        android:id="@+id/refreshEmployees"        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <ListView        android:id="@+id/lstEmployeeess"
            android:layout_width="match_parent"
            android:layout_height="wrap_content" />
    </androidx.swiperefreshlayout.widget.SwipeRefreshLayout>

    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:id="@+id/fabAdd"
        android:layout_width="60dp"
        android:layout_height="60dp"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_margin="20dp"
        android:src="@drawable/pl" app:fabSize="auto" />
```

</RelativeLayout> **Practical 9.java**

```
package com.example.mobilepracticals;
```

```
import androidx.appcompat.app.AppCompatActivity; import
import androidx.swiperefreshlayout.widget.SwipeRefreshLayout;
```

```
import android.content.Intent;
```

```
import android.os.Bundle; import
```

```
android.view.View;
```

```
import android.widget.AdapterView; import android.widget.AdapterView; import
```

```
import android.widget.ListView; import
```

```
com.google.android.material.floatingactionbutton.FloatingActionButton; import
```

```
java.util.ArrayList; import java.util.List; public class
```

```
Practical_9 extends AppCompatActivity {
```

```
    SwipeRefreshLayout swipeRefreshLayout;
```

```
    ListView lstEmployeeess; FloatingActionButton fab;
```

```
    MyDBHelper myDBHelper;
```

```
    List<Employees> employees = new ArrayList<Employees>();
```

```
    List<String> names = new ArrayList<String>();
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState)
```

```
    {super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_practical10); fab =
```

```
    findViewById(R.id.fabAdd);
```

```
    myDBHelper = new MyDBHelper(getApplicationContext()); lstEmployeeess =
```

```
    findViewById(R.id.lstEmployees); swipeRefreshLayout
```

```
    = findViewById(R.id.refreshEmployees); getEmployeeess(); fab.setOnClickListener(new
```

```
    View.OnClickListener()
```

```
    { @Override
```

```
    public void onClick(View view) { startActivity(new
```

```
        Intent(getApplicationContext(), Prac_9_1.class);
```

```
    }
```

```
    });
```

```
    swipeRefreshLayout.setOnRefreshListener(new SwipeRefreshLayout.OnRefreshListener()
```

```
    { @Override public void
```

```
    onRefresh()
```

```
    {getEmployeeess();
```

```
        swipeRefreshLayout.setRefreshing(false); }
```

```

    });

    lstEmployeeess.setOnItemClickListener(new AdapterView.OnItemClickListener()
    {
        @Override
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)
        {
            Intent intent = new Intent(getApplicationContext(), Prac_9_2.class);
            intent.putExtra("Name", names.get(i));
            startActivity(intent);
        }
    });
}

private void getEmployeeess()
{
    names.clear();
    employees.clear();
    employees =
    myDBHelper.getAllEmployeeess()
    ;
    for
    (Employees e : employees)
    {
        names.add(e.sName);
    }
    final ArrayAdapter<String> adapter = new
    ArrayAdapter<String>(getApplicationContext(),
    android.R.layout.simple_list_item_1, android.R.id.text1,
    names);
    lstEmployeeess.setAdapter(adapter);
}
}

```

activity_prac91.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:layout_margin="20dp"
    tools:context=".Prac_9_1">

    <EditText android:id="@+id/txtEmpName"
        android:layout_width="match_parent"
        android:layout_height="70dp"
        android:hint="Enter Name Here..." />

```

```
<Button android:id="@+id/btnAddEmployee"
    android:layout_width="match_parent"
    android:layout_height="70dp"
    android:layout_below="@id/txtEmpName" android:text="Add
    Employee" android:textAllCaps="false" /></RelativeLayout>
```

Prac 9 1.java package com.example.mobilepracticals;

```
import androidx.appcompat.app.AppCompatActivity; import
androidx.swiperefreshlayout.widget.SwipeRefreshLayout; import android.os.Bundle; import
android.text.TextUtils; import android.view.View; import android.widget.Button; import
android.widget.EditText; import android.widget.ListView;
import com.google.android.material.floatingactionbutton.FloatingActionButton; import
com.sdsmdg.tastytoast.TastyToast; public class
```

Prac_9_1 extends AppCompatActivity

```
{EditText txtEmployees; Button btnAddEmployees;
MyDBHelper myDBHelper;
Employees employee;

@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState); setContentView(R.layout.activity_prac91); txtEmployees
    =
    findViewById(R.id.txtEmpName);
    btnAddEmployees = findViewById(R.id.btnAddEmployee); myDBHelper = new
    MyDBHelper(getApplicationContext());

    btnAddEmployees.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View view) { if
            (TextUtils.isEmpty(txtEmployees.getText()))
            {
                TastyToast.makeText(getApplicationContext(), "Enter Name",
                TastyToast.LENGTH_SHORT, TastyToast.ERROR);
            } else { employee = new Employees();
                employee.setnID(0);
                employee.setName(txtEmployees.getText().toString()); if
                (myDBHelper.onInsertRecord(employee)) {
                    TastyToast.makeText(getApplicationContext(), "Employees Added",
                    TastyToast.LENGTH_SHORT, TastyToast.SUCCESS);
                } else {
                    TastyToast.makeText(getApplicationContext(), "Failed To Add",
```

```

        TastyToast.LENGTH_SHORT, TastyToast.ERROR); }
    }
}
});
}
}

```

activity_prac92.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:layout_margin="20dp"
    tools:context=".Prac_9_2">

    <TextView        android:id="@+id/txtEmpID"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:visibility="gone" />

    <EditText        android:id="@+id/txtEmpName"
        android:layout_width="match_parent"
        android:layout_height="70dp"
        android:hint="Enter Name Here..." />

    <LinearLayout android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/txtEmpName" android:orientation="horizontal">
        <Button
            android:id="@+id/btnEditEmployee"
            android:layout_width="180dp"
            android:layout_height="70dp"

            android:text="Edit        Employee"
            android:textAllCaps="false" />

        <Button
            android:id="@+id/btnDeleteEmployee"
            android:layout_width="180dp"
            android:layout_height="70dp"
            android:layout_marginLeft="20dp"

```

```
        android:text="Delete"                    Employee"
        android:textAllCaps="false" />
</LinearLayout>
</RelativeLayout> Prac_9_2.java
```

```
package
```

```
com.example.mobilepracticals;
```

```
import android.content.Intent; import
android.os.Bundle; import android.text.TextUtils;
    import android.view.View;    import
android.widget.Button;    import
android.widget.EditText; import
android.widget.TextView;
```

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

```
com.sdsmdg.tastytoast.TastyToast; public class Prac_9_2
```

```
extends AppCompatActivity {
```

```
    EditText txtName;
    Button btnEdit, btnDelete; TextView
    txtEmpID; Intent intent;
    MyDBHelper myDBHelper; String
    name = ""; Employees
    employee;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState)
```

```
    {super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_prac92); btnEdit =
    findViewById(R.id.btnEditEmployee); btnDelete =
    findViewById(R.id.btnDeleteEmployee); txtName =
    findViewById(R.id.txtEmpName); txtEmpID =
    findViewById(R.id.txtEmpID);
    myDBHelper = new MyDBHelper(getApplicationContext()); intent = getIntent();
```

```
    name = intent.getStringExtra("Name"); employee =
    myDBHelper.getEmployees(name);
    txtName.setText(employee.getName());
    txtEmpID.setText(employee.getID() + "");
```

```

btnEdit.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View view) {
        if (TextUtils.isEmpty(txtName.getText()))
        {
            TastyToast.makeText(getApplicationContext(), "Enter Name", TastyToast.LENGTH_SHORT,
                TastyToast.ERROR);
        }
        else {
            employee.setName(txtName.getText().toString());
            if (myDBHelper.onEditEmployees(employee)) {
                TastyToast.makeText(getApplicationContext(), "Record Updated",
                    TastyToast.LENGTH_SHORT, TastyToast.SUCCESS);
            }
            else {
                TastyToast.makeText(getApplicationContext(), "Update Failed",
                    TastyToast.LENGTH_SHORT, TastyToast.ERROR);
            }
        }
    }
});

btnDelete.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View view) {
        if (myDBHelper.onDeleteEmployees(employee))
        {
            TastyToast.makeText(getApplicationContext(), "Record Deleted",
                TastyToast.LENGTH_SHORT, TastyToast.SUCCESS);
        }
        else {
            TastyToast.makeText(getApplicationContext(), "Error while Delete",
                TastyToast.LENGTH_SHORT, TastyToast.ERROR);
        }
    }
});
}
}

```

Employees.java package

com.example.mobilepracticals; public class

Employees { int nID; String sName;

```

    public Employees(int nID, String sName) { this.nID = nID; this.sName = sName;
    }

```

```

    public Employees(String sName) { this.sName = sName;

```



```
    } public  
Employees() {  
  
    }  
  
    public int getnID() {        return nID;  
    }  
  
    public void setnID(int nID) {        this.nID = nID;  
    }  
  
    public String getsName() {        return sName;  
    }  
  
    public void setsName(String sName) {        this.sName = sName;  
    }  
}
```

DM_Help.java package

com.example.mobilepracticals;

```
import android.content.ContentValues; import  
android.content.Context; import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase; import  
android.database.sqlite.SQLiteOpenHelper; import android.util.Log;
```

```
import androidx.annotation.NonNull; import  
androidx.annotation.Nullable;
```

```
import java.util.ArrayList; import  
java.util.List; public class DM_Help extends  
SQLiteOpenHelper
```

```
{private static final int version=1;  
private static final String oname="office"; private  
static final String table="mEmployee"; private static  
final String id="id";  
private static final String name="name";
```

```
private List<Employee> lsemployee=new ArrayList<Employee>();
```

```
private SQLiteDatabase sqLiteDatabase;
boolean flag=false,flagU=false;

// public DM_Help(@Nullable Context context, @Nullable String name, @Nullable
// SQLiteDatabase.CursorFactory factory, int version) {
//     super(context, name, factory, version);
// }

public DM_Help(Context context)
{ super(context,aname,null,version);
}
@Override
public void onCreate(@NonNull SQLiteDatabase db) {

    db.execSQL("CREATE TABLE "+ table +"("+id+" INTEGER PRIMARY KEY
    AUTOINCREMENT,"+name+" TEXT NOT NULL)",null);
    Log.d("DB_CREATED","Successful");

}

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

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

}

public boolean insertRecord(Employee employee)
{ try {
    Log.d("DBInsert",employee.name);
    sqLiteDatabase=this.getWritableDatabase();
//     sqLiteDatabase.execSQL("INSERT INTO "+table+" (name)
VALUES("+employee.name+"");
    ContentValues contentvalues = new ContentValues();
    contentvalues.put("name",employee.name);
    sqLiteDatabase.insert(table,null,contentvalues); flag=true;
}
catch (Exception
e){ Log.d("DBexception",e.getMessage().toString());
```

```

    } finally
    {return
      flag;
    }
  }

public List<Employee> getallemployee(){
    SQLiteDatabase=this.getReadableDatabase();
    Cursor      cursor=sqliteDatabase.rawQuery("SELECT      *      from      "+table,null); if
    (cursor.moveToFirst())
    { do {
        Employee      employee=new      Employee();
        employee.setId(cursor.getInt(0));
        employee.setName(cursor.getString(1));
        lsemployee.add(employee); cursor.moveToNext();
    }while (cursor.moveToNext());
    } SQLiteDatabase.close(); return
    lsemployee;
}

public      Employee      getEmployee(String sname){Employee
    e=new Employee();
    String qry="SELECT * from "+table + "WHERE "+name+" = "+sname; SQLiteDatabase =
    this.getReadableDatabase();
    Cursor      c=sqliteDatabase.rawQuery(qry,null); if(c.moveToFirst())
    { do {
        e.setId(c.getInt(0));
        e.setName(c.getString(1));
    }while (c.moveToNext());
    } return
    e;
}

public      boolean      isEdit(Employee      employee){try      {
    SQLiteDatabase=this.getWritableDatabase(); ContentValues contentValues
    =new ContentValues();
    contentValues.put(id,employee.getId());
    contentValues.put(name,employee.getName());
    SQLiteDatabase.update(table,contentValues,id+"=?",new String[]
    {String.valueOf(employee.getId())}); flagU=true;
    }
    catch (Exception e)

```

```
        {
            Log.e("UpdateError",e.getMessage().toString());
        } return
        flagU;
    }
}
```

MyDBHelper.java package

```
com.example.mobilepracticals; import
```

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

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

```
android.database.Cursor;
```

```
import android.database.sqlite.SQLiteDatabase; import
import android.database.sqlite.SQLiteOpenHelper; import android.util.Log;
import androidx.annotation.Nullable; import java.util.ArrayList;
import java.util.List;
```

```
public class MyDBHelper extends SQLiteOpenHelper
{private static final int version = 1; private static
final String name = "office";
private static final String Table_Employees = "employee"; private static
final String nID = "nID";
private static final String sName = "sName"; private
SQLiteDatabase db;
List<Employees> employees = new ArrayList<Employees>(); String qry
= "";
```

```
public MyDBHelper(Context context)
{super(context, name, null, version);
}
```

