

BUNTS SANGHA'S
S.M. SHETTY COLLEGE OF SCIENCE, COMMERCE & MANAGEMENT STUDIES,
POWAI, MUMBAI-76



SUBJECT: ADVANCED MOBILE PROGRAMMING

CLASS: T.Y.B.Sc.I.T (2023-24)

SEMESTER: VI

SUBMITTED BY (Name): YADAV ANIL SUNIL

ROLL NUMBER: 142

SEAT NUMBER: _____

SUBMITTED TO
DEPARTMENT OF INFORMATION TECHNOLOGY

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Subject In-charge

Coordinator

External Examiner

For Partial Fulfillment for Degree of
Bachelor of Science in IT (*Information Technology*) in 2023-24

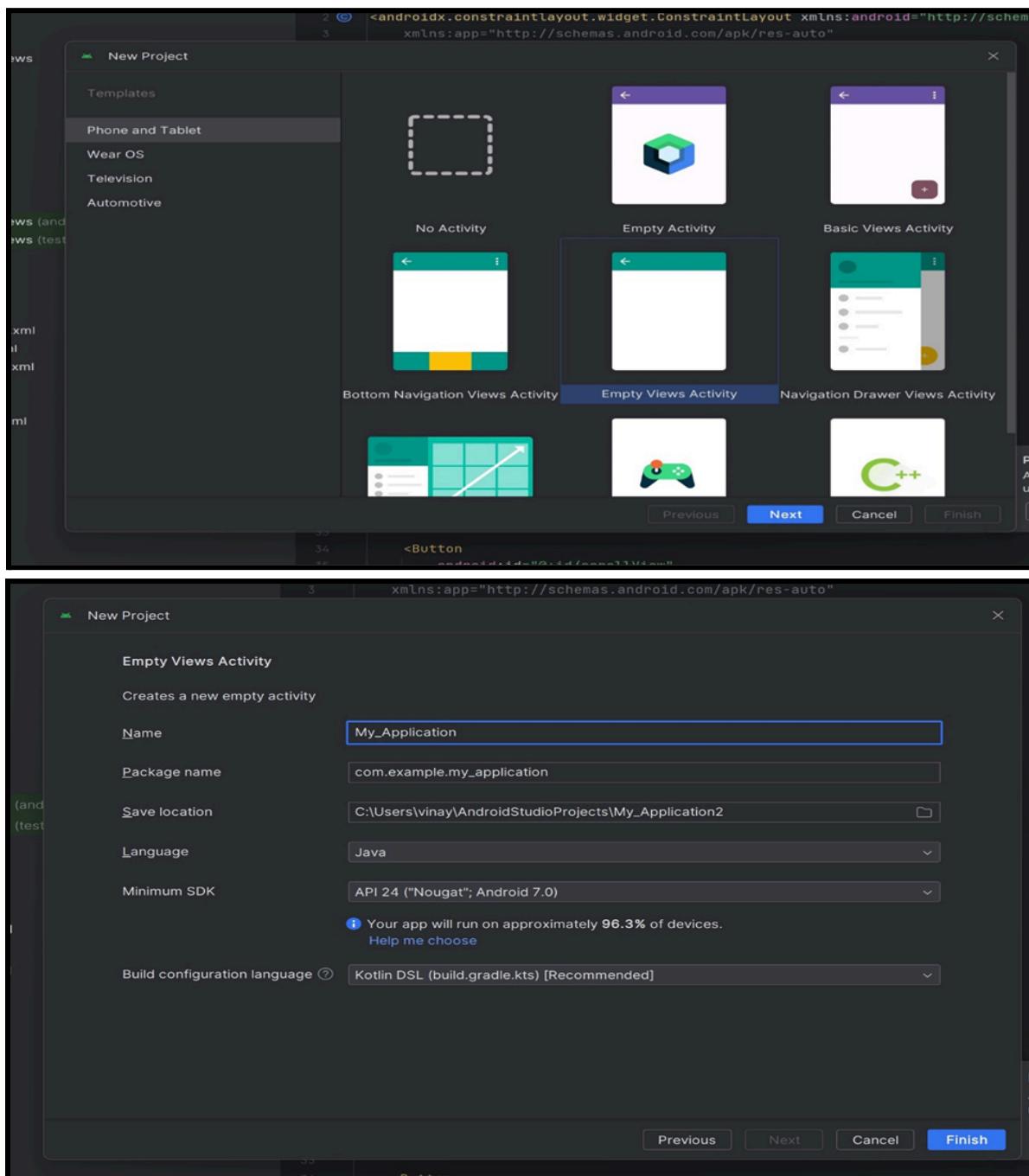
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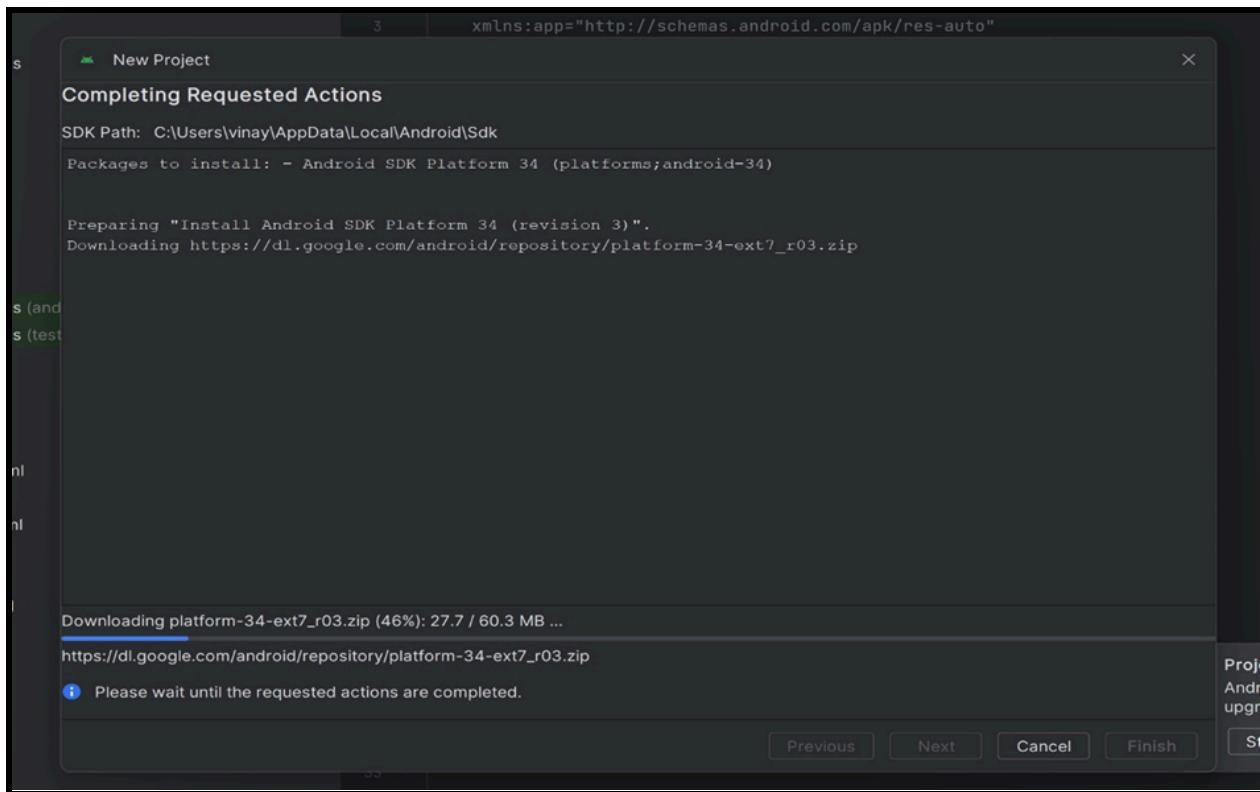
Sr. No	Date	Practicals	Pg. No.	Sign
1.		Introduction to Android, Introduction to Android Studio IDE, Application Fundamentals		
2.		Programming Resources		
3.		Programming Activities and fragments		
4.		Programs related to different Layouts		
5.		Programming UI elements		
6.		Programming menus, dialog, dialog fragment		
7.		Programs on Intents, Events, Listeners and Adapters		
8.		Programs on Services, notification and broadcast receivers		
9.		Database Programming with SQLite		
10.		Programming threads, handles and synchronized programs		
11.		Programming Media API and Telephone API		
12.		Programming Security and permissions		
13.		Programming Network Communications and Services (JSON)		

PRACTICAL 1

Introduction to Android, Introduction to Android Studio IDE, Application Fundamentals: Creating a Project, Android Components, Activities, Services, Content Providers, Broadcast Receivers, Interface overview, Creating Android Virtual device, USB debugging mode, Android Application Overview. Simple “Hello World” program.

CREATING ANDROID PROJECT





Activity_main.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        android:textSize="35dp"
        android:textColor="#FF4B2B"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

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

OUTPUT



PRACTICAL 2

Programming Resources: Android Resources: (Color, Theme, String, Drawable, Dimension, Image)

Activity_main.xml

```

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

    <TextView
        android:layout_width="@dimen/width"
        android:layout_height="@dimen/height"
        android:text="@string/display"
        android:textColor="#FFF"
        android:textFontWeight="@integer/material_motion_duration_medium_2"
        android:textSize="@dimen/text"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.764"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.072" />

    <ImageView
        android:id="@+id/my_image"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/devin_image"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

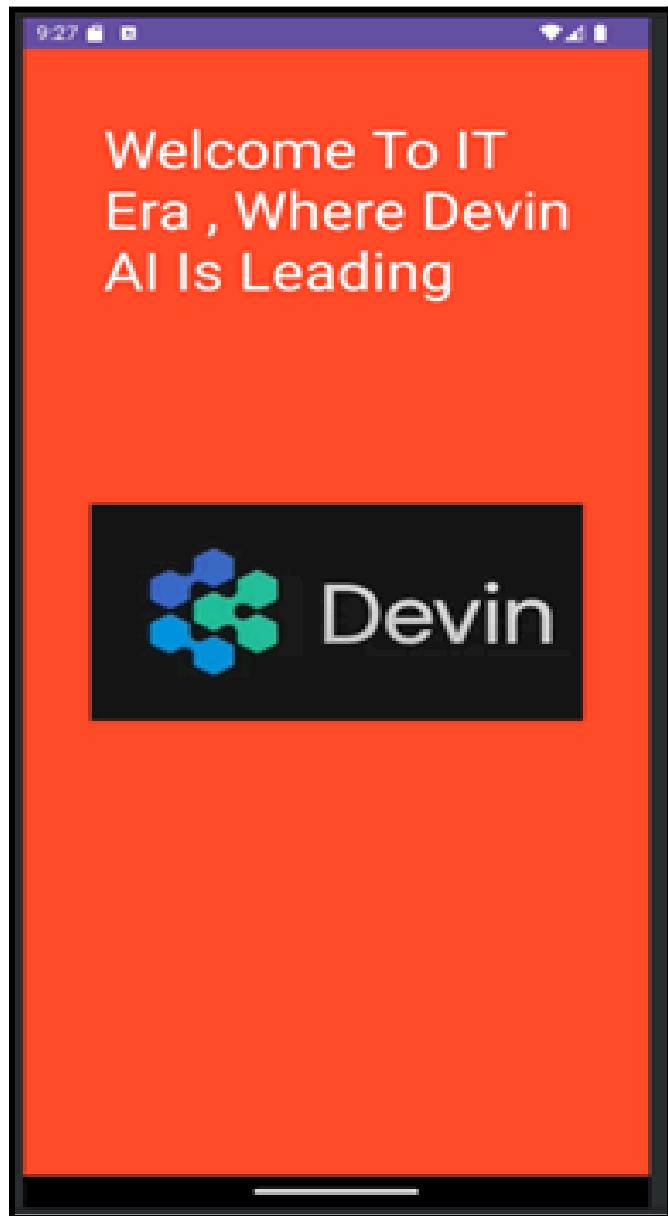
</androidx.constraintlayout.widget.ConstraintLayout>

```

Colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFF</color>
    <color name="custom">#FF4B2B</color> // custom color
</resources>
Strings.xml
<resources>
    <string name="app_name">My_Application</string>
    <string name="display">Welcome To IT Era , Where Devin AI Is Leading</string>
</resources>
Dimens.xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <dimen name="text">40dp</dimen>
    <dimen name="height">176dp</dimen>
    <dimen name="width">343dp</dimen>
</resources>
Themes.xml
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Base.Theme.My_Application"
parent="Theme.Material3.DayNight.NoActionBar">
        </style>
    <style name="Theme.My_Application" parent="Base.Theme.My_Application" />
</resources>
```

OUTPUT



PRACTICAL 3A

Programming Activities and fragments: Activity Life Cycle, Activity methods, Multiple Activities, Life Cycle of fragments and multiple fragments.

MainActivity.java