```
@Override
public void onCreate(SQLiteDatabase sqLiteDatabase)
{ sqLiteDatabase.execSQL("CREATE TABLE " + Table_Employees + "(" + nID + " INTEGER
PRIMARY KEY AUTOINCREMENT," + sName + " Text Not Null)");
Log.d("Ninad", "Database Created");
```

```
}

@Override
public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1)
{ sqLiteDatabase.execSQL("DROP TABLE IF EXISTS " +
    Table_Employees);onCreate(sqLiteDatabase);
}

public boolean onInsertRecord(Employees employee)
{try {
    db = this.getWritableDatabase();
    //db.execSQL("Insert into " + Table_Employees + " (sName) values(" +
employee.sName + ")");
    ContentValues contentValues = new ContentValues();
    contentValues.put(sName, employee.sName);
    db.insert(Table_Employees, null, contentValues); db.close();

    return true;
} catch
(Exception e)
{
    Log.e("DBError", e.getMessage().toString()); return false;
}

}

public List<Employees> getAllEmployeeess()
{ qry = "SELECT * from " + Table_Employees;db
    =
    this.getReadableDatabase();
    Cursor cursor = db.rawQuery(qry, null); if
(cursor.moveToFirst()) {
    do {
        Employees employee = new Employees();
        employee.setnID(cursor.getInt(0));
        employee.setsName(cursor.getString(1));
        employees.add(employee);
    } while (cursor.moveToNext());

    } db.close();
return
employees;
```

```

    }

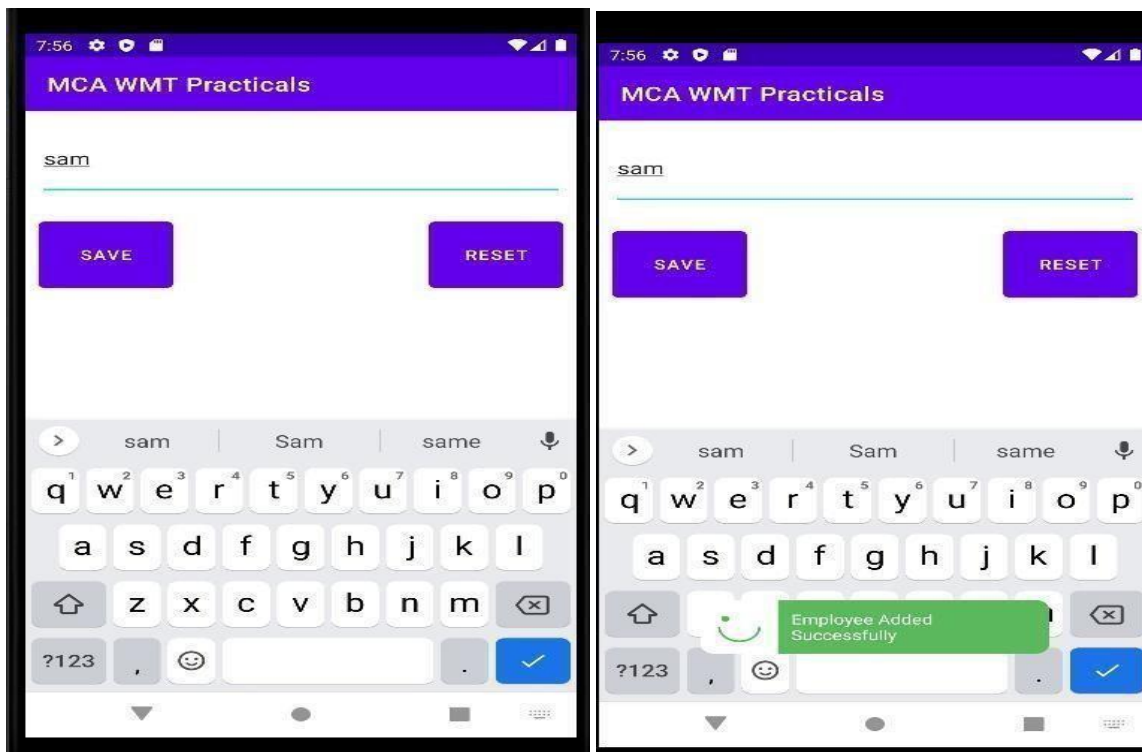
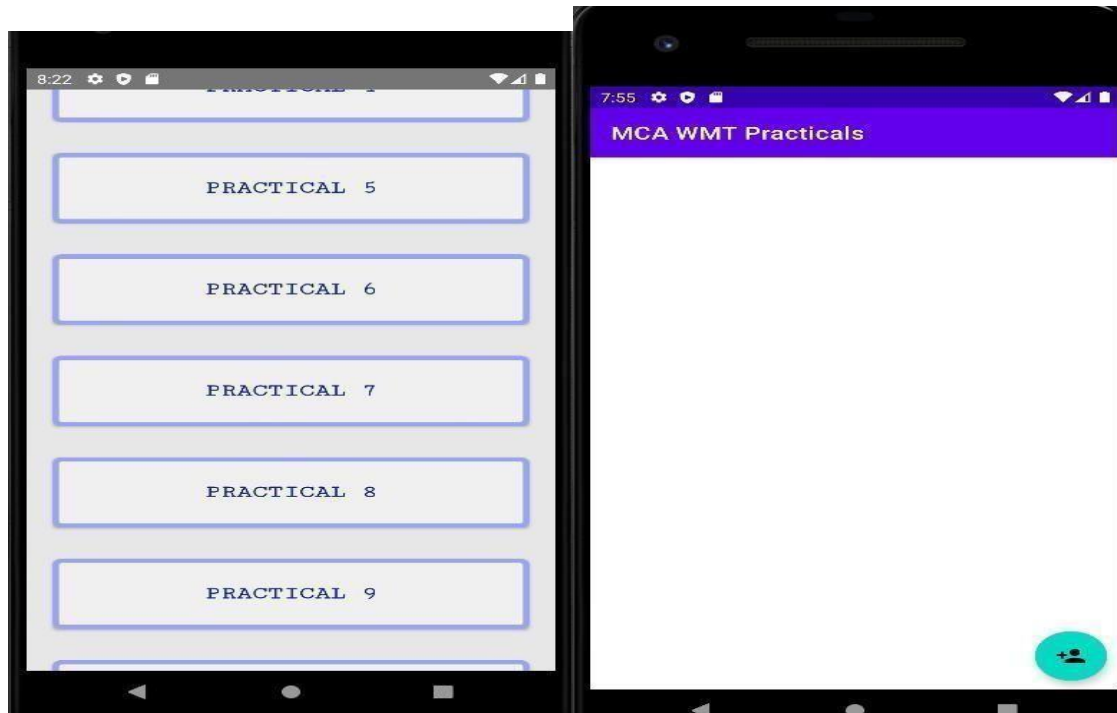
    public Employees getEmployees(String name) {Employees employee = new
        Employees(); qry = "SELECT * from " + Table_Employees + " Where sName='" +
        name + "'"; db = this.getReadableDatabase();
        Cursor cursor = db.rawQuery(qry, null);
        if (cursor.moveToFirst())
            {do { employee.setnID(cursor.getInt(0));
                employee.setsName(cursor.getString(1));
            } while (cursor.moveToNext());
            }
        return employee;
    }

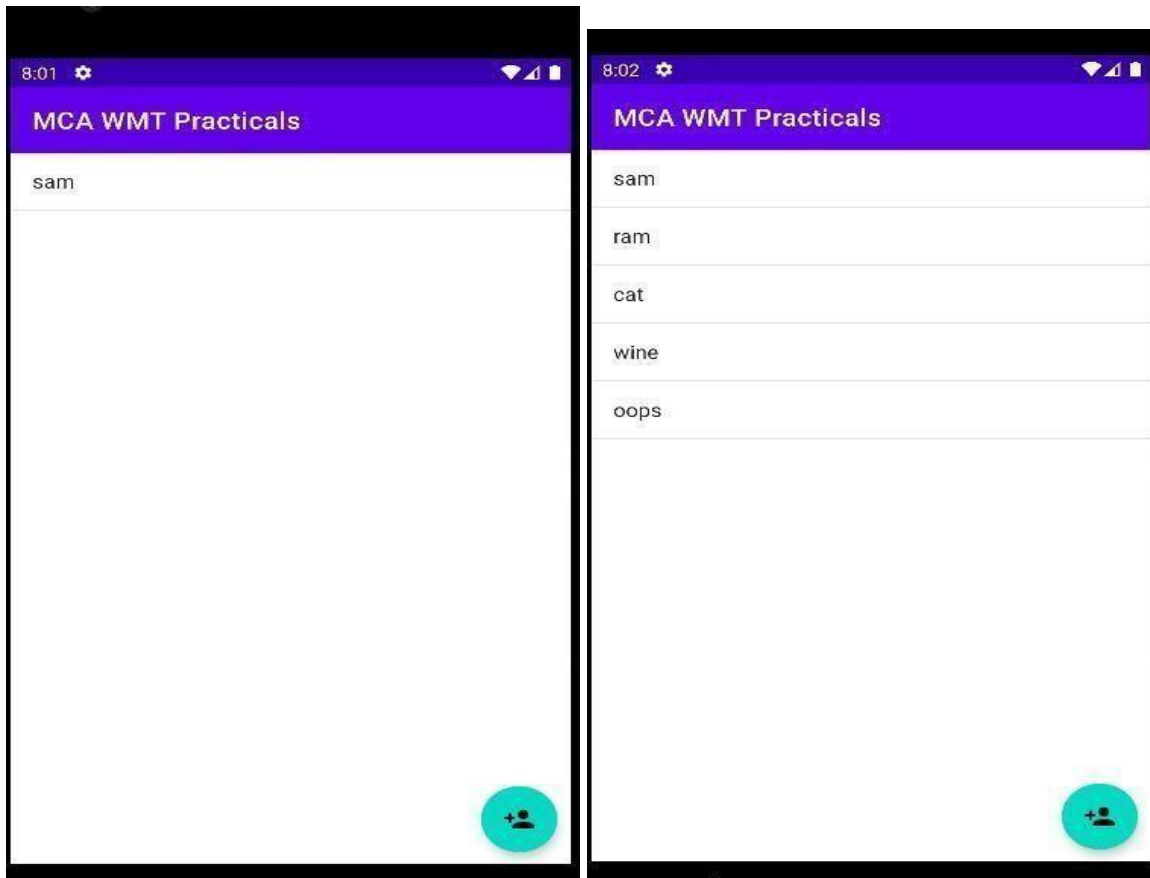
    public boolean onEditEmployees(Employees employee)
    {try {
        db = this.getWritableDatabase();
        /*qry = "UPDATE " + Table_Employees + " SET " + sName + "=" + employee.getName() + "
Where nID=" + employee.getnID(); Log.d("ERROR", qry); db.rawQuery(qry, null);*/ ContentValues
        contentValues = new ContentValues();
        contentValues.put(nID, employee.getnID()); contentValues.put(sName,
        employee.getName()); db.update(Table_Employees, contentValues, nID +
        "=?", new
String[] {String.valueOf(employee.getnID())}); return
        true;
    } catch (Exception e) {
        Log.d("DBError", e.getMessage().toString()); return false;
    }
    }

    public boolean onDeleteEmployees(Employees employee)
    {try {
        db = this.getWritableDatabase();
        db.delete(Table_Employees, nID + "=?", new
String[] {String.valueOf(employee.getnID())}); return
        true;
    } catch (Exception e)
        {return false;
        }
    }
}

```

Output:





PRACTICAL NO. 10

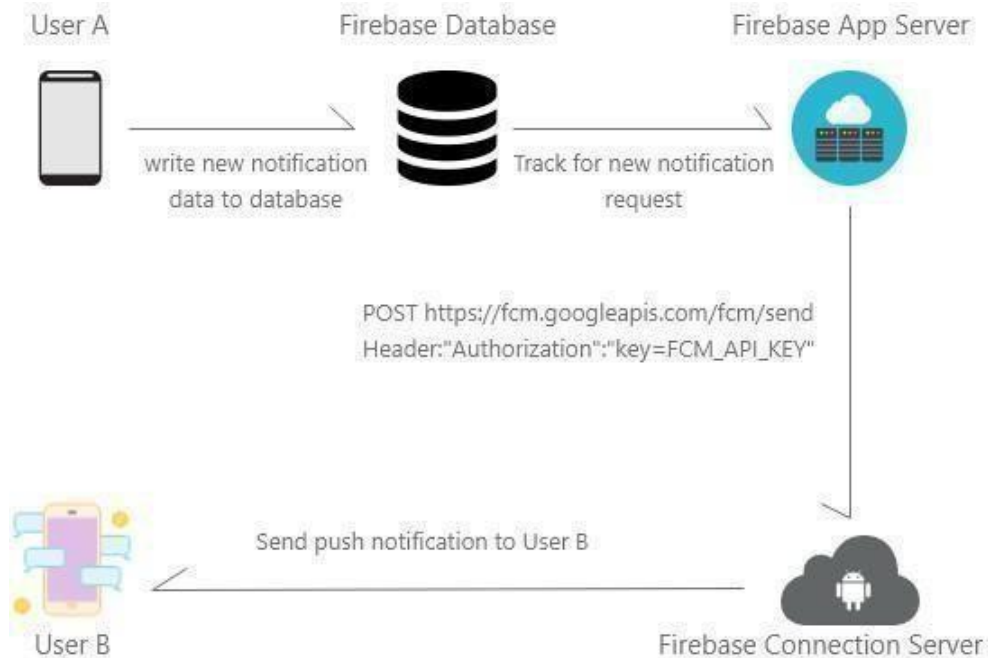
AIM / TITLE : Android program for notification

Description :

Notifications Description:

A notification is a message you can display to the user outside of your application's normal UI. When you tell the system to issue a notification, it first appears as an icon in the notification area. To see the details of the notification, the user opens the notification drawer. Both the notification area and the notification drawer are system-controlled areas that the user can view at any time.

Android Toast class provides a handy way to show users alerts but problem is that these alerts are not persistent which means alert flashes on the screen for a few seconds and then disappears.



Coding :

activity_practical10.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:layout_margin="30dp" tools:context=".Practical_10">

    <Button android:id="@+id/btnNotifi"
        android:layout_width="match_parent"
        "
        android:layout_height="80dp"        android:text="Send Notification"
        android:textSize="20dp"
        android:background="@drawable/round_button"
        app:backgroundTint="@null"/>

</RelativeLayout> Practical 10.java
```

```
package com.example.mobilepracticals;
```

```
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;        import
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;

import android.app.NotificationChannel; import android.app.NotificationManager;
    import android.media.RingtoneManager; import
import android.net.Uri; import
import android.os.Build;
import
import android.os.Bundle;
import
import android.view.View;
import
import android.widget.Button; import com.google.android.gms.tasks.OnCompleteListener; import
import com.google.android.gms.tasks.Task; import com.google.firebase.messaging.FirebaseMessaging; import
import com.sdsmdg.tastytoast.TastyToast;

public class Practical_10 extends AppCompatActivity
{
    Button btnNotification;
```

```
@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_practical10);

    btnNotification = findViewById(R.id.btnNotifi);

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

    FirebaseMessaging.getInstance().subscribeToTopic("general")
        .addOnCompleteListener(new OnCompleteListener<Void>()
        {
            @Override
            public void onComplete(@NonNull Task<Void> task)
            {
                String msg = "Successful"; if (!task.isSuccessful())
                {
                    msg = "Failed";
                }
                TastyToast.makeText(getApplicationContext(), msg, TastyToast.LENGTH_SHORT,
                TastyToast.INFO);
            }
        });
}

public void sendNotification()
{
    Uri uri = RingtoneManager.getDefaultUri(RingtoneManager.TYPE_NOTIFICATION);
    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
        NotificationChannel channel = new NotificationChannel("MyNotification", "MyNotification",
        NotificationManager.IMPORTANCE_DEFAULT);

        NotificationManager notificationManager = getSystemService(NotificationManager.class);
        notificationManager.createNotificationChannel(channel);
    }

    NotificationCompat.Builder builder = new NotificationCompat.Builder(getApplicationContext(),
    "MyNotification"); builder.setSmallIcon(R.drawable.ic_launcher_background);
    builder.setContentTitle("Practicals")
        .setContentText("You are cool")
        .setSound(uri)
        .setPriority(NotificationCompat.PRIORITY_DEFAULT);
}
```

```

        NotificationManagerCompat notificationManager
        NotificationManagerCompat.from(getApplicationContext());

        notificationManager.notify(999, builder.build());
    }
}

```

AndroidManifest.xml

```

<service
    android:name=".MyFirebaseService"
    android:exported="true"

```

MyFirebaseService.java package

```
com.example.mobilepracticals;
```

```

import android.app.NotificationChannel; import
android.app.NotificationManager; import
    android.media.RingtoneManager; import
    android.net.Uri; import
android.os.Build;

```

```

import androidx.annotation.NonNull; import
androidx.core.app.NotificationCompat; import
androidx.core.app.NotificationManagerCompat;

```

```

import com.google.firebase.messaging.FirebaseMessagingService; import
com.google.firebase.messaging.RemoteMessage; public class

```

```
MyFirebaseService extends FirebaseMessagingService
```

```
{@Override
```

```

    public void onMessageReceived(RemoteMessage remoteMessage)
    {super.onMessageReceived(remoteMessage);
        sendNotification(remoteMessage.getNotification().getTitle(),
remoteMessage.getNotification().getBody()); }

```

```
public void sendNotification(String title, String content)
{
    Uri uri = RingtoneManager.getDefaultUri(RingtoneManager.TYPE_NOTIFICATION);
    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
        NotificationChannel channel = new NotificationChannel("MyNotification",
            "MyNotification", NotificationManager.IMPORTANCE_DEFAULT);

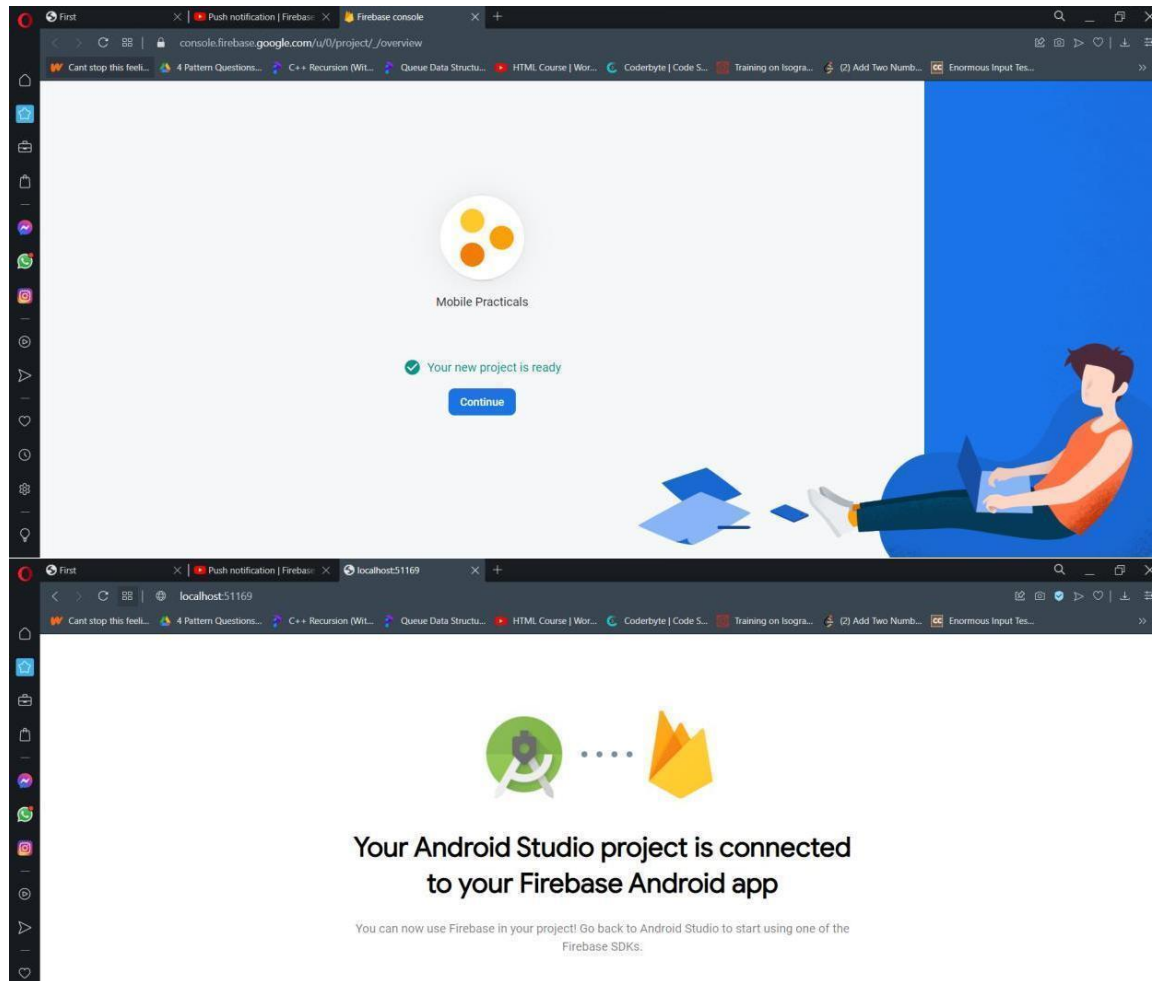
        NotificationManager notificationManager = getSystemService(NotificationManager.class);

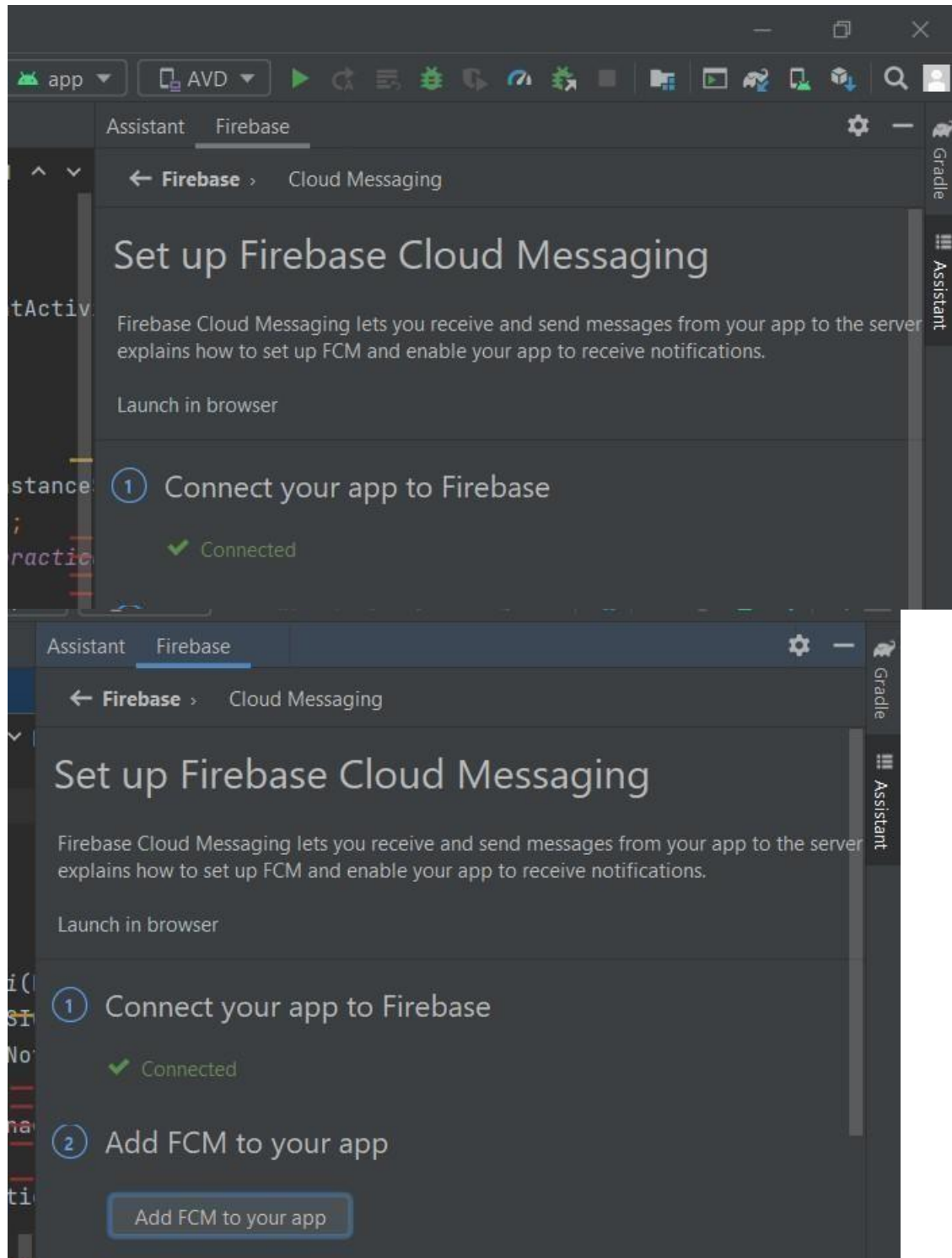
        notificationManager.createNotificationChannel(channel);
    }
    NotificationCompat.Builder builder = new NotificationCompat.Builder(getApplicationContext(),
        "MyNotification");
    builder.setSmallIcon(R.drawable.ic_launcher_background);builder.setTitle(title)
        .setContentText(content)
        .setSound(uri)
        .setPriority(NotificationCompat.PRIORITY_DEFAULT);

    NotificationManagerCompat notificationManagerCompat =
        NotificationManagerCompat.from(getApplicationContext());

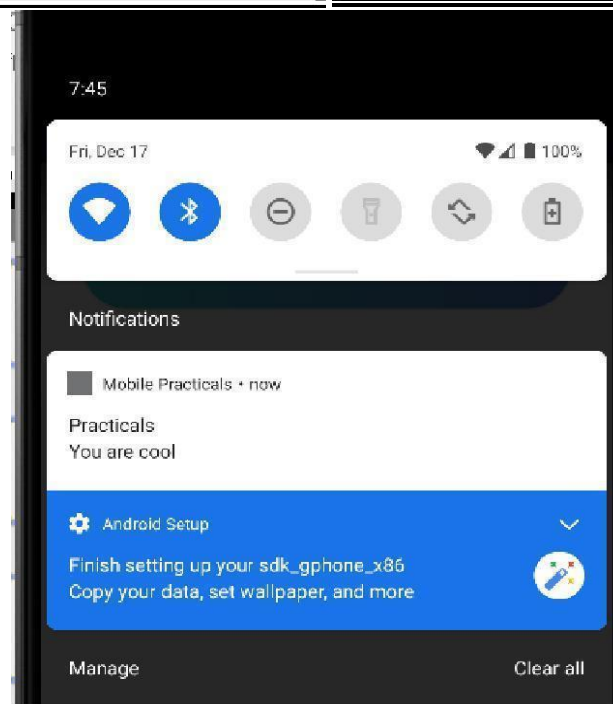
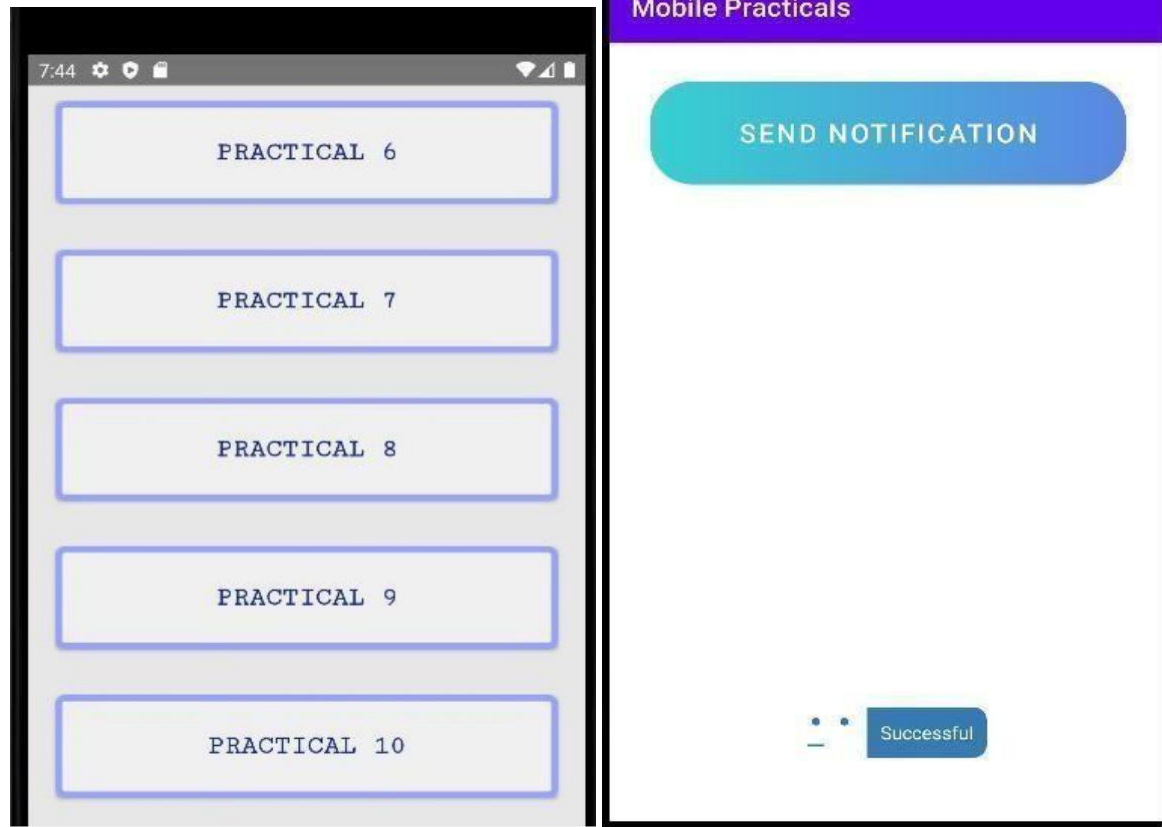
    notificationManagerCompat.notify(999, builder.build());
}
```