```
package com.example.my_application;

import androidx.appcompat.app.AppCompatActivity;
import androidx.lifecycle.Lifecycle;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {
    private static final String TAG = "Lifecycle";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(TAG, "In the onCreate() event");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.d(TAG, "In the onStart() event");
    }

    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d(TAG, "In the onRestart() event");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.d(TAG, "In the onResume() event");
    }

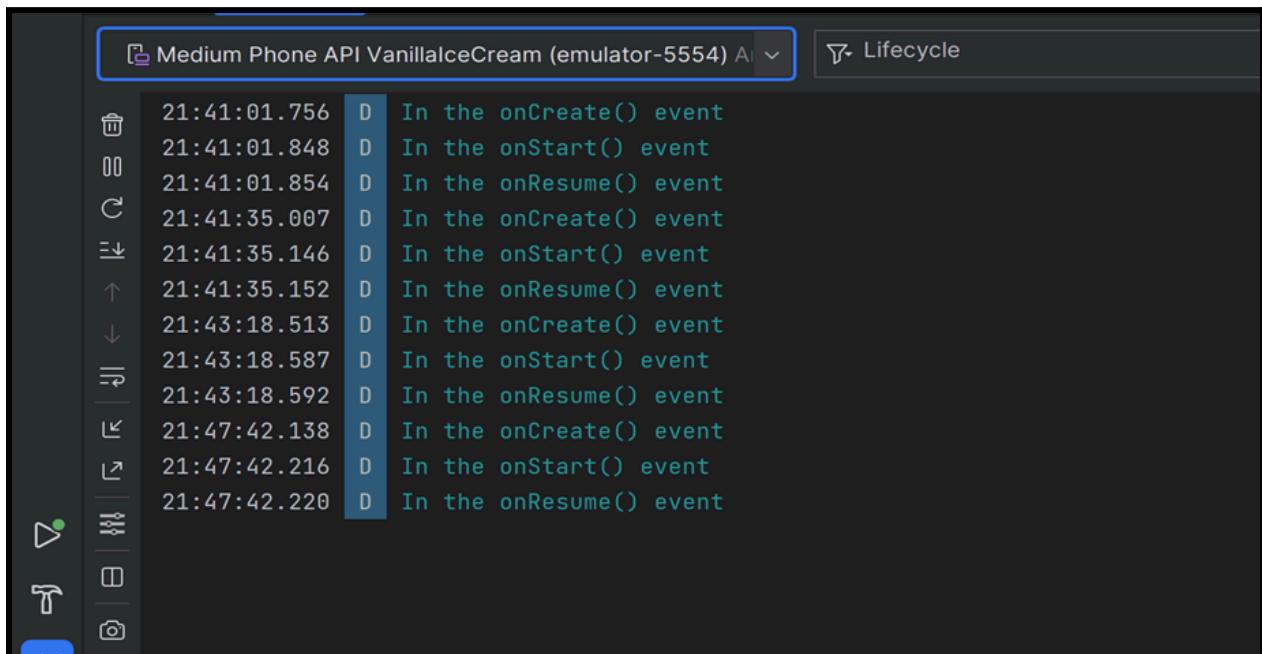
    @Override
    protected void onPause() {
```

```
super.onPause();
Log.d(TAG, "In the onPause() event");
}
```

```
@Override
protected void onStop() {
super.onStop();
Log.d(TAG, "In the onStop() event");
}
```

```
@Override
protected void onDestroy() {
super.onDestroy();
Log.d(TAG, "In the onDestroy() event");
}
}
```

OUTPUT



The screenshot shows the Android Logcat interface. The title bar indicates the device is a 'Medium Phone API VanillalceCream (emulator-5554)'. A dropdown menu is open, showing 'Lifecycle' as the selected filter. The log output displays the following entries:

Time	Priority	Message
21:41:01.756	D	In the onCreate() event
21:41:01.848	D	In the onStart() event
21:41:01.854	D	In the onResume() event
21:41:35.007	D	In the onCreate() event
21:41:35.146	D	In the onStart() event
21:41:35.152	D	In the onResume() event
21:43:18.513	D	In the onCreate() event
21:43:18.587	D	In the onStart() event
21:43:18.592	D	In the onResume() event
21:47:42.138	D	In the onCreate() event
21:47:42.216	D	In the onStart() event
21:47:42.220	D	In the onResume() event

PRACTICAL 3B**MainActivity.java**

```

package com.example.my_application;

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

public class MainActivity extends AppCompatActivity {

    private static final String TAG = "Lifecycle";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(TAG, "In the onCreate() event");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.d(TAG, "In the onStart() event");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.d(TAG, "In the onResume() event");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.d(TAG, "In the onPause() event");
    }

    @Override
    protected void onStop() {
        super.onStop();
        Log.d(TAG, "In the onStop() event");
    }
}

```

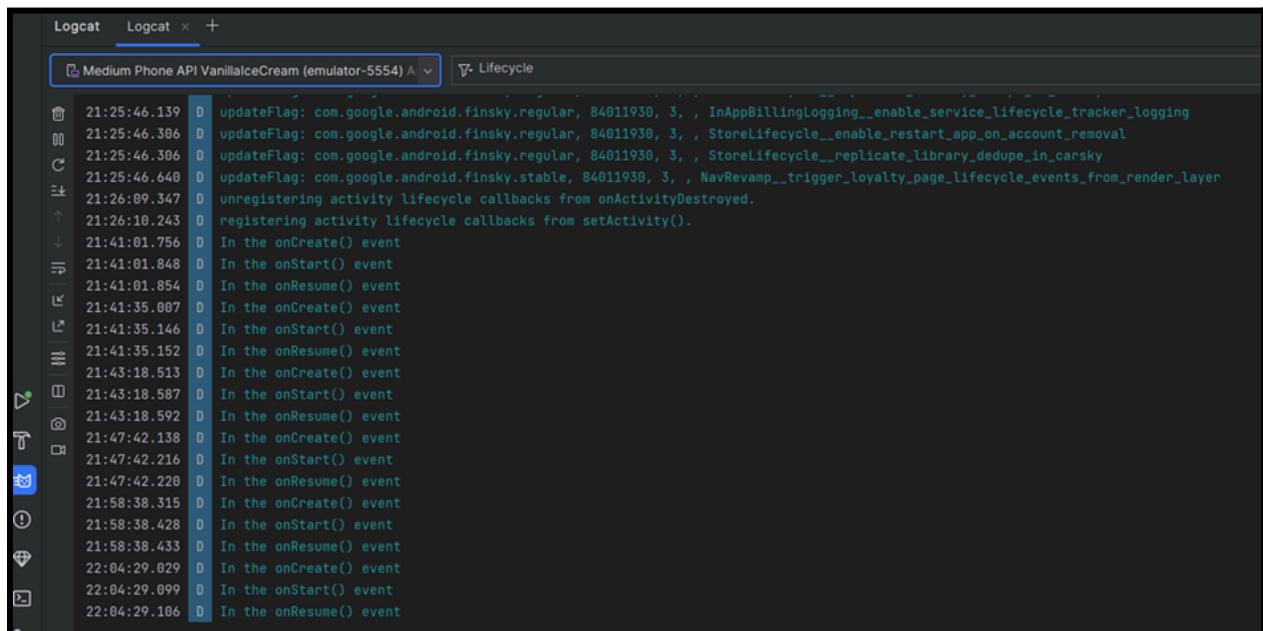
```

    }

@Override
protected void onDestroy() {
super.onDestroy();
Log.d(TAG, "In the onDestroy() event");
}
}

```

OUTPUT



The screenshot shows the Android Logcat window. The title bar says "Logcat" and "Logcat x +". Below the title bar is a dropdown menu showing "Medium Phone API VanillalceCream (emulator-5554) A". To the right of the dropdown is a "Filter" button with a dropdown arrow. The main area displays log entries. At the top of the log list, there is a header "D- Lifecycle". The log entries are as follows:

- 21:25:46.139 D updateFlag: com.google.android.finsky.regular, 84011930, 3, , InAppBillingLogging__enable_service_lifecycle_tracker_logging
- 21:25:46.306 D updateFlag: com.google.android.finsky.regular, 84011930, 3, , StoreLifecycle__enable_restart_app_on_account_removal
- C 21:25:46.306 D updateFlag: com.google.android.finsky.regular, 84011930, 3, , StoreLifecycle__replicate_library_dedupe_in_carsky
- 21:25:46.640 D unregistering activity lifecycle callbacks from onActivityDestroyed.
- 21:26:09.347 D registering activity lifecycle callbacks from setActivity().
- 21:26:10.243 D In the onCreate() event
- 21:41:01.756 D In the onStart() event
- 21:41:01.848 D In the onResume() event
- 21:41:01.854 D In the onCreate() event
- 21:41:35.007 D In the onStart() event
- 21:41:35.146 D In the onResume() event
- 21:41:35.152 D In the onCreate() event
- 21:43:18.513 D In the onStart() event
- 21:43:18.587 D In the onResume() event
- 21:43:18.592 D In the onCreate() event
- 21:47:42.138 D In the onCreate() event
- 21:47:42.216 D In the onStart() event
- 21:47:42.220 D In the onResume() event
- 21:58:38.315 D In the onCreate() event
- 21:58:38.428 D In the onStart() event
- 21:58:38.433 D In the onResume() event
- 22:04:29.029 D In the onCreate() event
- 22:04:29.099 D In the onStart() event
- 22:04:29.106 D In the onResume() event

PRACTICAL 4

Programming Activities and fragments: Coordinate, Linear, Relative, Table, Absolute, Frame, List View, Grid View.

Main_activity.xml

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

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <Button
            android:id="@+id/relative"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Relative layout"
            android:layout_gravity="center"/>

        <Button
            android:id="@+id/linear"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Linear Layout"
            android:layout_gravity="center"/>

        <Button
            android:id="@+id/table"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Table Layout"
            android:layout_gravity="center"/>

        <Button
            android:id="@+id/scrollView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Scroll View Layout"
            android:layout_gravity="center"/>
    
```

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

        <Button
    android:id="@+id/absolute"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
        android:text="Absolute Layout"
    android:layout_gravity="center"/>

        <Button
    android:id="@+id/listview"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
        android:text="ListView"
    android:layout_gravity="center"/>

        <Button
    android:id="@+id/gridview"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
        android:text="GridView Layout"
    android:layout_gravity="center"/>

        <Button
    android:id="@+id/frameLayout"
        android:layout_width="wrap_content"
    android:layout_height="wrap_content"
        android:text="FrameLayout"
    android:layout_gravity="center"/>

</LinearLayout>

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

Absolute_layout.xml

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

    <Button
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:text="Button1"
        android:layout_x="50px"
        android:layout_y="30px"/>

    <Button
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:text="Button2"
        android:layout_x="200px"
        android:layout_y="350px"/>

    <Button
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:text="Button1"
        android:layout_x="350px"
        android:layout_y="730px"/>

</AbsoluteLayout>
```

Frame_layout.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=".FrameLayout">

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

    <FrameLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/lblComments"
        android:layout_centerHorizontal="true">

        <ImageView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:src="@drawable/image"/>
    </FrameLayout>
</RelativeLayout>
```

Grid_layout.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=".gridViewlayout">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="GridLayout"
        android:textSize="40dp"
        android:gravity="center"/>

    <GridView
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:id="@+id/gridview"
        android:numColumns="auto_fit"
        android:verticalSpacing="10dp"
        android:horizontalSpacing="10dp"
        android:columnWidth="90dp"
        android:stretchMode="columnWidth"
        android:gravity="center"/>

</LinearLayout>
```

Listview_layout.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=".ListView">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ListView1"
        android:textSize="37dp"

        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:id="@+id/tvt"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ListView2"
        android:textSize="37dp"

        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:id="@+id/tvt1"/>

    <ListView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/lv"
        android:layout_below="@+id/tvt">
    </ListView>
    <ListView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/tvt1">

    </ListView>
</RelativeLayout>
```