Output:



PRACTICAL NO. 11

AIM / TITLE : Android program to access inbuilt apps

Description :

Android Google Map

Android provides facility to integrate Google map in our application. Google map displays your current location, navigate location direction, search location etc. We can also customize Google map according to our requirement. **Types of Google Maps**

There are four different types of Google maps, as well as an optional to no map at all. Each of them gives different view on map. These maps are as follow:

1. Normal: This type of map displays typical road map, natural features like river and some features build by humans.
2. Hybrid: This type of map displays satellite photograph data with typical road maps. It also displays road and feature labels.
3. Satellite: Satellite type displays satellite photograph data, but doesn't display road and feature labels.
4. Terrain: This type displays photographic data. This includes colors, contour lines and labels and perspective shading.
5. None: This type displays an empty grid with no tiles loaded. Syntax of different types of map

SMS API

In Android, you can use SmsManager API or devices Built-in SMS application to send SMS's

Sr.No.	Method & Description
1	ArrayList<String> divideMessage(String text) This method divides a message text into several fragments, none bigger than the maximum SMS message size.
2	static SmsManager getDefault() This method is used to get the default instance of the SmsManager
3	void sendDataMessage(String destinationAddress, String scAddress, short destinationPort, byte[] data, PendingIntent sentIntent, PendingIntent deliveryIntent) This method is used to send a data based SMS to a specific application port.

4	void sendMultipartTextMessage(String destinationAddress, String scAddress, ArrayList<String> parts, ArrayList<PendingIntent> sentIntents, ArrayList<PendingIntent> deliveryIntents) Send a multi-part text based SMS.
5	void sendTextMessage(String destinationAddress, String scAddress, String text, PendingIntent sentIntent, PendingIntent deliveryIntent) Send a text based SMS.

Call API

Android provides Built-in applications for phone calls, in some occasions we may need to make a phone call through our application. This could easily be done by using implicit Intent with appropriate actions. Also, we can use PhoneStateListener and TelephonyManager classes, in order to monitor the changes in some telephony states on the device.

You can use Android Intent to make phone call by calling built-in Phone Call functionality of the Android. Following section explains different parts of our Intent object required to make a call.

Camera API

These are the following two ways, in which you can use camera in your application

- Using existing android camera application in our application
- Directly using Camera API provided by android in our application

Sr.No	Intent type and description
1	ACTION_IMAGE_CAPTURE_SECURE It returns the image captured from the camera , when the device is secured
2	ACTION_VIDEO_CAPTURE It calls the existing video application in android to capture video
3	EXTRA_SCREEN_ORIENTATION It is used to set the orientation of the screen to vertical or landscape
4	EXTRA_FULL_SCREEN It is used to control the user interface of the ViewImage
5	INTENT_ACTION_VIDEO_CAMERA This intent is used to launch the camera in the video mode

6

EXTRA_SIZE_LIMIT

It is used to specify the size limit of video or image capture size

Coding :**activity_practical11.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:layout_margin="30dp" tools:context=".Practical_11">

    <Button android:id="@+id/btnGoogleMap"
        android:layout_width="match_parent"
        android:layout_height="80dp" android:text="Google Maps"
        android:textSize="20dp" app:backgroundTint="@null"
        android:background="@drawable/round_button"/>
    <Button android:id="@+id/btnSMS"
        android:layout_width="match_parent
        " android:layout_height="80dp"
        android:layout_below="@id/btnGoogleMap"
        android:layout_marginTop="25dp"
        android:text="SMS"
        android:textSize="20dp"
        app:backgroundTint="@null"
        android:background="@drawable/round_button"/>

    <Button android:id="@+id/btnCall"
        android:layout_width="match_parent
        " android:layout_height="80dp"
        android:layout_marginTop="25dp"
        android:layout_below="@id/btnSMS
        "
        android:text="Call"
        android:textSize="20dp"
        app:backgroundTint="@null"
        android:background="@drawable/round_button"/>

```

```
<Button android:id="@+id/btnCamera"
    android:layout_width="match_parent"
    "
    android:layout_below="@id/btnCall"
    android:layout_marginTop="25dp"
    android:layout_height="80dp"
    android:text="Camera"
    android:textSize="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/round_button"/>
```

```
</RelativeLayout>
```

AndroidManifest.xml

```
<uses-permission android:name="android.permission.CAMERA" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"
/>
<uses-permission android:name="android.permission.BLUETOOTH_CONNECT" />
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
<uses-permission android:name="android.permission.BLUETOOTH" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.CHANGE_WIFI_STATE" />
<uses-permission android:name="android.permission.SEND_SMS" />
<uses-permission android:name="android.permission.CALL_PHONE"
```

```
/> Practical 11.java package com.example.mobilepracticals;
```

```
import androidx.appcompat.app.AppCompatActivity; import androidx.core.app.ActivityCompat;
```

```
import android.Manifest; import
android.content.Intent;
import android.content.pm.PackageManager;
import android.net.Uri; import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View; import
```

```
android.widget.Button; import
```

```
com.sdsmgdg.tastytoast.TastyToast; public class
```

```
Practical_11 extends AppCompatActivity {
```

```
    Button btnPractical11_1, btnSMS, btnPractical11_3, btnPractical11_4; @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_practical11);
        btnPractical11_1 =
        findViewById(R.id.btnGoogleMap);
        btnPractical11_1.setOnClickListener(new
        View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new
                Intent(getApplicationContext(), Prac_11_1.class));
            }
        });
        btnSMS = findViewById(R.id.btnSMS);
        btnSMS.setOnClickListener(new
        View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new
                Intent(getApplicationContext(), Prac_11_2.class));
            }
        });

        // btnSMS.setOnClickListener(new View.OnClickListener() {
        //     @Override
        //     public void onClick(View view) {
        //         SmsManager smsManager = SmsManager.getDefault();
        //         smsManager.sendTextMessage("", null, "Welcome", null, null);
        //         TastyToast.makeText(getApplicationContext(), "Msg Sent", TastyToast.LENGTH_SHORT,
        //         TastyToast.SUCCESS);
        //     }
        // });

        btnPractical11_3 = findViewById(R.id.btnCall);
        btnPractical11_3.setOnClickListener(new
        View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(Intent.ACTION_CALL);
                intent.setData(Uri.parse("tel:1800-22-3322")); //Phone No
            }
        });
    }
}
```

```

        if (ActivityCompat.checkSelfPermission(getApplicationContext(),
Manifest.permission.CALL_PHONE) != PackageManager.PERMISSION_GRANTED) {
            return;
        }
        startActivity(intent);
    }
});

btnPractical11_4 = findViewById(R.id.btnCamera);
btnPractical11_4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) { startActivity(new
Intent(getApplicationContext(), Prac_11_4.class)); }
});
}
}

```

activity_prac11.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"
    android:layout_margin="30dp" tools:context=".Prac_11_1">

    <Button
        android:id="@+id/btnOpenMap"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:layout_margin="10dp"
        android:background="@drawable/round_button"
        android:text="Open Map" android:textSize="20dp"
        app:backgroundTint="@null"
        tools:layout_editor_absoluteX="16dp"
        tools:layout_editor_absoluteY="59dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Prac 11 1.java _____package

com.example.mobilepracticals; _____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 java.util.Locale; public class Prac_11_1

extends AppCompatActivity

{Button btnOpenMap;

@Override

protected void onCreate(Bundle savedInstanceState)

{super.onCreate(savedInstanceState);

setContentView(R.layout.activity_prac111); btnOpenMap

= findViewById(R.id.btnOpenMap);

btnOpenMap.setOnClickListener(new View.OnClickListener()

{@Override

public void onClick(View v) {

String uri = String.format(Locale.ENGLISH, "https://maps.google.com/maps?q=loc:%f,%f",
19.18765,72.9526513);

Intent intent = new Intent(Intent.ACTION_VIEW, Uri.parse(uri)); startActivity(intent);

}

});

}

}

activity_prac112.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:layout_margin="10dp" android:orientation="vertical"

tools:context=".Prac_11_2">


```

<EditText      android:id="@+id/txtMobileNo"
    android:layout_width="match_parent"
    android:layout_height="80dp"
    android:hint="Enter Mobile      No
        Here..."
    android:inputType="phone" />

<EditText android:id="@+id/txtSMS"
    android:layout_width="match_parent"
    android:layout_height="200dp"      android:hint="Enter
    Text Here..." android:inputType="textLongMessage" />
<Button android:id="@+id/btnSendMessage"
    android:layout_width="match_parent"
    android:layout_height="80dp"
    android:text="Send" android:textSize="20dp"
    app:backgroundTint="@null"
    android:background="@drawable/round_button"/>

</LinearLayout>

```

Prac 11 2.java

```

package com.example.mobilepracticals; import
androidx.appcompat.app.AppCompatActivity;

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

import      android.widget.EditText;      import

com.sdsmdg.tastytoast.TastyToast; public class Prac_11_2
extends AppCompatActivity

    {EditText  txtMobileNo,  txtSMS;
    Button btnSendMessage;

    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_prac112); txtMobileNo =
        findViewById(R.id.txtMobileNo); txtSMS =

```

```

findViewById(R.id.txtSMS);
btnSendMessage = findViewById(R.id.btnSendMessage); btnSendMessage.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View v) { if
        (TextUtils.isEmpty(txtMobileNo.getText()))
            { TastyToast.makeText(getApplicationContext(), "Enter Mobile No",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
            } else if (TextUtils.isEmpty(txtSMS.getText()))
            { TastyToast.makeText(getApplicationContext(), "Enter Text",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
            } else {
                SmsManager smsManager = SmsManager.getDefault();
                smsManager.sendTextMessage(txtMobileNo.getText().toString(), null,
txtSMS.getText().toString(), null, null);
                TastyToast.makeText(getApplicationContext(), "SMS Sent",
TastyToast.LENGTH_SHORT, TastyToast.SUCCESS);
            }
        }
    });
}
}

```

activity_prac114.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"
    android:layout_margin="40dp" tools:context=".Prac_11_4">

    <ImageView    android:id="@+id/imgCamera"
        android:layout_width="match_parent"
        android:layout_height="400dp"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="126dp" />

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

```

```
        android:layout_height="70dp"
        android:layout_below="@id/imgCamera"
        android:background="@drawable/round_button"
        android:text="Capture"        android:textSize="20dp"
        app:backgroundTint="@null"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="16dp" />
    </androidx.constraintlayout.widget.ConstraintLayout>
```

Prac 11 4.java package

```
com.example.mobilepracticals;
```

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

```
import android.content.Intent; import android.graphics.Bitmap;
import
import android.os.Bundle; import
import android.provider.MediaStore; import
import android.view.View;
import android.widget.Button; import android.widget.ImageView;
```

```
public class Prac_11_4 extends AppCompatActivity
```

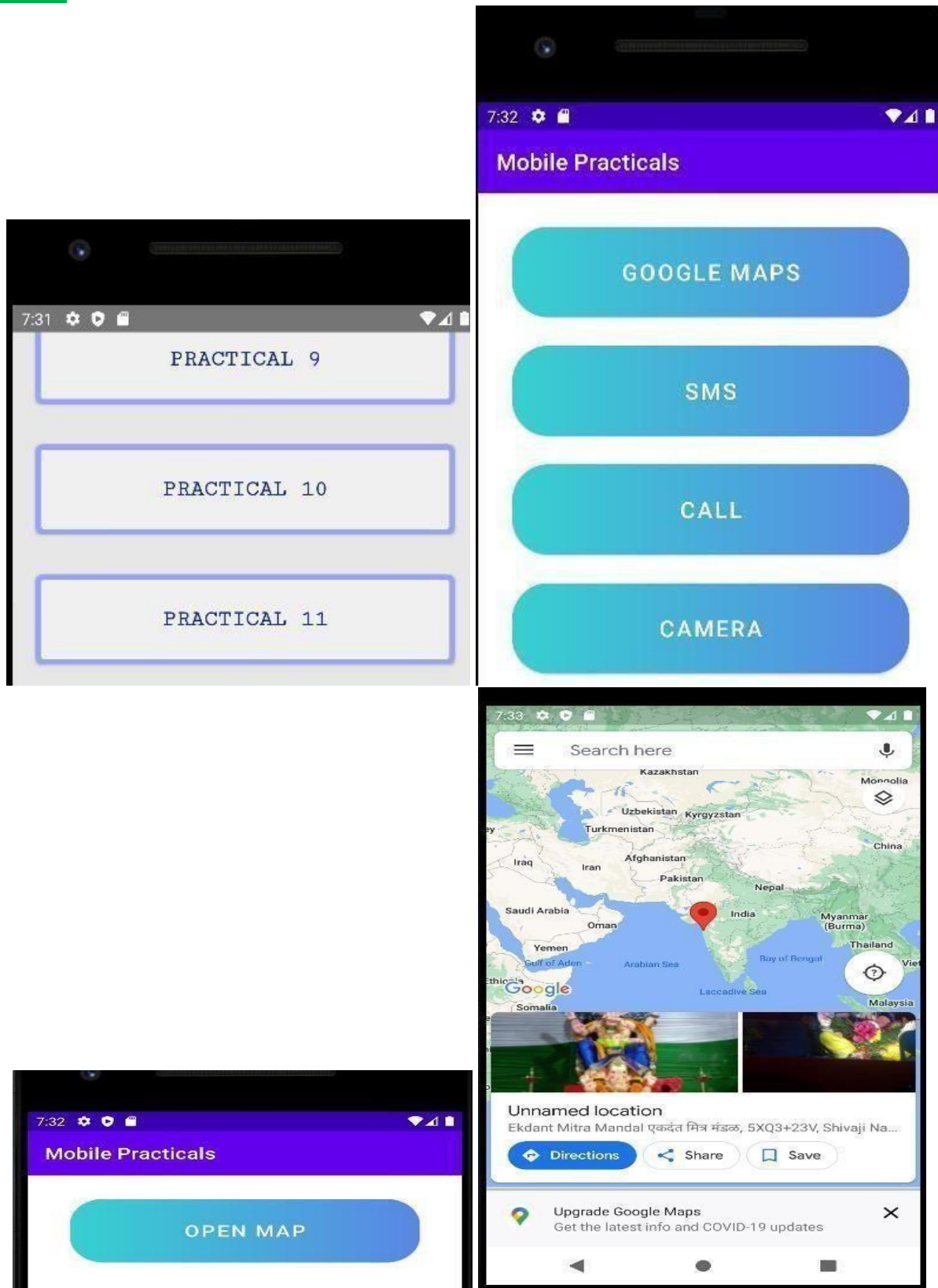
```
    {ImageView        imgCamera;
    Button btnCapture;
    private static final int CAMERA_REQUEST = 1888;
```

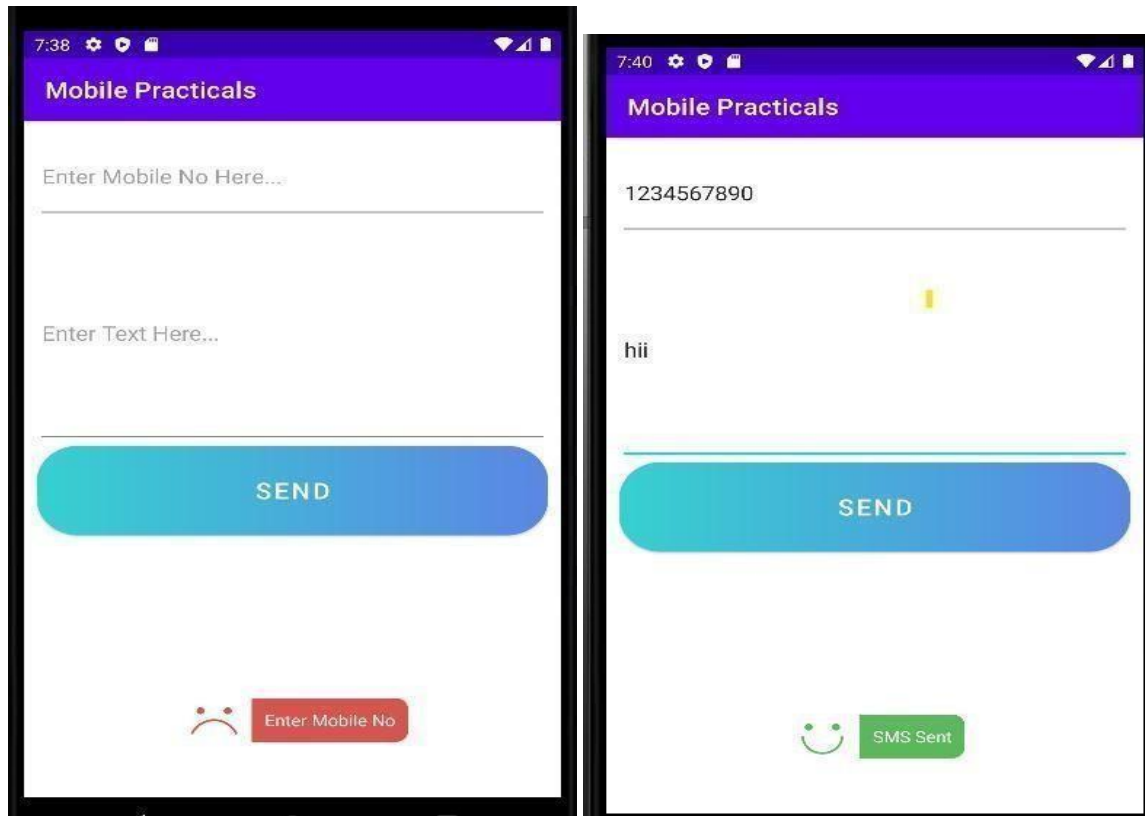
```
@Override
protected void onCreate(Bundle savedInstanceState)
    {super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_prac114);
```

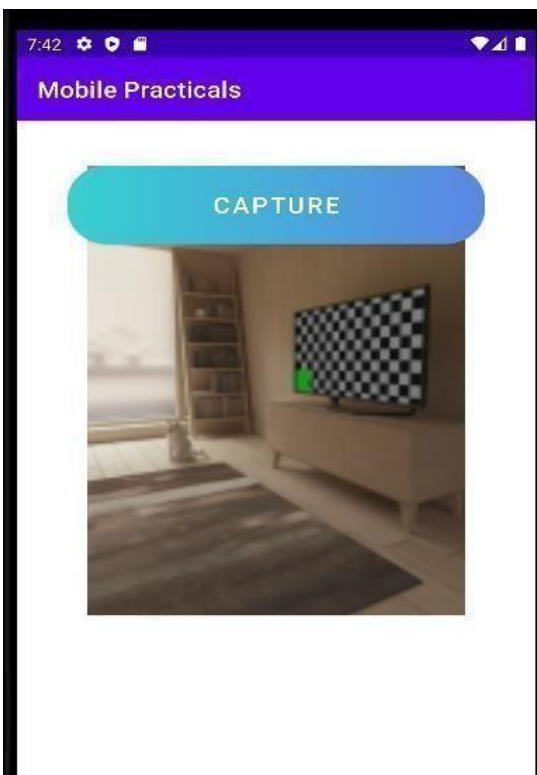
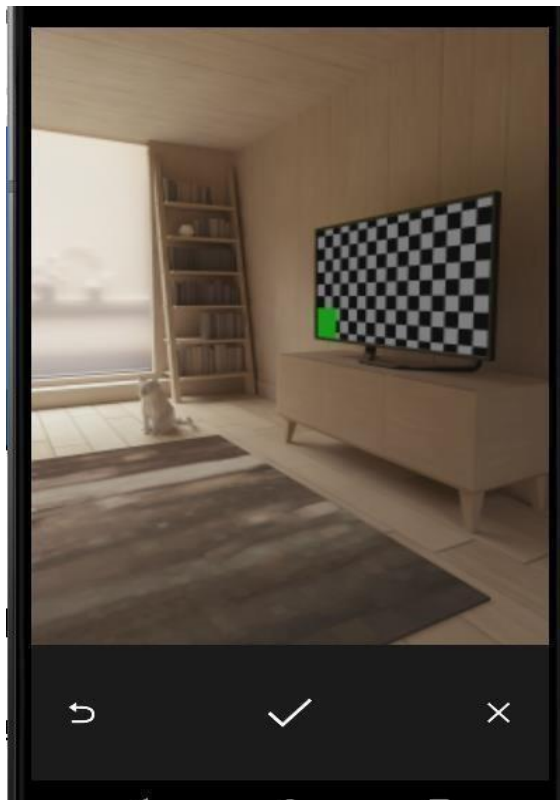
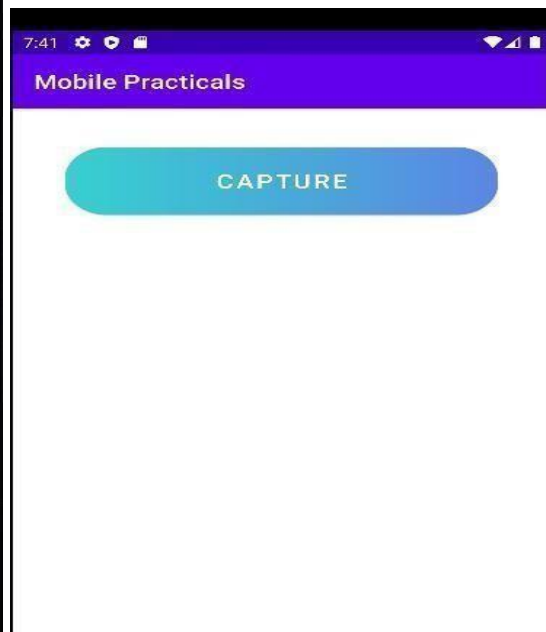
```
    imgCamera =        findViewById(R.id.imgCamera); btnCapture
    = findViewById(R.id.btnCapture);
```

```
    btnCapture.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View v) {
            Intent intent =        new
            Intent(MediaStore.ACTION_IMAGE_CAPTURE);
            startActivityForResult(intent, CAMERA_REQUEST); }
    }
```

```
    });  
}  
  
    @Override protected void onActivityResult(int requestCode, int resultCode,  
    @Nullable Intent data)  
{ super.onActivityResult(requestCode, resultCode, data); if  
    (requestCode == CAMERA_REQUEST) {  
        Bitmap image = (Bitmap) data.getExtras().get("data");  
        imgCamera.setImageBitmap(image);  
    }  
}  
}
```

Output:





PRACTICAL NO. 12

AIM / TITLE : Android program to access data from server

Coding :

activity_practical12.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:layout_margin="10dp" android:orientation="vertical"
    tools:context=".Practical_12">