Relative_layout.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=".RelativeLayout">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:textSize="30dp"
        android:textWeight="@integer/material_motion_duration_long_2"
        android:text="realative"/>
</RelativeLayout>
```

Scroll_layout.xml

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

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

        <ImageView
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:layout_marginBottom="10dp"
            android:src="@drawable/image"/>

        <ImageView
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:layout_marginBottom="10dp"
            android:src="@drawable/image"/>

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

```
    android:layout_height="200dp"
    android:layout_marginBottom="10dp"
    android:src="@drawable/image"/>

<ImageView
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_marginBottom="10dp"
    android:src="@drawable/image"/>

</LinearLayout>

</ScrollView>
```

Table_layout.xml

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

    <TableRow>

        <TextView
            android:layout_height="50dp"
            android:layout_width="wrap_content"
            android:layout_marginLeft="30dp"
            android:text="Row 1,Column1"/>

        <TextView
            android:layout_height="50dp"
            android:layout_width="wrap_content"
            android:layout_marginLeft="100dp"
            android:text="Row 1,Column2"/>

    </TableRow>

    <TableRow>

        <TextView
            android:layout_height="50dp"
            android:layout_width="wrap_content"
            android:layout_marginLeft="30dp"
            android:text="Row 2,Column1"/>

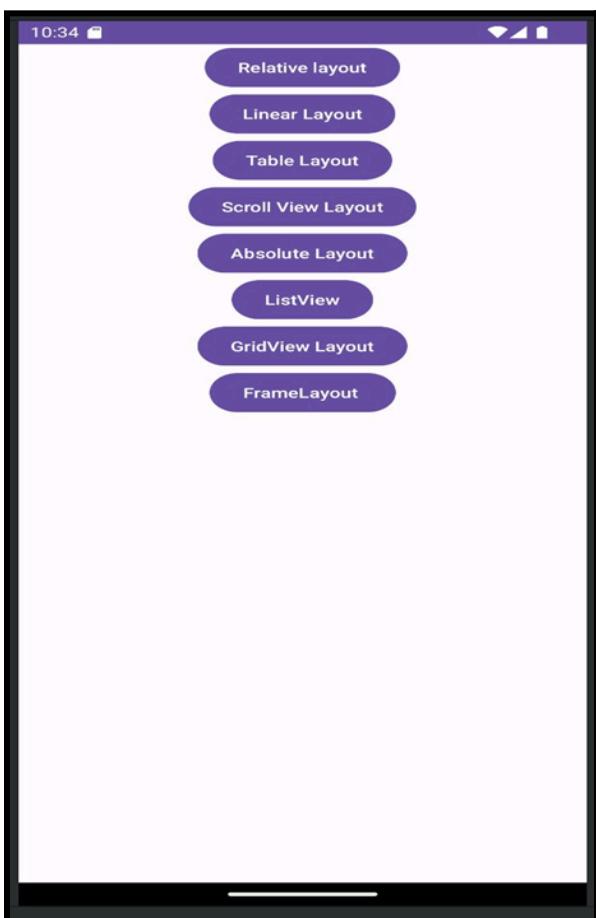
        <TextView
            android:layout_height="50dp"
            android:layout_width="wrap_content"
            android:layout_marginLeft="100dp"
            android:text="Row 2,Column2"/>

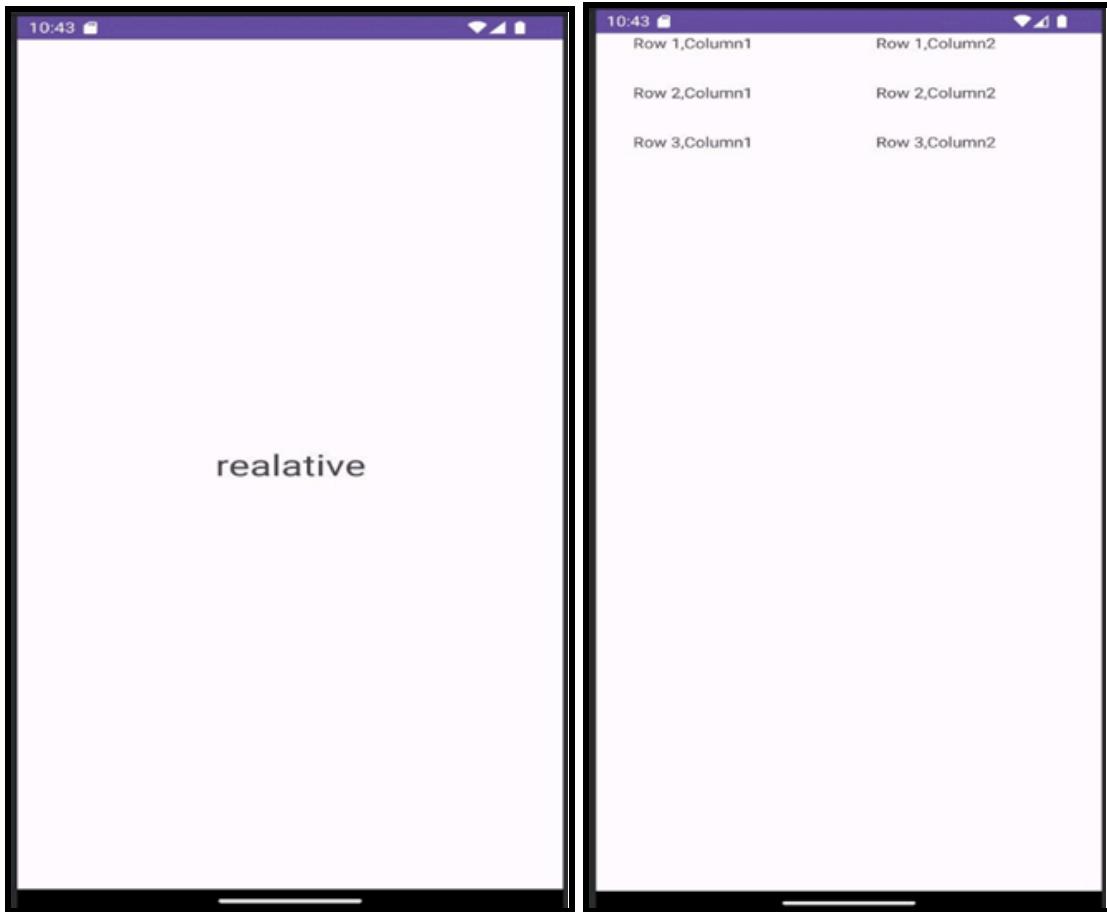
    </TableRow>

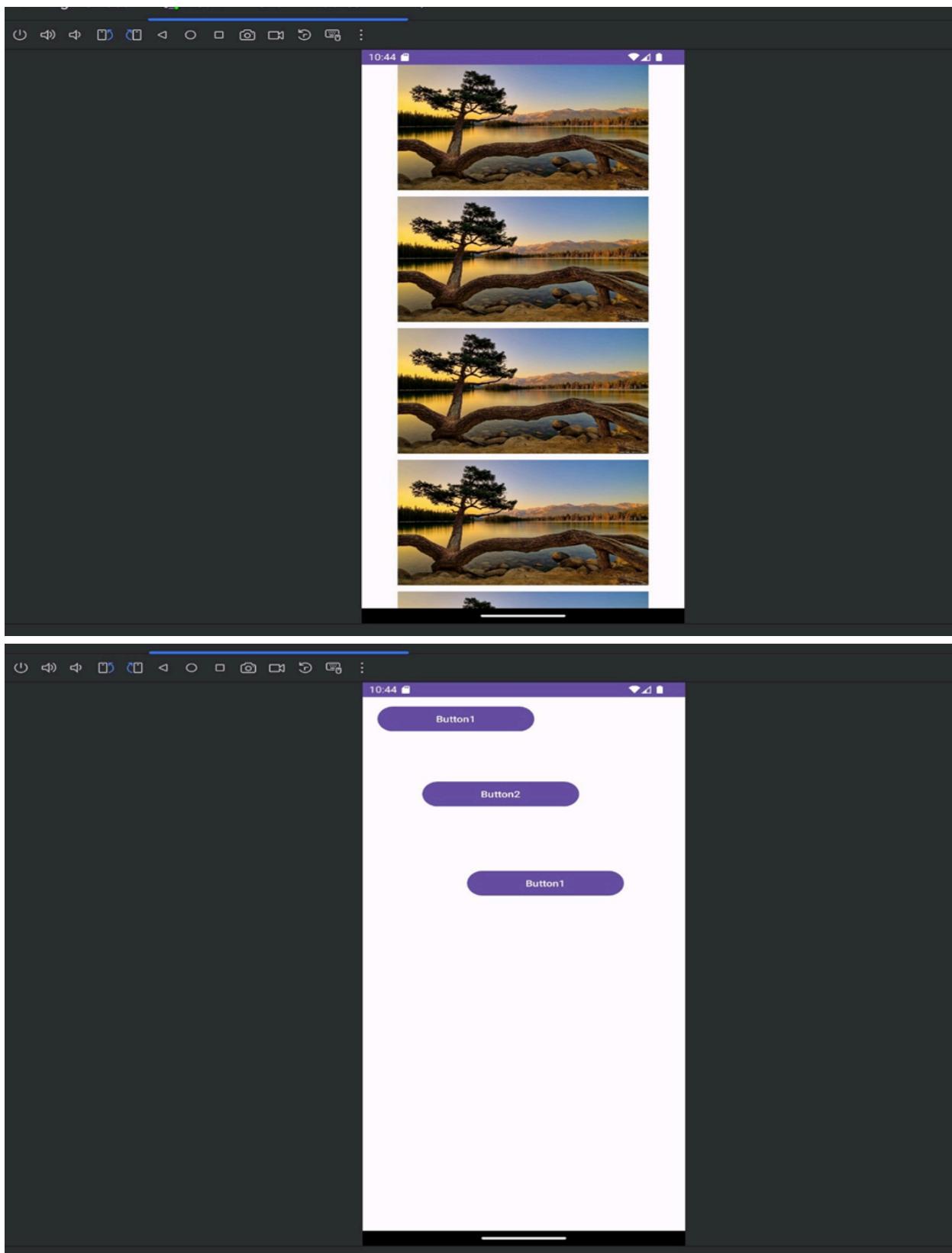
    <TableRow>
```