    <Button android:id="@+id/btnCat1"
        android:layout_width="match_parent"
        " android:layout_height="80dp" android:text="Category
        1" />

    <Button android:id="@+id/btnCat2"
        android:layout_width="match_parent"
        " android:layout_height="80dp" android:text="Category
        2" />

    <Button android:id="@+id/btnCat3"
        android:layout_width="match_parent"
        " android:layout_height="80dp" android:text="Category
        3" />

    <Button android:id="@+id/btnCat4"
        android:layout_width="match_parent"
        android:layout_height="80dp" android:text="Category
        4" />
</LinearLayout>
```

Practical 12.java_____package

com.imcostmca.wmtpracticals; _____import

androidx.appcompat.app.AppCompatActivity; import


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

public class Practical_12 extends AppCompatActivity {

    Button btnCat1, btnCat2, btnCat3, btnCat4;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_practical12);

    btnCat1      =      findViewById(R.id.btnCat1);      btnCat1.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new
            Intent(getApplicationContext(),Practical_12_1.class);
            intent.putExtra("nID",1); startActivity(intent); }
    });

    btnCat2      =      findViewById(R.id.btnCat2);      btnCat2.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new
            Intent(getApplicationContext(),Practical_12_1.class);
            intent.putExtra("nID",2); startActivity(intent); }
    });

    btnCat3      =      findViewById(R.id.btnCat3);      btnCat3.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new
            Intent(getApplicationContext(),Practical_12_1.class);intent.putExtra("nID",3);
            startActivity(intent);
        }
    });

    btnCat4      =      findViewById(R.id.btnCat4); btnCat4.setOnClickListener(new
    View.OnClickListener() {
        @Override
```

```
        public void onClick(View v) {
            Intent intent = new
            Intent(getApplicationContext(),Practical_12_1.class);
            intent.putExtra("nID",4); startActivity(intent); }
        });
    }
} activity_practcal121.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=".Practical_12_1">

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/trendingRecycler"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

</RelativeLayout>
```

Practical 12 1.java package

```
com.imcostmca.wmtpracticals;

import androidx.appcompat.app.AppCompatActivity; import
androidx.recyclerview.widget.LinearLayoutManager; import
androidx.recyclerview.widget.RecyclerView;
import android.content.Intent; import
android.os.Bundle; import
android.widget.Toast;

import com.android.volley.AuthFailureError; 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.StringRequest; import com.android.volley.toolbox.Volley;

import org.json.JSONArray; import org.json.JSONException;
import
```

```
org.json.JSONObject;
```

```
import java.util.ArrayList;
import java.util.HashMap;
import java.util.List; import java.util.Map; public class
```

```
Practical_12_1 extends AppCompatActivity {
```

```
    RecyclerView          recyclerView;
    RecyclerView.Adapter    adapter;
    List<ListItem>          listItems;
    MyViewAdapter myViewAdapter; int
    nid; String par;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState)
    {super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_practical121);
```

```
    recyclerView = findViewById(R.id.trendingRecycler);
    recyclerView.setHasFixedSize(true); recyclerView.setLayoutManager(new
LinearLayoutManager(getApplicationContext())); Intent intent
    = getIntent(); nid =
    intent.getIntExtra("nID", 0); par =
    String.valueOf(nid); listItems = new
    ArrayList<>(); loadRecyclerView(par);
} private void loadRecyclerView(final String
par) {
```

```
    StringRequest stringRequest = new StringRequest(Request.Method.POST, URL.URL_TRIPS,
    new Response.Listener<String>()
    { @Override
    public void onResponse(String response)
    { try {
        //Toast.makeText(getApplicationContext(), response,
Toast.LENGTH_SHORT).show();
        JSONObject jsonObject = new JSONObject(response); JSONArray
        jsonArray = jsonObject.getJSONArray("aa"); for (int i = 0; i <
        jsonArray.length(); i++) {
            JSONObject o = jsonArray.getJSONObject(i);
            ListItem item = new ListItem(
```

```

        o.getString("sMainTour"),
        o.getString("sDescription"), URL.ROOT_IMG +
        o.getString("sImage"),          o.getInt("nID"),
        o.getString("mtourtypedesc")
    );
    listItems.add(item); }

myViewAdapter    =    new    MyViewAdapter(getApplicationContext(), listItems);
recyclerView.setAdapter(myViewAdapter);

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

    }
},
new Response.ErrorListener()
{
    @Override
    public void onErrorResponse(VolleyError error)
    { Toast.makeText(getApplicationContext(), error.getMessage(),
    Toast.LENGTH_SHORT).show();

}
}) {
    @Override
    protected Map<String, String> getParams() throws AuthFailureError
    {Map<String, String> params = new HashMap<>();
    params.put("nID", par); return params;
    }
};
RequestQueue requestQueue = Volley.newRequestQueue(getApplicationContext());
requestQueue.add(stringRequest);

}
}

```

list_item.xml

```

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

```

```
android:id="@+id/relMainContent" android:layout_width="match_parent"
android:layout_height="match_parent" android:layout_margin="20dp">
```

```
<androidx.cardview.widget.CardView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal">
```

```
<RelativeLayout android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp">
```

```
<TextView android:id="@+id/txtnID"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    " android:visibility="invisible" />
```

```
<ImageView      android:id="@+id/imgList"
    android:layout_width="match_parent"
    android:layout_height="150dp"
    android:layout_centerHorizontal="true"
    android:src="@drawable/plus" />
```

```
<TextView android:gravity="center"
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/imgList"
    "
    android:text="Plan"
    android:textAppearance="@style/TextAppearance.AppCompat.Large" />
```

```
<TextView android:gravity="center" android:id="@+id/category"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/name"
    android:text="Plan"
    android:textAppearance="@style/TextAppearance.AppCompat.Large" />
```

```
</RelativeLayout>
```

```
</androidx.cardview.widget.CardView>
```

</RelativeLayout> ListItem.java package

com.imcostmca.wmtpracticals; public class

ListItem {

private String name; private
String desc; private String img;
private String category; private
int nID;

public ListItem(String name, String desc, String img,int nID,String category)
 {this.name = name; this.desc =
 desc;
 this.img = img;
 this.nID=nID;
 this.category=category;
 }

public String getName()
 {return name;
 }

public void setName(String name)
 {this.name = name;
 }

public String
getDesc() {return
desc; }

public void setDesc(String
desc) {this.desc = desc; }

public String
getImg() {return img;
 }

public void setImg(String img)
 {this.img = img; }

public int getnID()
 {return nID; }

```
public void setnID(int nID)
{this.nID = nID; }

public String
getCategory() {return
category; }

public void setCategory(String category)
{this.category = category;
}
}
```

MyViewAdapter.java package

```
com.imcostmca.wmtpracticals; import

    android.content.Context; import

android.content.Intent; import
android.net.Uri;
import    android.view.LayoutInflater; import
android.view.View;
import    android.view.ViewGroup;    import
android.widget.ImageView;    import android.widget.RelativeLayout;
    import
android.widget.TextView;

import androidx.annotation.NonNull; import
androidx.recyclerview.widget.RecyclerView;

import com.sdsmdg.tastytoast.TastyToast; import
com.squareup.picasso.Picasso; import java.util.List; public class MyViewAdapter extends

RecyclerView.Adapter<MyViewAdapter.ViewDataHolder>

{private Context ctx; private
List<ListItem> listItems;

public MyViewAdapter(Context ctx, List<ListItem> listItems)
{this.ctx = ctx; this.listItems
= listItems;
}
```

```
@Override
```

```
public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType)
{
    LayoutInflater inflater = LayoutInflater.from(ctx); View view =
    inflater.inflate(R.layout.list_item, null); return new ViewHolder(view);
}
```

```
@Override
```

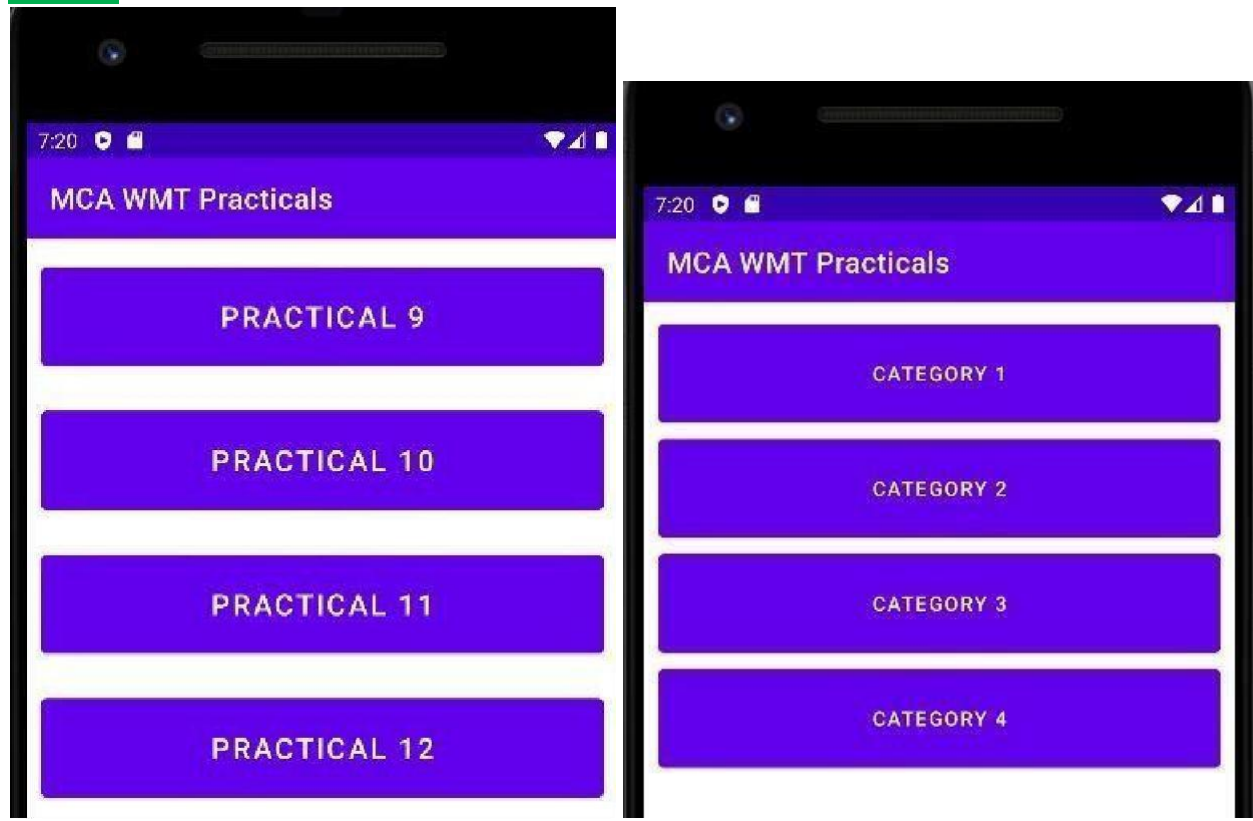
```
public void onBindViewHolder(@NonNull ViewHolder holder, int position)
{
    final ListItem listItem = listItems.get(position); holder.txtName.setText(listItem.getName());
    Picasso.get().load(listItem.getImg()).into(holder.imgList); holder.txtID.setText(listItem.getID() + "");
    holder.txtCategory.setText(listItem.getCategory()); } @Override public int getItemCount()
{
    return listItems.size();
}
```

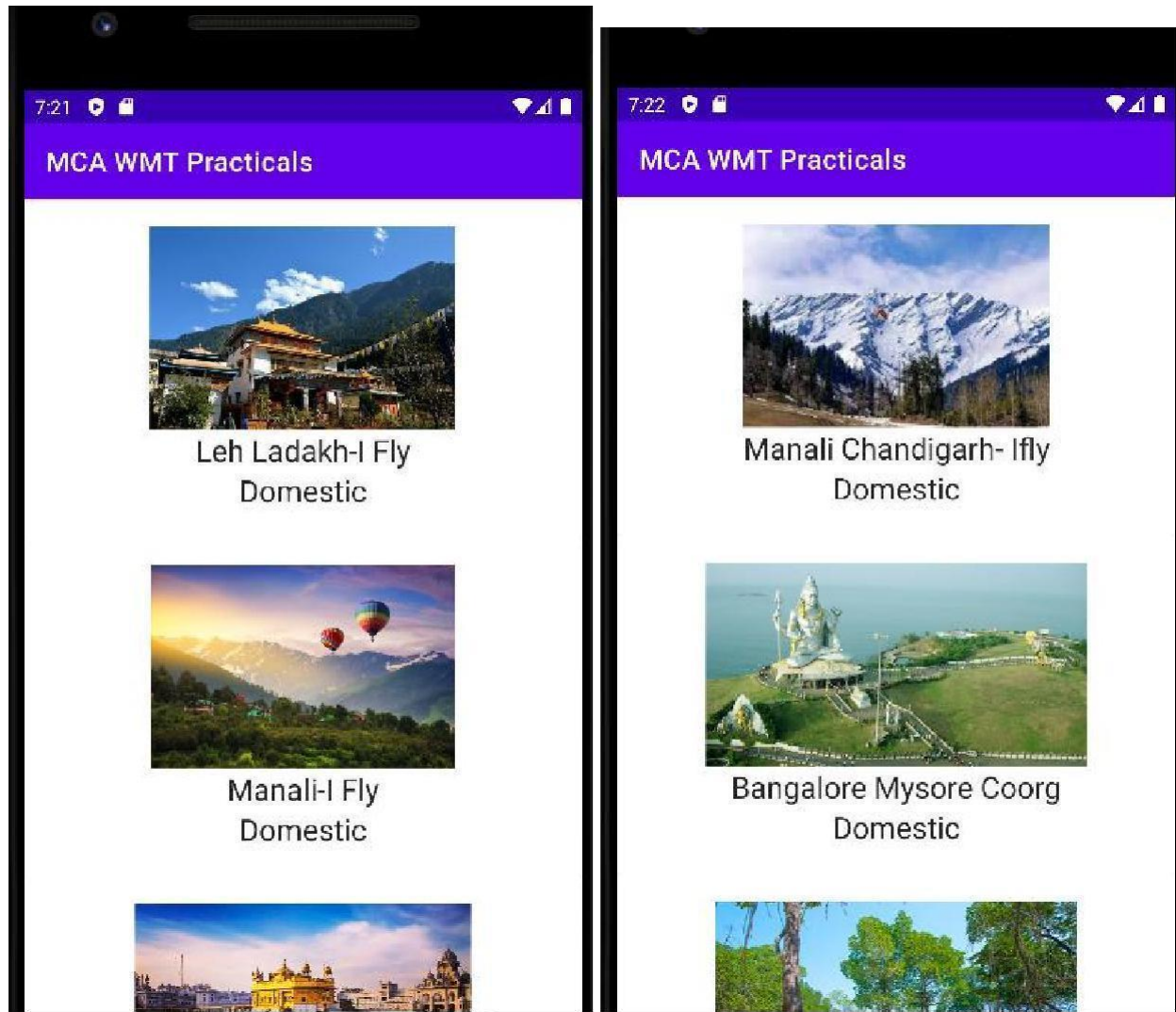
```
public class ViewHolder extends RecyclerView.ViewHolder
```

```
{
    TextView txtID, txtName,txtCategory;
    ImageView imgList;
    RelativeLayout relativeLayout;
```

```
public ViewHolder(View itemView)
```

```
{
    super(itemView);
    txtID = itemView.findViewById(R.id.txtID); txtName = itemView.findViewById(R.id.name);
    imgList = itemView.findViewById(R.id.imgList);
    txtCategory=itemView.findViewById(R.id.category);
    relativeLayout = itemView.findViewById(R.id.relMainContent);
}
}
```


Output:



PRACTICAL NO. 13**AIM / TITLE : Android program to demonstrate google Ads****Description :**

Banner ads are a rectangular image or text ads that occupy a spot within an app's layout. Which are implemented by using google AdMob

Coding :**activity_practical13.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:layout_margin="10dp" android:orientation="vertical"
    tools:context=".Practical_11_4">

    <ImageView android:id="@+id/imgCamera"
        android:layout_width="match_parent"
        android:layout_height="400dp" />

    <Button android:id="@+id/btnCapture"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:text="Capture"
        android:textSize="20dp" />
</LinearLayout>
```

Practical 13.java

```
package com.imcostmca.wmtpracticals; import

    androidx.appcompat.app.AppCompatActivity;        import

    android.os.Bundle;
```

```
import com.google.android.gms.ads.AdRequest; import com.google.android.gms.ads.AdSize;
import com.google.android.gms.ads.AdView; import
com.google.android.gms.ads.MobileAds;
import com.google.android.gms.ads.initialization.InitializationStatus; import
com.google.android.gms.ads.initialization.OnInitializationCompleteListener; public class
```

Practical_13 extends AppCompatActivity

```
{private AdView mAdView;

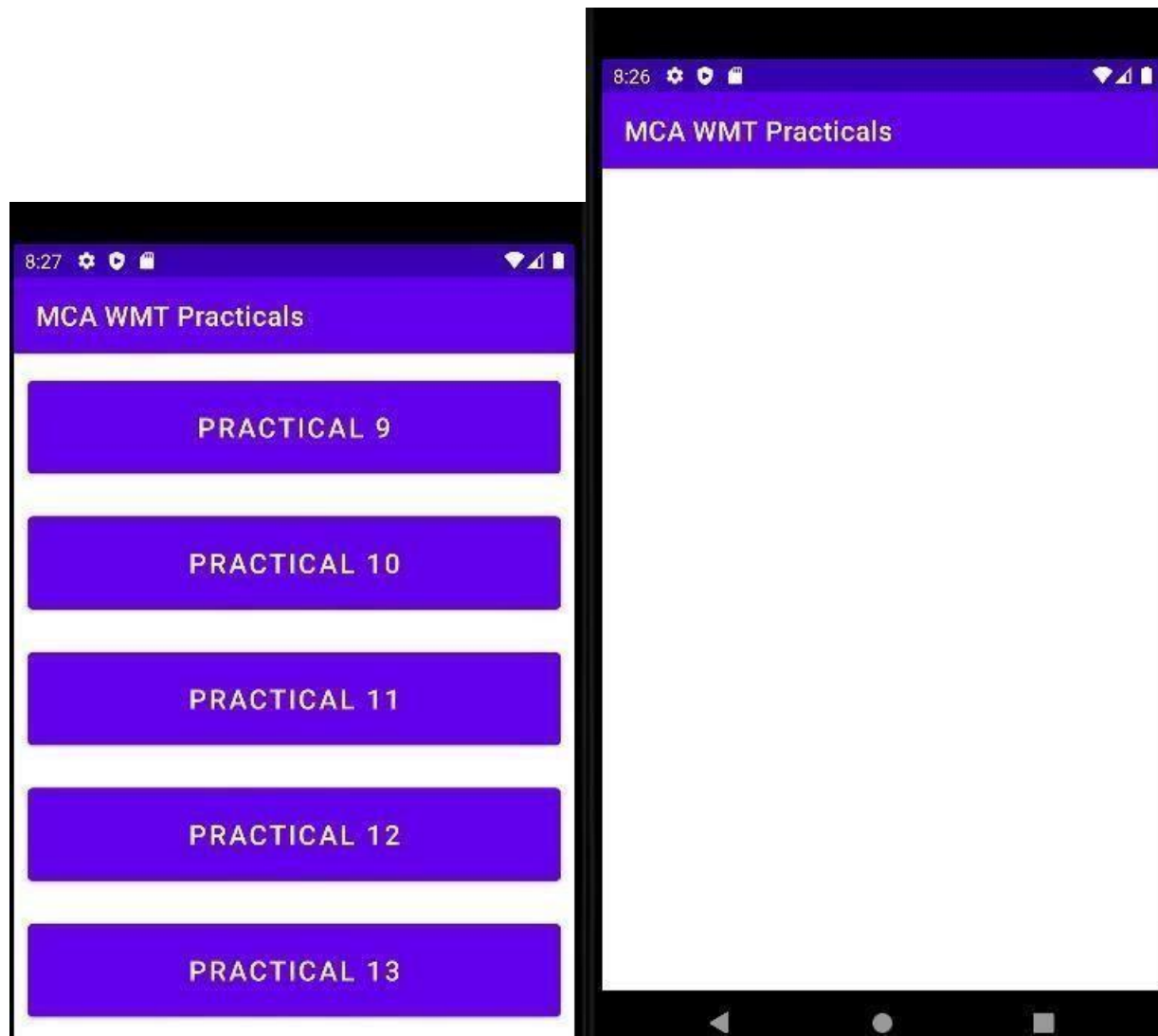
@Override
protected void onCreate(Bundle savedInstanceState)
{super.onCreate(savedInstanceState);
setContentView(R.layout.activity_ads);
MobileAds.initialize(this, new OnInitializationCompleteListener() {
    @Override
    public void onInitializationComplete(InitializationStatus initializationStatus) {
    }
});

mAdView = findViewById(R.id.adView);
AdRequest adRequest = new AdRequest.Builder().build();
mAdView.loadAd(adRequest);
}
}
```

AndroidManifest.xml

```
<meta-data android:name="com.google.android.gms.ads.APPLICATION_ID" android:value="ca-app-
pub3940256099942544~3347511713" />
```

Output:



PRACTICAL NO. 14

AIM / TITLE : Android program to demonstrate Sign up & Sign in

Coding :**activity_practical14.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:layout_margin="10dp" android:orientation="vertical"
    tools:context=".Practical_14">

    <Button android:id="@+id/btnSignUp"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:text="Sign Up"
        android:textSize="20dp" />

    <Button android:id="@+id/btnSignIn"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:text="Sign In"
        android:textSize="20dp" />
</LinearLayout>
```

Practical 14.java

```
package com.imcostmca.wmtpracticals; import
androidx.appcompat.app.AppCompatActivity;

import android.content.Intent; import
android.os.Bundle; import
android.view.View; import
android.widget.Button; public class Practical_14

extends AppCompatActivity {Button

    btnSignUp,btnSignIn;
```

```

@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_practical15);

    btnSignUp = findViewById(R.id.btnSignUp); btnSignUp.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) { startActivity(new
            Intent(getApplicationContext(), Practical_14_1.class));

        }
    });
    btnSignIn = findViewById(R.id.btnSignIn); btnSignIn.setOnClickListener(new
    View.OnClickListener() {
        @Override
        public void onClick(View v) { startActivity(new
            Intent(getApplicationContext(), Practical_14_2.class));

        }
    });
}
}

```

activity_practical141.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:layout_margin="10dp" android:orientation="vertical"
    tools:context=".Practical_14_1">

    <EditText        android:id="@+id/txtFirstName"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:hint="Enter First Name" />

    <EditText        android:id="@+id/txtLastName"
        android:layout_width="match_parent" android:layout_height="80dp"
        android:hint="Enter Last Name" />

```

```

<EditText      android:id="@+id/txtUserName"
    android:layout_width="match_parent"
    android:layout_height="80dp"
    android:hint="Enter Email ID"
    android:inputType="textEmailAddress" />

<EditText      android:id="@+id/txtPassword"
    android:layout_width="match_parent"
    android:layout_height="80dp"
    android:hint="Enter          Password"
    android:inputType="textPassword" />

<EditText      android:id="@+id/txtConfirmPassword"
    android:layout_width="match_parent" android:layout_height="80dp"
    android:hint="Enter Password      Again" android:inputType="textPassword"
    />

<Button android:id="@+id/btnRegister"
    android:layout_width="match_parent"
    android:layout_height="80dp" android:text="Register"
    android:textSize="20dp" />
</LinearLayout> Practical 14 1.java package

com.imcostmca.wmtpracticals;          import

androidx.appcompat.app.AppCompatActivity; import

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

import com.android.volley.AuthFailureError; 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.StringRequest; import
com.android.volley.toolbox.Volley;      import
com.sdsmdg.tastytoast.TastyToast;

```



```

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

import java.util.HashMap; import java.util.Map; public
class Practical_14_1 extends AppCompatActivity {

    EditText txtFirstName, txtLastName, txtUserName, txtPassword, txtConfPassword; Button btnRegister;

    @Override protected void onCreate(Bundle
savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_practical141); txtFirstName =
        findViewById(R.id.txtFirstName); txtLastName = findViewById(R.id.txtLastName); txtUserName =
        findViewById(R.id.txtUserName); txtPassword =
        findViewById(R.id.txtPassword); txtConfPassword =
        findViewById(R.id.txtConfirmPassword);

        btnRegister = findViewById(R.id.btnRegister);
        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) { if
                (TextUtils.isEmpty(txtFirstName.getText()))
                {
                    TastyToast.makeText(getApplicationContext(), "First Name Required",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
                } else if (TextUtils.isEmpty(txtLastName.getText()))
                {
                    TastyToast.makeText(getApplicationContext(), "Last Name Required",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
                } else if (TextUtils.isEmpty(txtUserName.getText()))
                {
                    TastyToast.makeText(getApplicationContext(), "Email ID Required",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
                } else if (TextUtils.isEmpty(txtPassword.getText()))
                {
                    TastyToast.makeText(getApplicationContext(), "Password Required",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
                } else if (TextUtils.isEmpty(txtConfPassword.getText()))
                {
                    TastyToast.makeText(getApplicationContext(), "Confirm Required", Password
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
                }
            } else
            {if
                (txtConfPassword.getText().toString().equals(txtPassword.getText().toString()))
                {registerUser(txtFirstName.getText().toString().trim(),

```

```

txtLastName.getText().toString().trim(), txtUserName.getText().toString().trim(),
txtConfPassword.getText().toString().trim()); } else {
    TastyToast.makeText(getApplicationContext(), "Passwords are not same",
TastyToast.LENGTH_SHORT, TastyToast.ERROR);
    }
    }
    }
    });
}

```