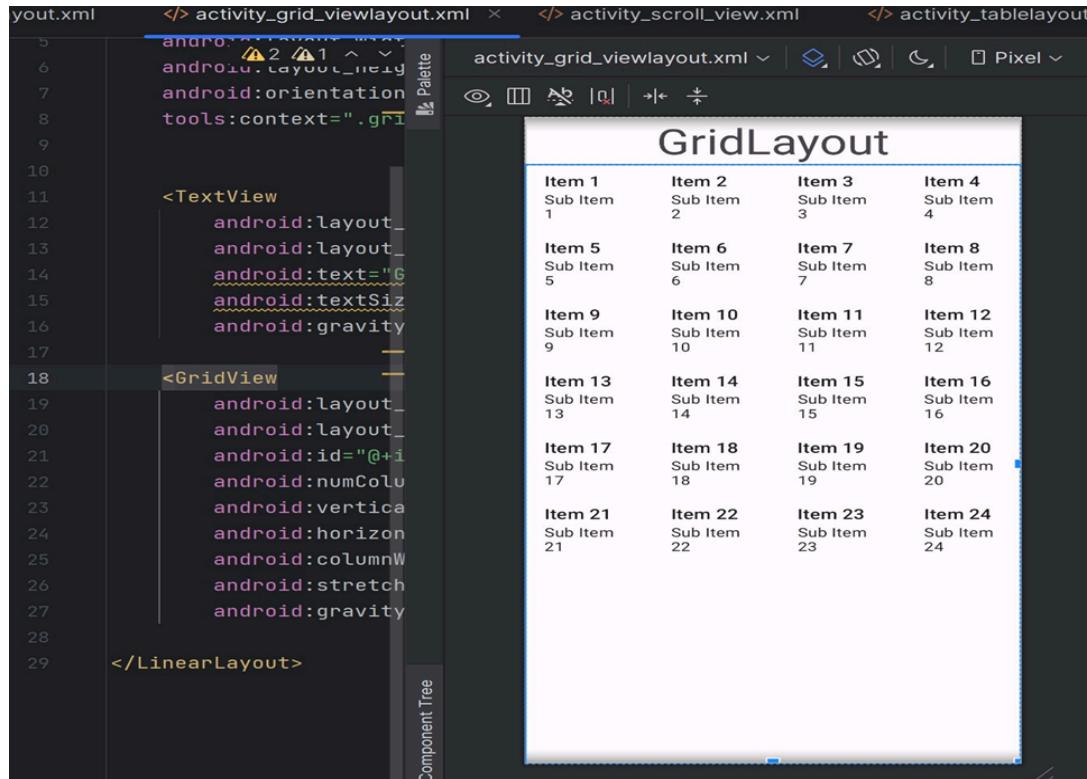
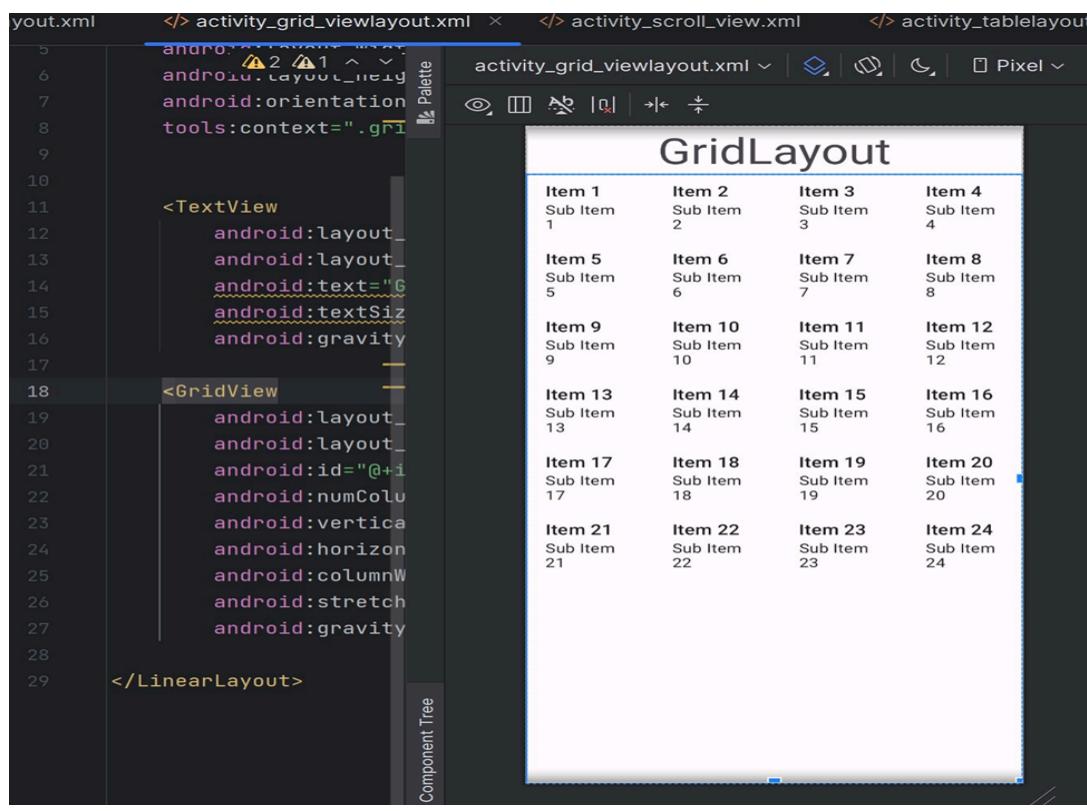
```
<TextView  
    android:layout_height="50dp"  
    android:layout_width="wrap_content"  
    android:layout_marginLeft="30dp"  
    android:text="Row 3,Column1"/>  
  
<TextView  
    android:layout_height="50dp"  
    android:layout_width="wrap_content"  
    android:layout_marginLeft="100dp"  
    android:text="Row 3,Column2"/>  
  
</TableRow>  
  
</TableLayout>
```

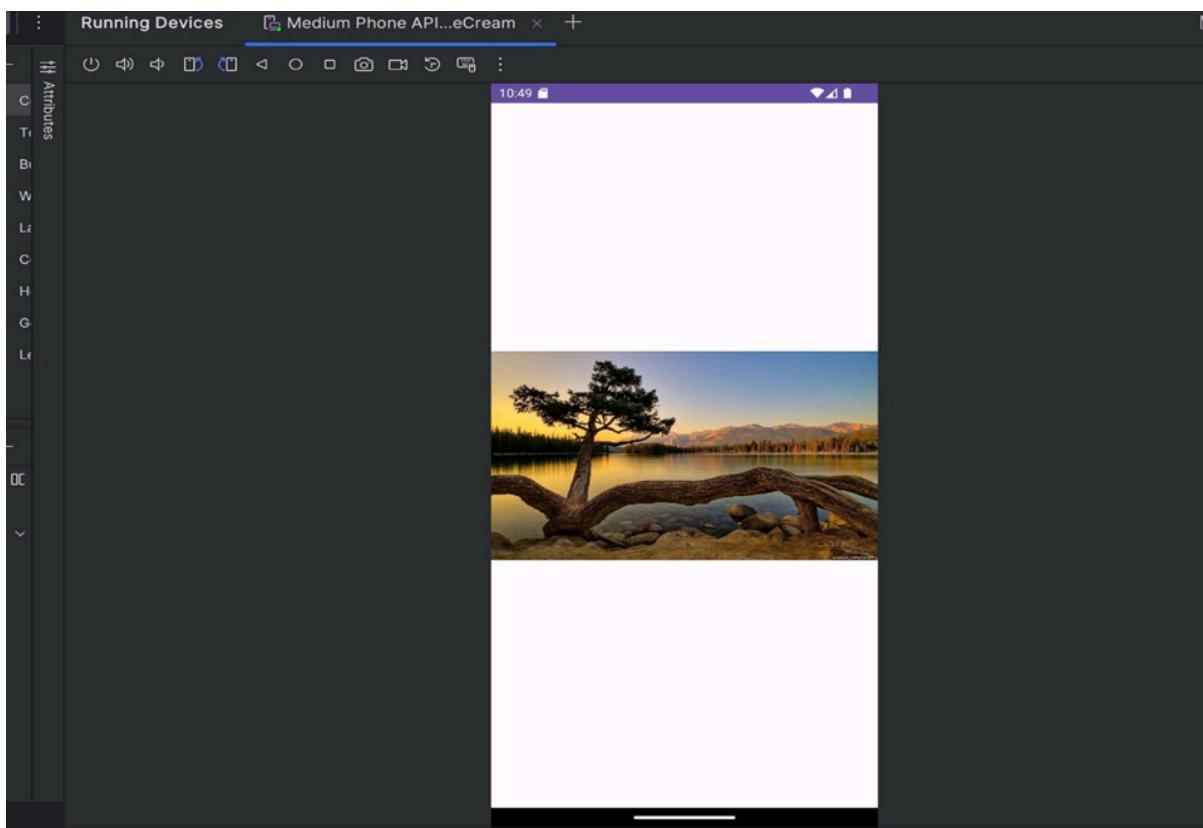
OUTPUT











PRACTICAL 5**Programming UI Elements****APPBAR****Activity_main.xml**

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

Code: toolbar_layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.appcompat.widget.Toolbar
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:background="#2196F3"
    android:theme="@style/Theme.Material3.Dark.NoActionBar"
    app:popupTheme="@style/ThemeOverlay.AppCompat.Light"
    android:id="@+id/toolBar">
</androidx.appcompat.widget.Toolbar>
```

Code: Appbar.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.appcompat.widget.Toolbar
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:background="#2196F3"
    android:theme="@style/Theme.Material3.Dark.NoActionBar"
    app:popupTheme="@style/ThemeOverlay.AppCompat.Light"
    android:id="@+id/toolBar">
</androidx.appcompat.widget.Toolbar>
```

Activity_main.java

```
package com.example.toolbar;
import androidx.annotation.NonNull;
```

```
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.Toolbar;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    Toolbar tbar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        tbar=findViewById(R.id.toolBar);
        setSupportActionBar(tbar);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater mi = getMenuInflater();
        mi.inflate(R.menu.appp_bar_menu,menu);
        return super.onCreateOptionsMenu(menu);
    }
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        if (item.getItemId()==R.id.search)
            Toast.makeText(this, "Search menu click", Toast.LENGTH_SHORT).show();
        if (item.getItemId()==R.id.save)
            Toast.makeText(this, "Search save click", Toast.LENGTH_SHORT).show();
        if (item.getItemId()==R.id.setting)
            Toast.makeText(this, "Search setting click", Toast.LENGTH_SHORT).show();
        return super.onOptionsItemSelected(item);
    }
}
```

OUTPUT



PRACTICAL 5B

FRAGMENTS

Activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity">
<FrameLayout
    android:id="@+id/container"
    android:layout_width="match_parent"
    android:layout_height="match_parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
Code: first_fragment.xml
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".First_Fragment">
<Button
    android:id="@+id/first_fragment_btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="109dp"
    android:layout_marginEnd="110dp"
    android:layout_marginBottom="340dp"
    android:text="open second fragment"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent" />
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="123dp"
    android:layout_marginTop="174dp"
    android:layout_marginEnd="157dp"
    android:text="this is First Fragment"

```

```

    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Second_fragment.xml

```

<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".First_Fragment">
    <Button
        android:id="@+id/second_fragment_btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="109dp"
        android:layout_marginEnd="110dp"
        android:layout_marginBottom="340dp"
        android:text="open second fragment"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent" />
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="123dp"
        android:layout_marginTop="174dp"
        android:layout_marginEnd="157dp"
        android:text="this is Second Fragment"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Code: Third_fragment.xml

```

<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```

```

tools:context=".First_Fragment">
    <Button
        android:id="@+id/third_fragment_btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="109dp"
        android:layout_marginEnd="110dp"
        android:layout_marginBottom="340dp"
        android:text="open second fragment"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent" />
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="123dp"
        android:layout_marginTop="174dp"
        android:layout_marginEnd="157dp"
        android:text="this is Third Fragment"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity_main.java

```

package com.example.navigatefragment;
import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    FragmentManager fragmentManager;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        fragmentManager = getSupportFragmentManager();
        if (findViewById(R.id.container)!=null)
        {
            if (savedInstanceState!=null){
                return; }
            FragmentTransaction fragmentTransaction=fragmentManager.beginTransaction();
            First_Fragment ff =new First_Fragment();
            fragmentTransaction.add(R.id.container,ff,null);
        }
    }
}

```

```

        fragmentTransaction.commit();
    }
}
First_Fragment.java
package com.example.navigatefragment;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentTransaction;
// import com.example.navigatefragment.MainActivity;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;

public class First_Fragment extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
            Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        View view = inflater.inflate(R.layout.fragment_first_, container, false);
        Button btnNext = view.findViewById(R.id.first_fragment_btn);
        btnNext.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                FragmentTransaction transaction = getParentFragmentManager().beginTransaction();
                transaction.replace(R.id.container, new Second_Fragment());
                transaction.addToBackStack(null); // Optional: Add to back stack to enable back
                navigation
                transaction.commit();});}); return view; }

```

Second_Fragment.java

```

package com.example.navigatefragment;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentTransaction;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
public class Second_Fragment extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
            Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        View view = inflater.inflate(R.layout.fragment_second_, container, false);
        Button btnNext = view.findViewById(R.id.second_fragment_btn);
        btnNext.setOnClickListener(new View.OnClickListener() {

```

```

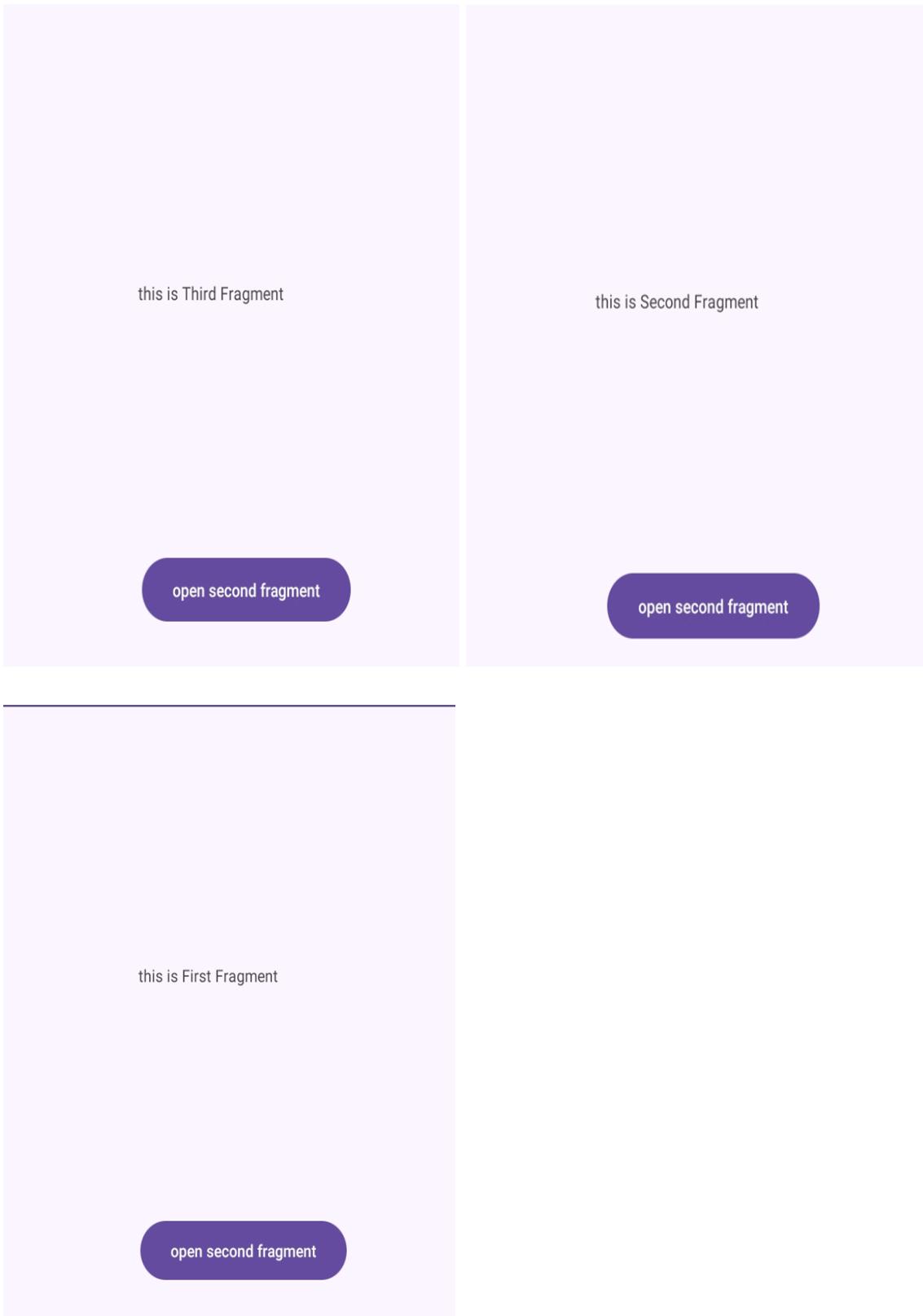
@Override
public void onClick(View v) {
    FragmentTransaction transaction = getParentFragmentManager().beginTransaction();
    transaction.replace(R.id.container, new Third_Fragment());
    transaction.addToBackStack(null); // Optional: Add to back stack to enable back
navigation
    transaction.commit(); }});return view;}}
```

Third_Fragment.java

```

package com.example.navigatefragment;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentTransaction;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
public class Third_Fragment extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        View view = inflater.inflate(R.layout.fragment_third_, container, false);
        Button btnNext = view.findViewById(R.id.third_fragment_btn);
        btnNext.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                FragmentTransaction transaction = getParentFragmentManager().beginTransaction();
                transaction.replace(R.id.container, new First_Fragment());
                transaction.addToBackStack(null); // Optional: Add to back stack to enable back
navigation
                transaction.commit();
            }
        });
        return view;}}
```

OUTPUT:



PRACTICAL 5C**UI COMPONENTS****Activity_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id	btnSave"
        android:text="Save"
        android:layout_alignParentTop="true" />
    <ImageButton
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/ib"
        android:src="@mipmap/ic_launcher" />
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="edit text"
        android:id="@+id/et" />
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/cb1"
        android:text="Auto Save"/>
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/cbst"
        android:text="Hello"
        style="?android:attr/starStyle" />
    <RadioGroup
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/rg">
        <RadioButton

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="option1"
        android:id="@+id/rb1"/>
    <RadioButton
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/rb2"
        android:text="Option 2" />
</RadioGroup>

<ToggleButton
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/tb"/>
</LinearLayout>

```

MainActivity.java

```

package com.example.practical_5c_ui_componants;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.CompoundButton;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
import android.widget.ToggleButton;
import androidx.annotation.IdRes;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    Button bsave;
    ImageButton imgb;
    CheckBox cb1, cbst;
    RadioButton rb1, rb2;
    EditText etext;
    RadioGroup rgroup;
    ToggleButton tbutton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bsave = findViewById(R.id.btnSave);
        imgb = findViewById(R.id.ib);
    }
}

```

```

etext = findViewById(R.id.et);
cb1 = findViewById(R.id.cb1);
cbst = findViewById(R.id.cbst);
rb1 = findViewById(R.id.rb1);
rb2 = findViewById(R.id.rb2);
tbutton = findViewById(R.id.tb);
rgroup = findViewById(R.id.rg);
bsave.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        showToast("Save Button clicked");
    }
});
imgb.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        showToast("ImageButton clicked");
    }
});
cb1.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
        if (isChecked)
            showToast("Checkbox Option1 is checked");
        else
            showToast("Checkbox unchecked");
    }
});
cbst.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
        if (isChecked)
            showToast("Checkbox Option2 is checked");
        else
            showToast("Checkbox unchecked");
    }
});
rb1.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
        if (isChecked)
            showToast("RadioButton 1 is checked");
        else
            showToast("RadioButton 1 is unchecked");
    }
});

```

```

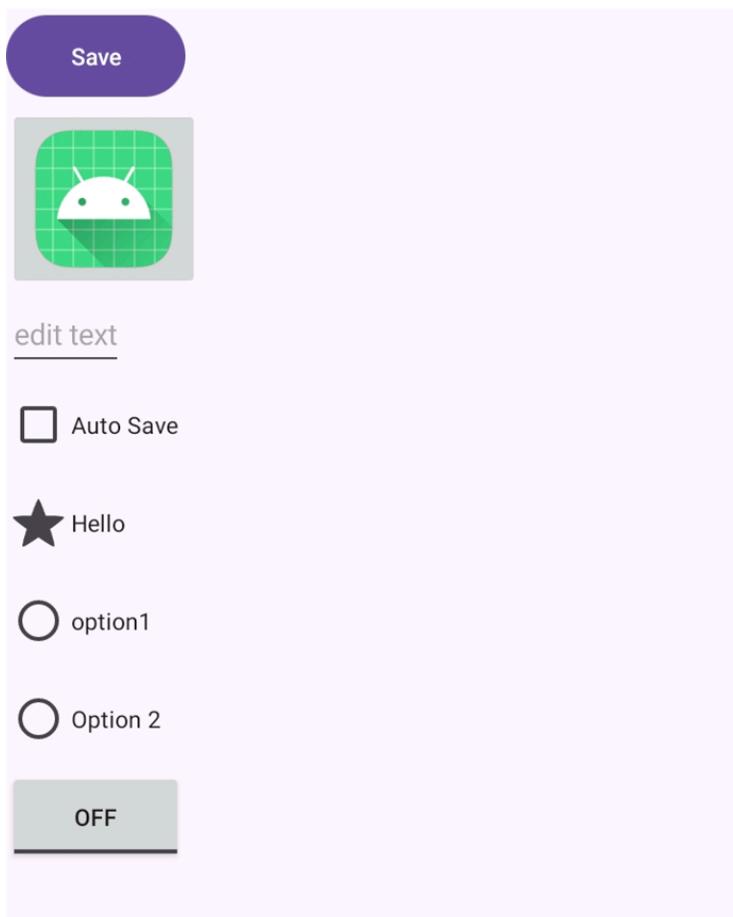
rb2.setOnCheckedChangeListener(new CompoundButton.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
        if (isChecked)
            showToast("RadioButton 2 is checked");
        else
            showToast("RadioButton 2 is unchecked");
    }
});

tbutton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (tbutton.isChecked())
            showToast("ToggleButton is ON");
        else
            showToast("ToggleButton is OFF");
    }
});

rgroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(RadioGroup group, @IdRes int checkedId) {
        RadioButton checkedRadioButton = findViewById(checkedId);
        showToast("Selected Radio Button: " + checkedRadioButton.getText());
    }
});

public void showToast(String message) {
    Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
}

```

OUTPUT:

PRACTICAL 6

Programming Menus, Dialog, DialogFragments

MENUS

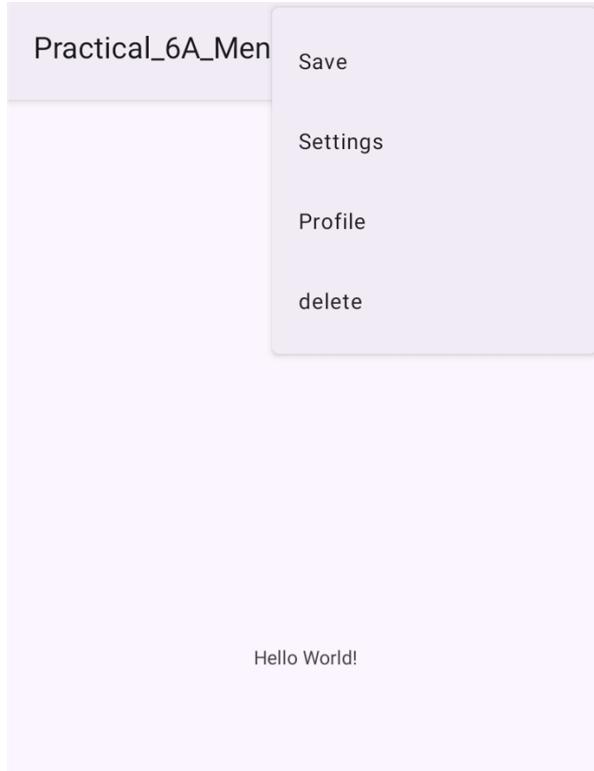
Main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Code:Main.java

```
package com.example.practical_6a_menu;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater mi = getMenuInflater();
        mi.inflate(R.menu.my_menu, menu);
        return true;
    }
}
```

```
@Override  
public boolean onOptionsItemSelected(MenuItem item) {  
    int id = item.getItemId();  
    if (id == R.id.save) {  
        Toast.makeText(this, "Save Selected", Toast.LENGTH_SHORT).show();  
        return true;  
    } else if (id == R.id.settings) {  
        Toast.makeText(this, "Settings Selected", Toast.LENGTH_SHORT).show();  
        return true;  
    } else if (id == R.id.delete) {  
        Toast.makeText(this, "Delete Selected", Toast.LENGTH_SHORT).show();  
        return true;  
    } else if (id == R.id.profile) {  
        Toast.makeText(this, "Profile Selected", Toast.LENGTH_SHORT).show();  
        return true;  
    } else {  
        Toast.makeText(this, "Default", Toast.LENGTH_SHORT).show();  
    }  
    return super.onOptionsItemSelected(item);  
}
```

OUTPUT:

PRACTICAL 6B**Alertdilog DatePickerDilog TimePicker Dialog****Main.xml**

```

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

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/button_dialog"
        android:onClick="onClickDialog"
        android:text="Click to display an AlertDialog"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/button_progressdialog"
        android:onClick="onClickProgressDialog"
        android:text="Click to display a ProgressDialog"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/button_datedialog"
        android:onClick="onClickDateDialog"
        android:text="Click to display a DatePickerDialog"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/button_timedialog"
        android:onClick="onClickTimeDialog"
        android:text="Click to display a TimePickerDialog"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/textView_date"
        android:textSize="50sp"/>

```

```

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/textView_time"
    android:textSize="50sp"/>
</LinearLayout>

```

Main.java

```

package com.example.practical_5c_ui_componants;

import android.app.DatePickerDialog;
import android.app.Dialog;
import android.app.ProgressDialog;
import android.app.TimePickerDialog;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.CompoundButton;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;
import android.widget.TimePicker;
import android.widget.Toast;
import android.widget.ToggleButton;

import androidx.annotation.IdRes;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import java.util.Calendar;

public class MainActivity extends AppCompatActivity {

    CharSequence[] items = {"Android", "Security", "Cloud"};
    boolean[] itemsChecked = new boolean[items.length];

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