```

private void registerUser(String firstname, String lastname, String username, String password)
{ StringRequest stringRequest = new StringRequest(Request.Method.POST,
"http://18.224.170.148/IMCOSTMCA/Account/RegisterUser", new
    Response.Listener<String>()
    { @Override
    public void onResponse(String response)
        { Toast.makeText(getApplicationContext(), response, Toast.LENGTH_LONG).show(); }
    },
    new Response.ErrorListener()
    { @Override
    public void onErrorResponse(VolleyError error)
        { Toast.makeText(getApplicationContext(), error.getMessage(),
Toast.LENGTH_SHORT).show();
    }
    }) {
    @Override
    protected Map<String, String> getParams() throws AuthFailureError
    { Map<String, String> params = new HashMap<>();
    params.put("firstname", firstname); params.put("lastname", lastname);
    params.put("username",
    username); params.put("password",
    password); return params;
    }
    };

    RequestQueue requestQueue = Volley.newRequestQueue(getApplicationContext());
    requestQueue.add(stringRequest);
}
}

```

activity_practical142.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:layout_margin="10dp" android:orientation="vertical"
    tools:context=".Practical_14_2">

    <EditText android:id="@+id/txtUserName"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:hint="Enter Email ID" />

    <EditText android:id="@+id/txtPassword"
        android:layout_width="match_parent"
        android:layout_height="80dp"
        android:hint="Enter Password" />

    <Button android:id="@+id/btnLogin"
        android:layout_width="match_parent"
        " android:layout_height="80dp"
        android:text="Login"
        android:textSize="20dp" />
</LinearLayout> Practical 14 2.java package

com.imcostmca.wmtpracticals; import

androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; import android.text.TextUtils;

import android.util.Log; import

android.view.View; import

android.widget.Button; import
    android.widget.EditText; import
    android.widget.Toast;

import com.android.volley.AuthFailureError; 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.StringRequest; import
com.android.volley.toolbox.Volley;         import
com.sdsmdg.tastytoast.TastyToast;

import      java.util.HashMap; import java.util.Map;

public class Practical_14_2 extends AppCompatActivity

    {Button btnLogin;
    EditText      txtUserName,txtPassword;
    @Override
    protected void onCreate(Bundle savedInstanceState)
        {super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_practical142); txtUserName      =
            findViewById(R.id.txtUserName);
        txtPassword=findViewById(R.id.txtPassword); btnLogin =
            findViewById(R.id.btnLogin);

        btnLogin.setOnClickListener(new View.OnClickListener()
            {@Override
            public void onClick(View v)
                { if(TextUtils.isEmpty(txtUserName.getText()) &&
                TextUtils.isEmpty(txtPassword.getText())){ TastyToast.makeText(getApplicationContext(),
                "Enter Credentials",TastyToast.LENGTH_SHORT,TastyToast.ERROR); } else {

login(txtUserName.getText().toString().trim(),txtPassword.getText().toString().trim());
                }
            }
        }); } protected void login(String username,String
password){
    StringRequest      stringRequest      =      new      StringRequest(Request.Method.POST,
"http://18.224.170.148/IMCOSTMCA/Account/Login", new
    Response.Listener<String>()
        {@Override
        public void onResponse(String response)
            { Log.d("Server_Response",response); Toast.makeText(getApplicationContext(), response,
Toast.LENGTH_LONG).show();
            }
        },
        new Response.ErrorListener()
            {@Override
            public void onErrorResponse(VolleyError error)

```

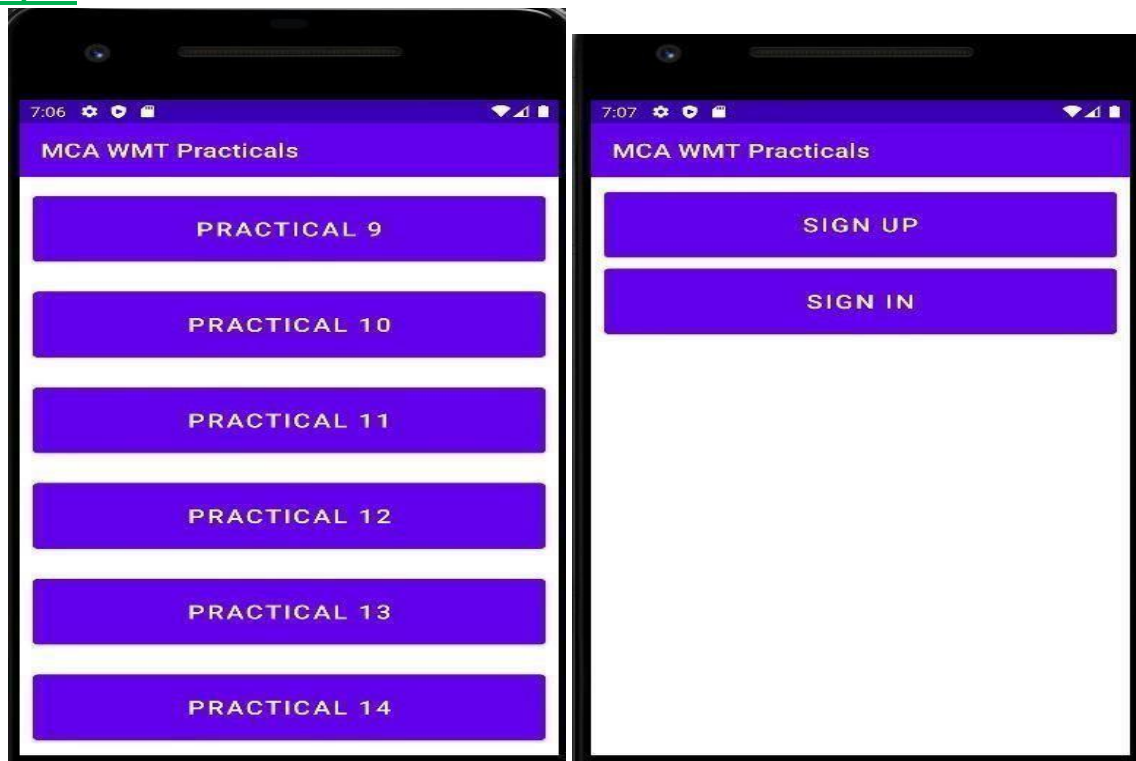
```

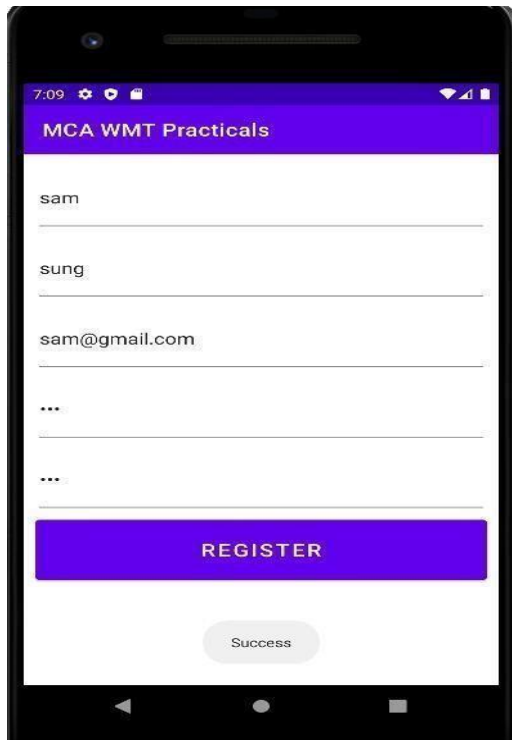
        { Toast.makeText(getApplicationContext(),    error.getMessage(),
        Toast.LENGTH_SHORT).show();
    }
    }) {

        @Override
        protected Map<String, String> getParams() throws
            AuthFailureError {Map<String, String> params = new
            HashMap<>();  params.put("username",  username);
            params.put("password", password); return params; }
    };

    RequestQueue    requestQueue =    Volley.newRequestQueue(getApplicationContext());
    requestQueue.add(stringRequest);
}
}

```

Output:



7:09

MCA WMT Practicals

sam

sung

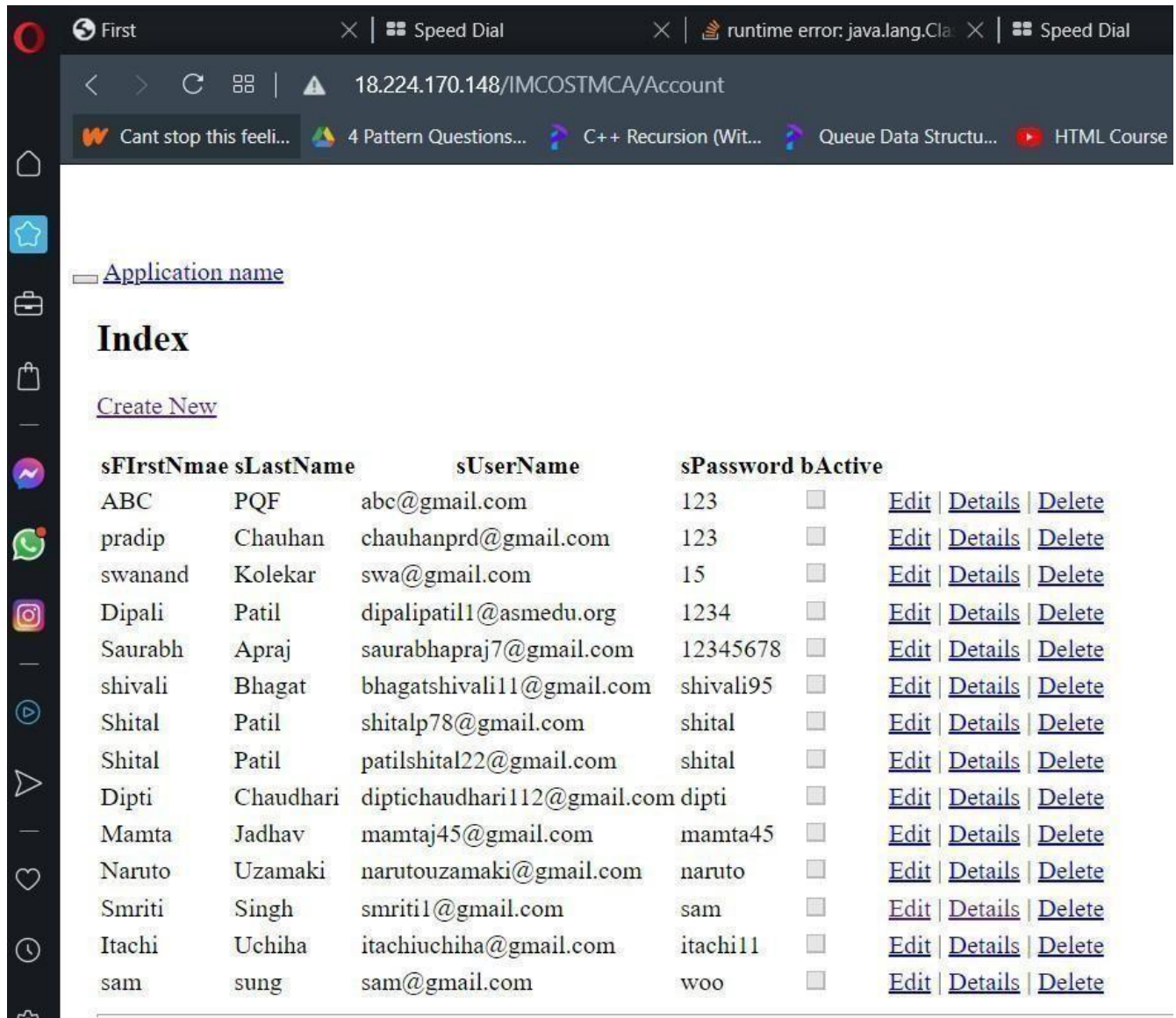
sam@gmail.com

...

...

REGISTER

Success



Application name

Index

[Create New](#)

sFirstNmae	sLastName	sUserName	sPassword	bActive	
ABC	PQF	abc@gmail.com	123	<input type="checkbox"/>	Edit Details Delete
pradip	Chauhan	chauhanprd@gmail.com	123	<input type="checkbox"/>	Edit Details Delete
swanand	Kolekar	swa@gmail.com	15	<input type="checkbox"/>	Edit Details Delete
Dipali	Patil	dipalipatil1@asmedu.org	1234	<input type="checkbox"/>	Edit Details Delete
Saurabh	Apraj	saurabhapraj7@gmail.com	12345678	<input type="checkbox"/>	Edit Details Delete
shivali	Bhagat	bhagatshivali11@gmail.com	shivali95	<input type="checkbox"/>	Edit Details Delete
Shital	Patil	shitalp78@gmail.com	shital	<input type="checkbox"/>	Edit Details Delete
Shital	Patil	patilshital22@gmail.com	shital	<input type="checkbox"/>	Edit Details Delete
Dipti	Chaudhari	diptichaudhari112@gmail.com	dipti	<input type="checkbox"/>	Edit Details Delete
Mamta	Jadhav	mamtaj45@gmail.com	mamta45	<input type="checkbox"/>	Edit Details Delete
Naruto	Uzamaki	narutouzamaki@gmail.com	naruto	<input type="checkbox"/>	Edit Details Delete
Smriti	Singh	smriti1@gmail.com	sam	<input type="checkbox"/>	Edit Details Delete
Itachi	Uchiha	itachiuchiha@gmail.com	itachi11	<input type="checkbox"/>	Edit Details Delete
sam	sung	sam@gmail.com	woo	<input type="checkbox"/>	Edit Details Delete