```

```

    }

    public void onClickDialog(View v) {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setTitle("This is a dialog with simple Text...");
        builder.setPositiveButton("OK", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int id) {
                Toast.makeText(getApplicationContext(), "OK Clicked", Toast.LENGTH_SHORT).show();
            }
        });
        builder.setNegativeButton("CANCEL", new DialogInterface.OnClickListener() {
            public void onClick(DialogInterface dialog, int id) {
                Toast.makeText(getApplicationContext(), "CANCEL Clicked",
                    Toast.LENGTH_SHORT).show();
            }
        });
        builder.setMultiChoiceItems(items, itemsChecked, new
        DialogInterface.OnMultiChoiceClickListener() {
            public void onClick(DialogInterface dialog, int id, boolean isChecked) {
                Toast.makeText(getApplicationContext(), items[id] + (isChecked ? " checked!" : " uncheck!"),
                    Toast.LENGTH_SHORT).show();
            }
        });
        AlertDialog dialog = builder.create();
        dialog.show();
    }

    @SuppressWarnings("deprecation")
    public void onClickProgressDialog(View v) {
        ProgressDialog pDialog = new ProgressDialog(this);
        pDialog.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
        pDialog.setMessage("Loading.....");
        pDialog.incrementProgressBy(20);
        pDialog.setButton(Dialog.BUTTON_POSITIVE, "Stop Progress", new
        DialogInterface.OnClickListener() {
            public void onClick(DialogInterface dialog, int id) {
                dialog.dismiss();
            }
        });
        pDialog.show();
    }

    public void onClickDateDialog(View v) {
}

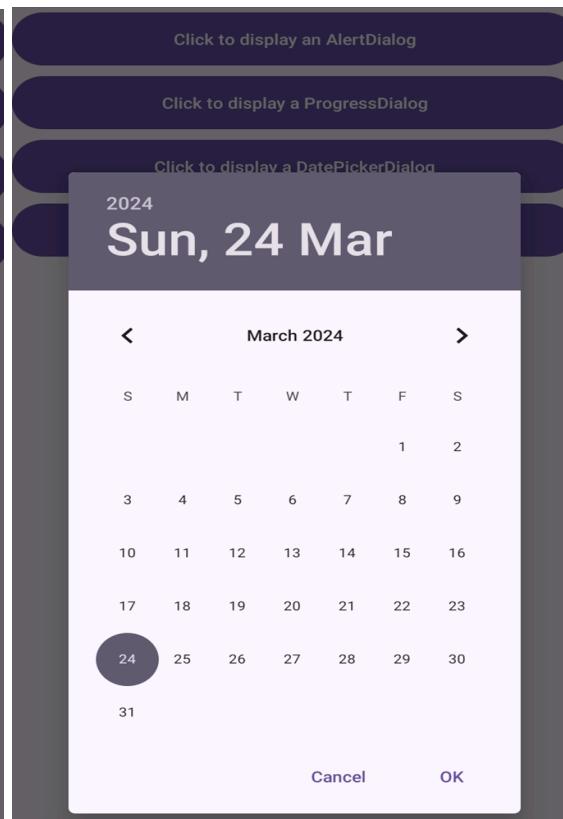
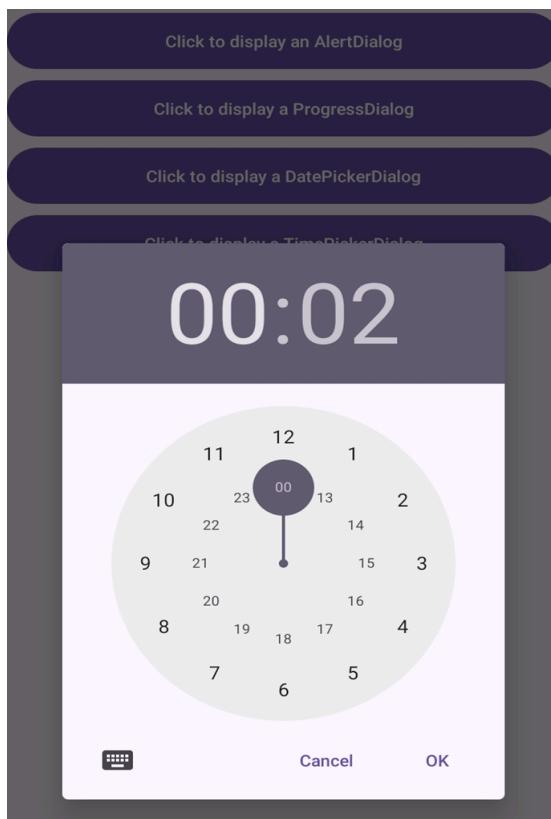
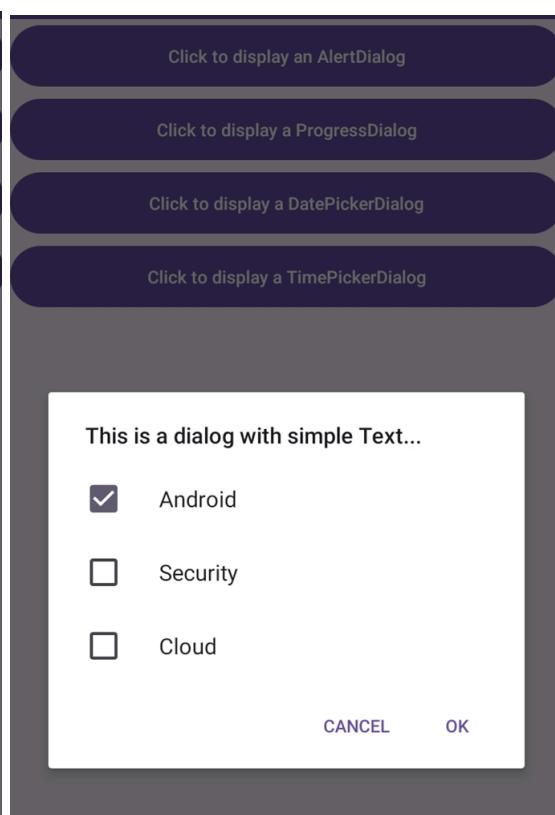
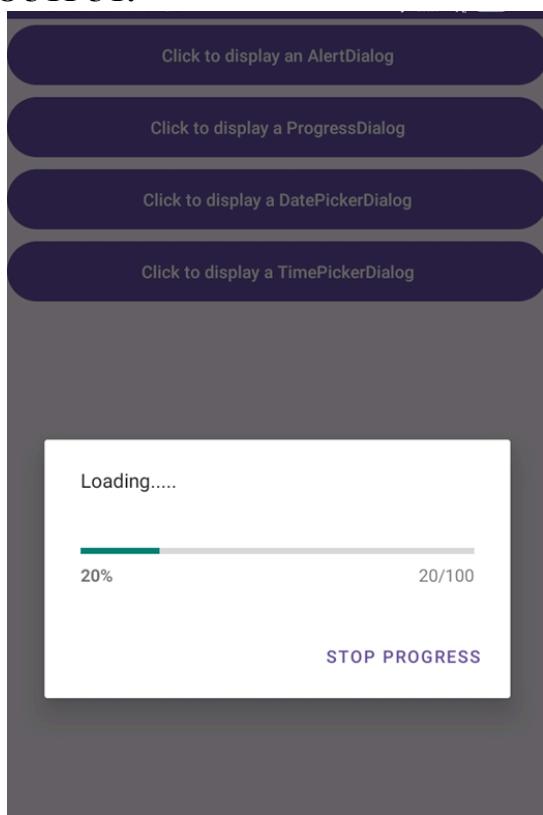
```

```

final int mYear, mMonth, mDay;
final TextView DateDisplay = (TextView) findViewById(R.id.textView_date);
DatePickerDialog dateDialog;
Calendar c = Calendar.getInstance();
mYear = c.get(Calendar.YEAR);
mMonth = c.get(Calendar.MONTH);
mDay = c.get(Calendar.DAY_OF_MONTH);
final DatePickerDialog.OnDateSetListener mDateSetListener = new
DatePickerDialog.OnDateSetListener() {
    public void onDateSet(DatePicker view, int year, int month, int day) {
        DateDisplay.setText(new StringBuilder().append("Date: ").append(month +
1).append(".").append(day).append("-").append(year));
    }
};
dateDialog = new DatePickerDialog(this, mDateSetListener, mYear, mMonth, mDay);
dateDialog.show();
}

public void onClickTimeDialog(View v) {
final int mHour, mMinute;
final TextView TimeDisplay = findViewById(R.id.textView_time);
TimePickerDialog timeDialog;
Calendar c = Calendar.getInstance();
mHour = c.get(Calendar.HOUR_OF_DAY);
mMinute = c.get(Calendar.MINUTE);
TimePickerDialog.OnTimeSetListener mTimeSetListener = new
TimePickerDialog.OnTimeSetListener() {
    public void onTimeSet(TimePicker view, int hour, int minute) {
        TimeDisplay.setText(new StringBuilder().append("Time: ")
).append(hour).append(":").append(minute));
    }
};
timeDialog = new TimePickerDialog(this, mTimeSetListener, mHour, mMinute, true);
timeDialog.show();
}
}

```

OUTPUT:

PRACTICAL 6C**Activity_main.xml**

```

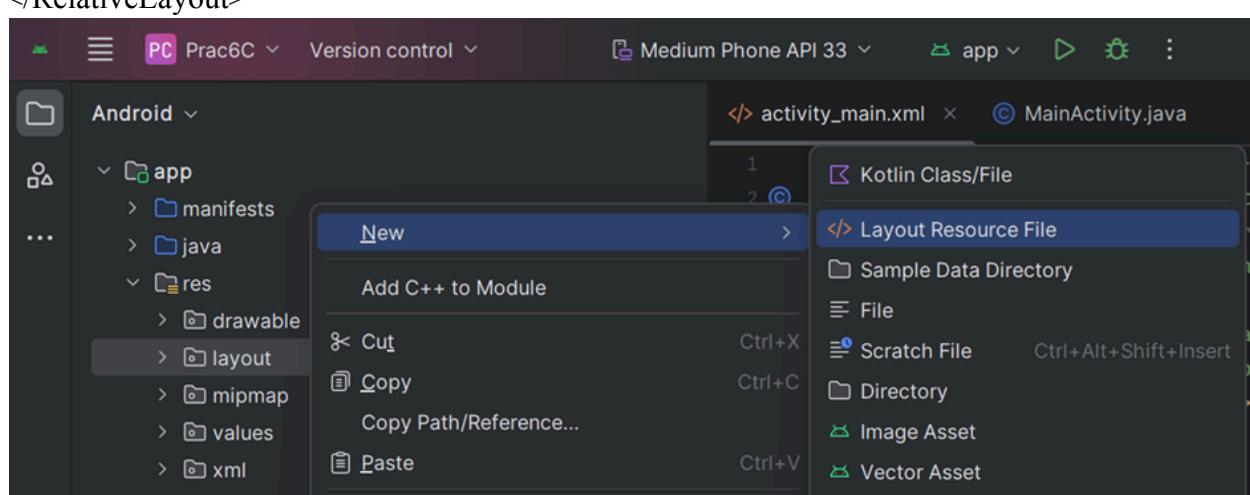
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"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

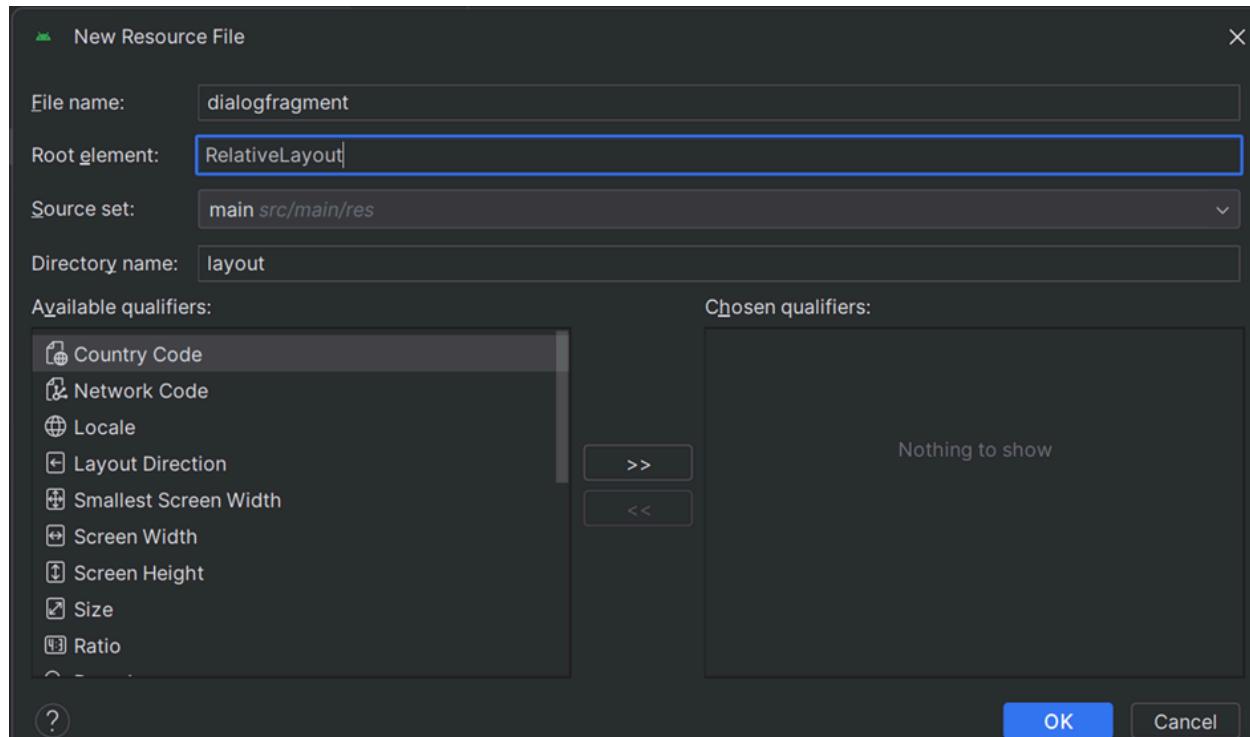
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:padding="10dp"
        android:id="@+id/dfragbutton"
        android:text = "This is dialog fragment"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:padding="10dp"
        android:id="@+id/alertdfragbutton"
        android:text = "This is dialog fragment"/>

</RelativeLayout>

```





Dialogfragment.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:padding="10dp"
        android:text = "This is dialog fragment"/>
</RelativeLayout>
```

DFragment.java

```
package com.example.prac6c;
import androidx.*;
import androidx.fragment.app.DialogFragment;

import android.app.Dialog;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
```

```

import android.view.ViewGroup;

public class DFragment extends DialogFragment {
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {
        View rootView = inflater.inflate(R.layout.dialogfragment, container, false);
        getDialog().setTitle("DialogFragment Test");
        return rootView;
    }
}

```

AlertFragmnet.java

```

package com.example.prac6c;

import android.app.AlertDialog;
import android.app.Dialog;
import android.content.DialogInterface;
import android.os.Bundle;
import android.widget.Toast;

import androidx.fragment.app.DialogFragment;

public class AlertFragmnet extends DialogFragment {
    public Dialog onCreateDialog(Bundle savedInstanceState) {
        return new AlertDialog.Builder(getActivity())
            //Set Dialog Icon
            .setIcon(android.R.drawable.sym_def_app_icon)

            //Set Dialog Title
            .setTitle("Alert DialogFragment")

            //Set Dialog Message
            .setMessage("Alert DialogFragment Tutorial")

            //Positive button
            .setPositiveButton("OK", new DialogInterface.OnClickListener()
            {
                public void onClick(DialogInterface dialog, int which){
                    Toast.makeText(getContext(), "OK Clicked", Toast.LENGTH_LONG).show();
                }
            })
            //Positive Buton
            .setNegativeButton("Cancel", new DialogInterface.OnClickListener(){

```

```
public void onClick(DialogInterface dialog, int which){  
    Toast.makeText(getContext(),"Cancel Clicked",  
        Toast.LENGTH_LONG).show(); }  
}).create();  
}  
}
```

MainActiviy.java:

```
package com.example.prac6c;
```

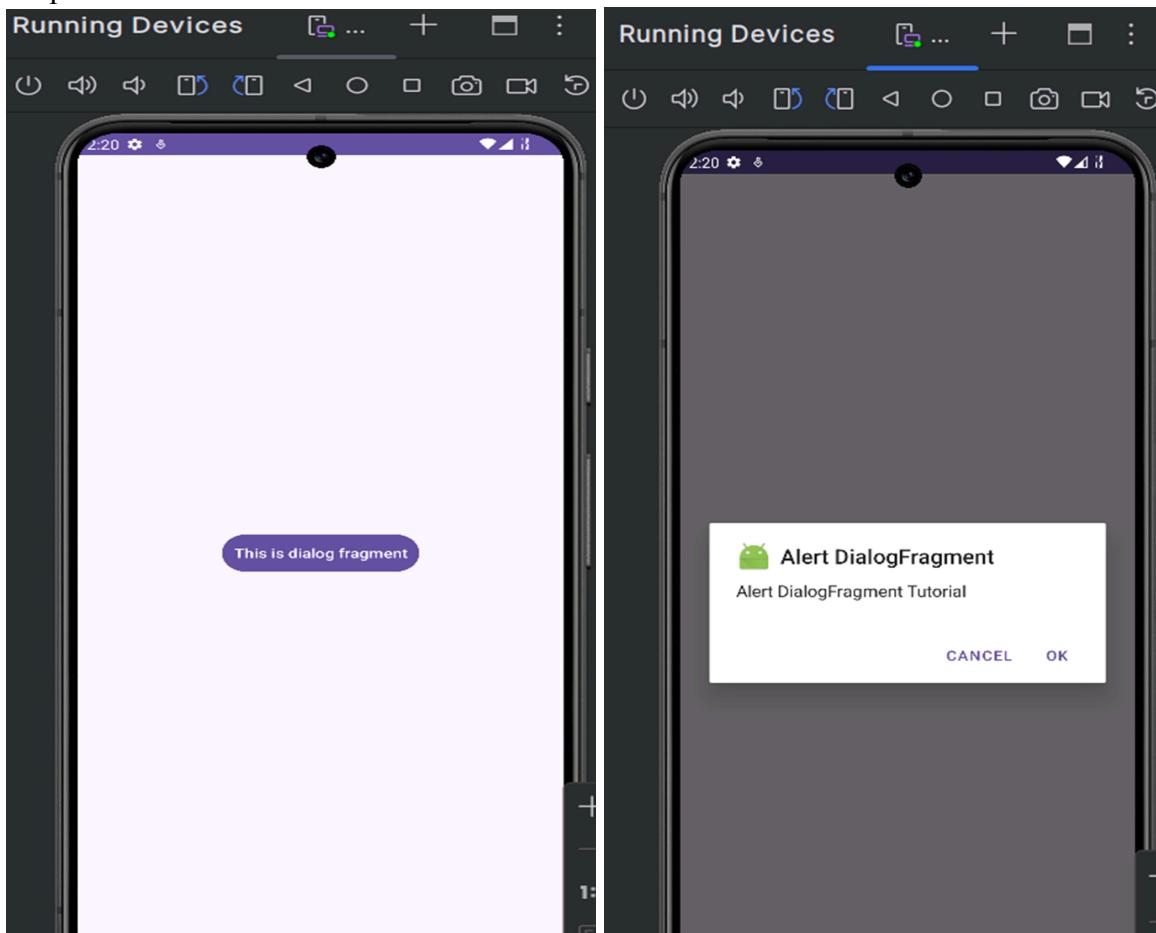
```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

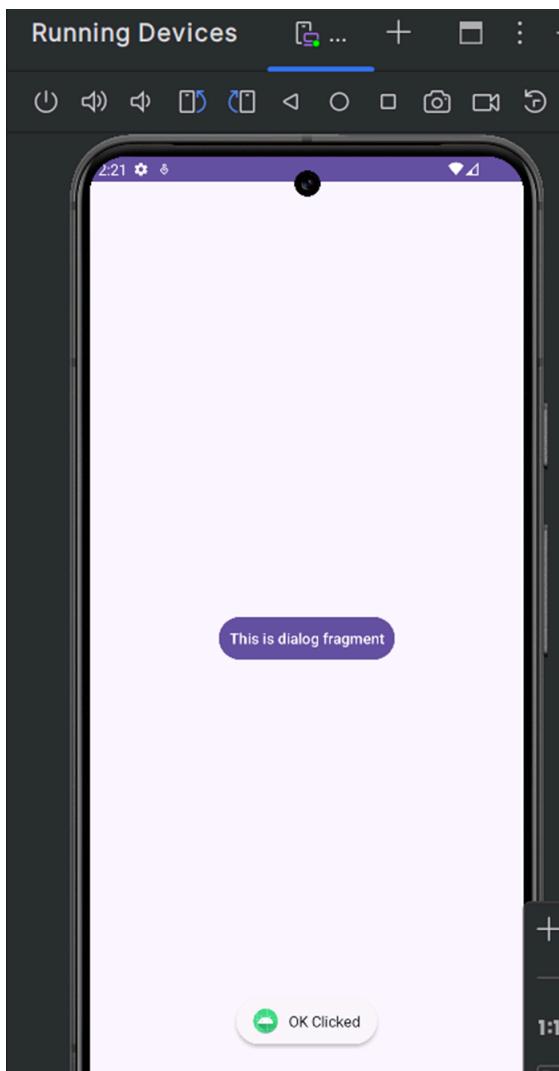
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import androidx.fragment.app.FragmentManager;
```

```
public class MainActivity extends AppCompatActivity {  
    Button dfbutton;  
    Button alertbutton;  
    FragmentManager fm=getSupportFragmentManager();  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
        dfbutton =(Button)findViewById(R.id.dfragbutton);  
        alertbutton =(Button)findViewById(R.id.alertdfragbutton);  
        // Capture button clicks  
  
        dfbutton.setOnClickListener(new View.OnClickListener() {  
            @Override  
            public void onClick(View arg0) {  
                DFragment dfragment = new DFragment();  
  
                // Show DialogFragment  
                dfragment.show(fm, "Dialog Fragment");  
            }  
        });  
        // Capture button clicks  
        alertbutton.setOnClickListener(new View.OnClickListener()  
        public void onClick(View arg0){
```

```
AlertFragmnet alertdFragment = new AlertFragmnet();  
//Show Alert DialogFragment  
alertdFragment.show(fm, "Alert Dialog Fragment");  
}  
});  
}  
}
```

Output:





PRACTICAL 7

Programs on Intents , Events , Listeners and Adapters

INTENT

Main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/inoutTxt"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter value"
        android:layout_margin="20dp"/>
    <Button
        android:id="@+id	btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Send"
        android:layout_gravity="center_horizontal"/>
</LinearLayout>
```

Code: Main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="173dp"
        android:layout_marginTop="194dp"
        android:layout_marginEnd="180dp"
        android:textSize="20dp"
        android:layout_marginBottom="518dp"
```

```

        android:text="TextView"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Main.java

```

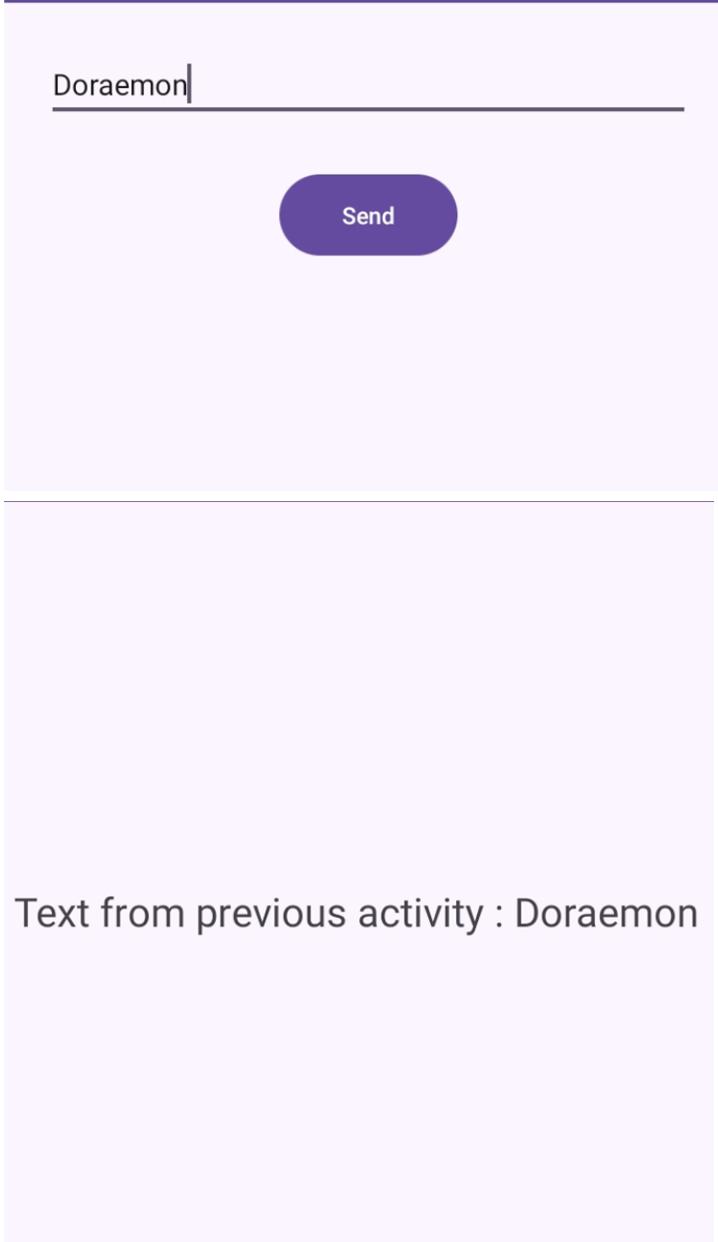
package com.example.practical_5c_ui_componants;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Bundle;
import android.widget.TextView;
public class MainActivity2 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        TextView tv = findViewById(R.id.textView);
        String passedData = getIntent().getExtras().getString("data");
        tv.setText("Text from previous activity : "+passedData);}}
```

Code: Main2.java

```

package com.example.practical_5c_ui_componants;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Bundle;
import android.widget.TextView;
public class MainActivity2 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        TextView tv = findViewById(R.id.textView);
        String passedData = getIntent().getExtras().getString("data");
        tv.setText("Text from previous activity : "+passedData);
    }
}
```

OUTPUT:



Doraemon

Send

Text from previous activity : Doraemon

PRACTICAL 8A**Program On Services****Activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity">
    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        tools:ignore="MissingConstraints">
        <Button
            android:id="@+id/startButton"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Start Service" />
        <Button
            android:id="@+id/stopButton"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Stop Service" />
    </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.widget.Toast;
import androidx.annotation.Nullable;
```

```

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

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

        startButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Start the service
                startService(new Intent(MainActivity.this, MyService.class));
                Toast.makeText(MainActivity.this, "Service Started",
                        Toast.LENGTH_SHORT).show();
            }
        });

        stopButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Stop the service
                stopService(new Intent(MainActivity.this, MyService.class));
                Toast.makeText(MainActivity.this, "Service Stopped",
                        Toast.LENGTH_SHORT).show();
            }
        });
    }
}

MyService.java
package com.example.myapplication;
import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.util.Log;
public class MyService extends Service {
    private static final String TAG = "MyService";
}

```

```

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

@Override
public void onCreate() {
    super.onCreate();
    Log.d(TAG, "onCreate: Service created");
}

@Override
public int onStartCommand(Intent intent, int flags, int startId) {
    Log.d(TAG, "onStartCommand: Service started");
    return START_STICKY;
}

@Override
public void onDestroy() {
    super.onDestroy();
    Log.d(TAG, "onDestroy: Service destroyed");
}
}

```

AndroidManifest.xml

```

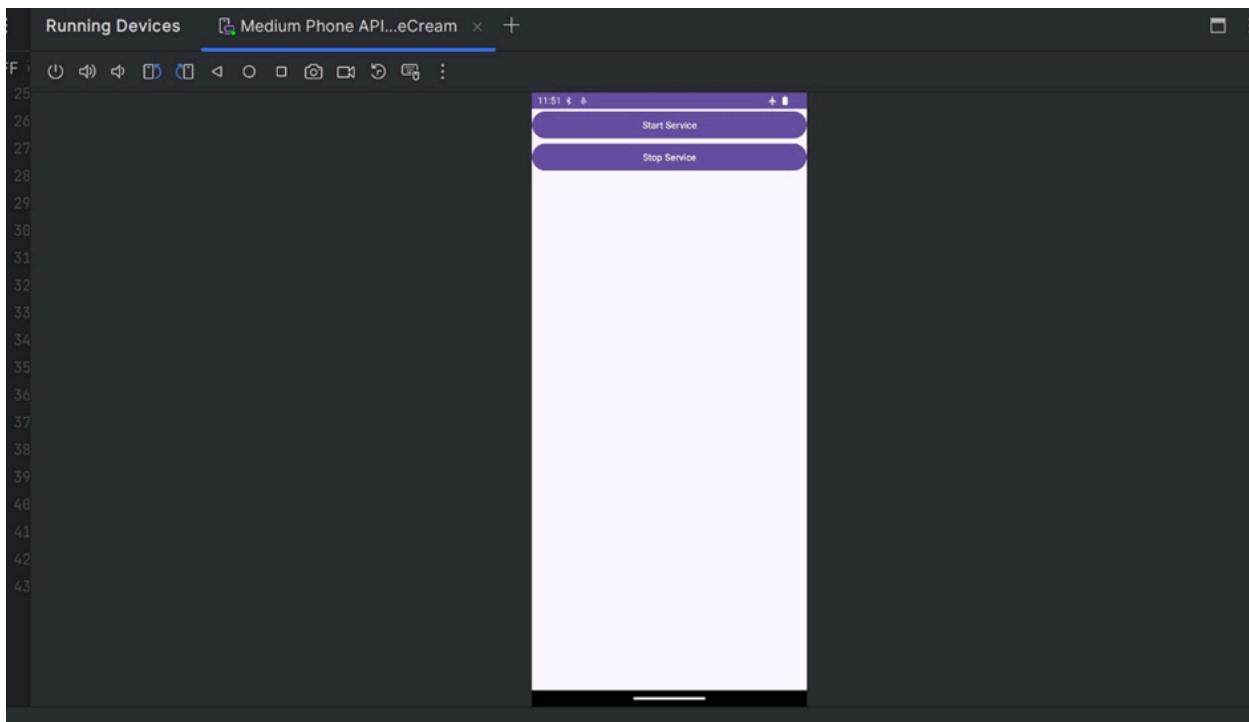
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <uses-permission android:name="android.permission.FOREGROUND_SERVICE" />

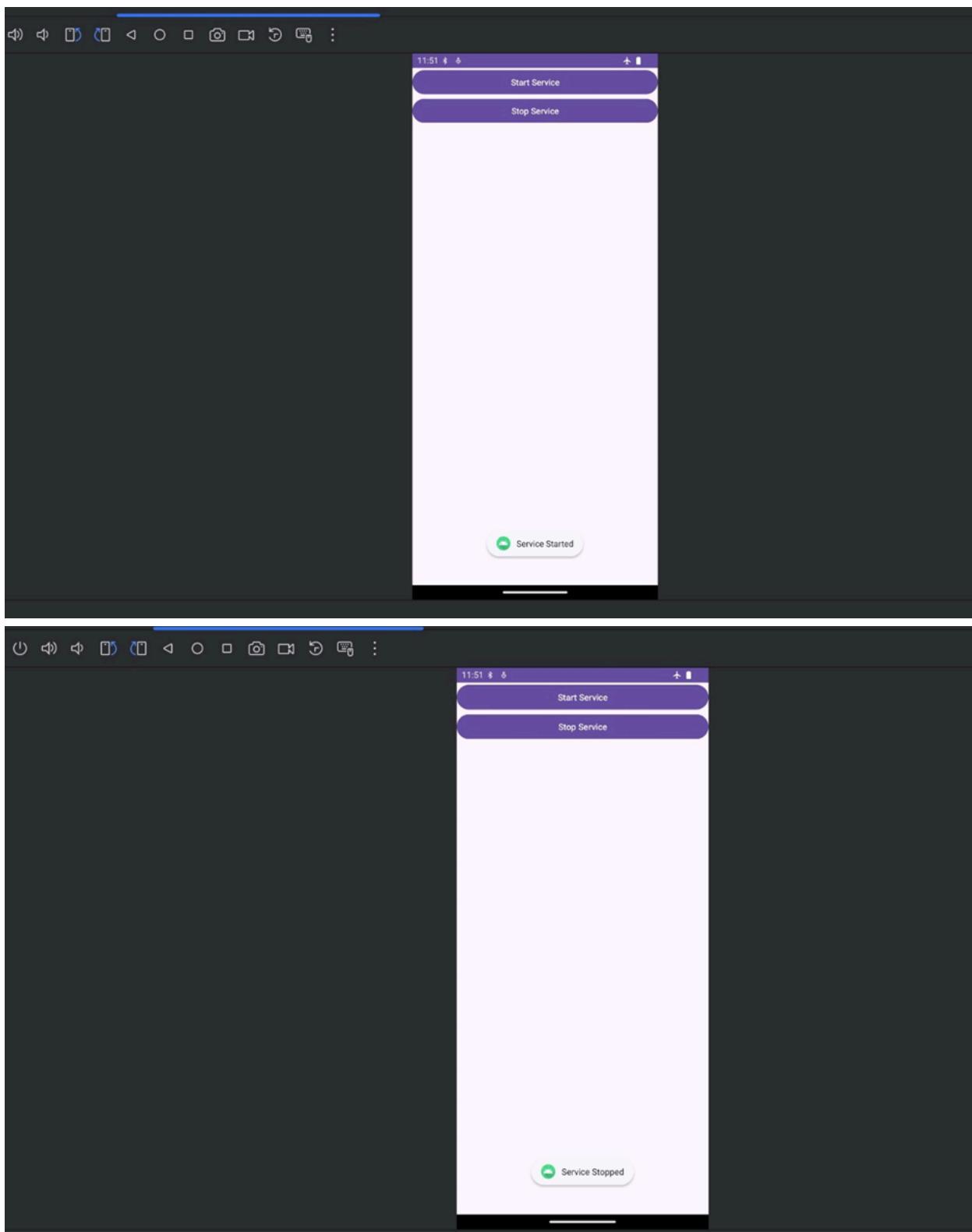
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.MyApplication"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

```

```
<category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
</activity>
<service
    android:name=".MyService"
    android:enabled="true"
    android:exported="false" />
</application>

</manifest>
```

OUTPUT:



PRACTICAL 8B**Programs on notification****MainActivity.java**

```

package com.example.myapplication;
import android.Manifest;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.content.Context;
import android.content.pm.PackageManager;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.app.NotificationCompat;

public class MainActivity extends AppCompatActivity {
    private static final String CHANNEL_ID = "my_channel_id";
    private static final int NOTIFICATION_ID = 101;
    private static final int PERMISSION_REQUEST_CODE = 100;

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

        Button notifyButton = findViewById(R.id.notifyButton);
        notifyButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                sendNotification();
            }
        });
    }

    private void createNotificationChannel() {
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
            CharSequence name = "My Channel";
            String description = "This is my channel";
            int importance = NotificationManager.IMPORTANCE_DEFAULT;
            NotificationChannel channel = new NotificationChannel(CHANNEL_ID, name

```

```

importance);
    channel.setDescription(description);

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

private void sendNotification() {
// Check if the app has the ACCESS_NOTIFICATION_POLICY permission
if (ActivityCompat.checkSelfPermission(this,
Manifest.permission.ACCESS_NOTIFICATION_POLICY) !=
PackageManager.PERMISSION_GRANTED) {
    // Request the permission from the user
    ActivityCompat.requestPermissions(this, new
String[] {Manifest.permission.ACCESS_NOTIFICATION_POLICY},
PERMISSION_REQUEST_CODE);
} else {
    // The permission is already granted, proceed with sending the notification
    NotificationCompat.Builder builder = new NotificationCompat.Builder(this,
CHANNEL_ID)
        .setSmallIcon(R.drawable.ic_launcher_foreground)
        .setContentTitle("Simple Notification")
        .setContentText("This is a simple notification")
        .setPriority(NotificationCompat.PRIORITY_DEFAULT);
}

NotificationManager notificationManager = (NotificationManager)
getSystemService(Context.NOTIFICATION_SERVICE);
    notificationManager.notify(NOTIFICATION_ID, builder.build());
}
}

@Override
public void onRequestPermissionsResult(int requestCode, @NonNull String[]
permissions, @NonNull int[] grantResults) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults);
    if (requestCode == PERMISSION_REQUEST_CODE) {
        if (grantResults.length > 0 && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
            // Permission granted, send the notification
            sendNotification();
        } else {
            // Permission denied, handle accordingly (e.g., show a message to the user)
            Toast.makeText(this, "Permission denied. Cannot send notification.",
Toast.LENGTH_SHORT).show();
        }
    }
}

```

```

    }
}
}
}
```

Activity_main.xml

```

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

    <Button
        android:id="@+id/notifyButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Notify" />

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

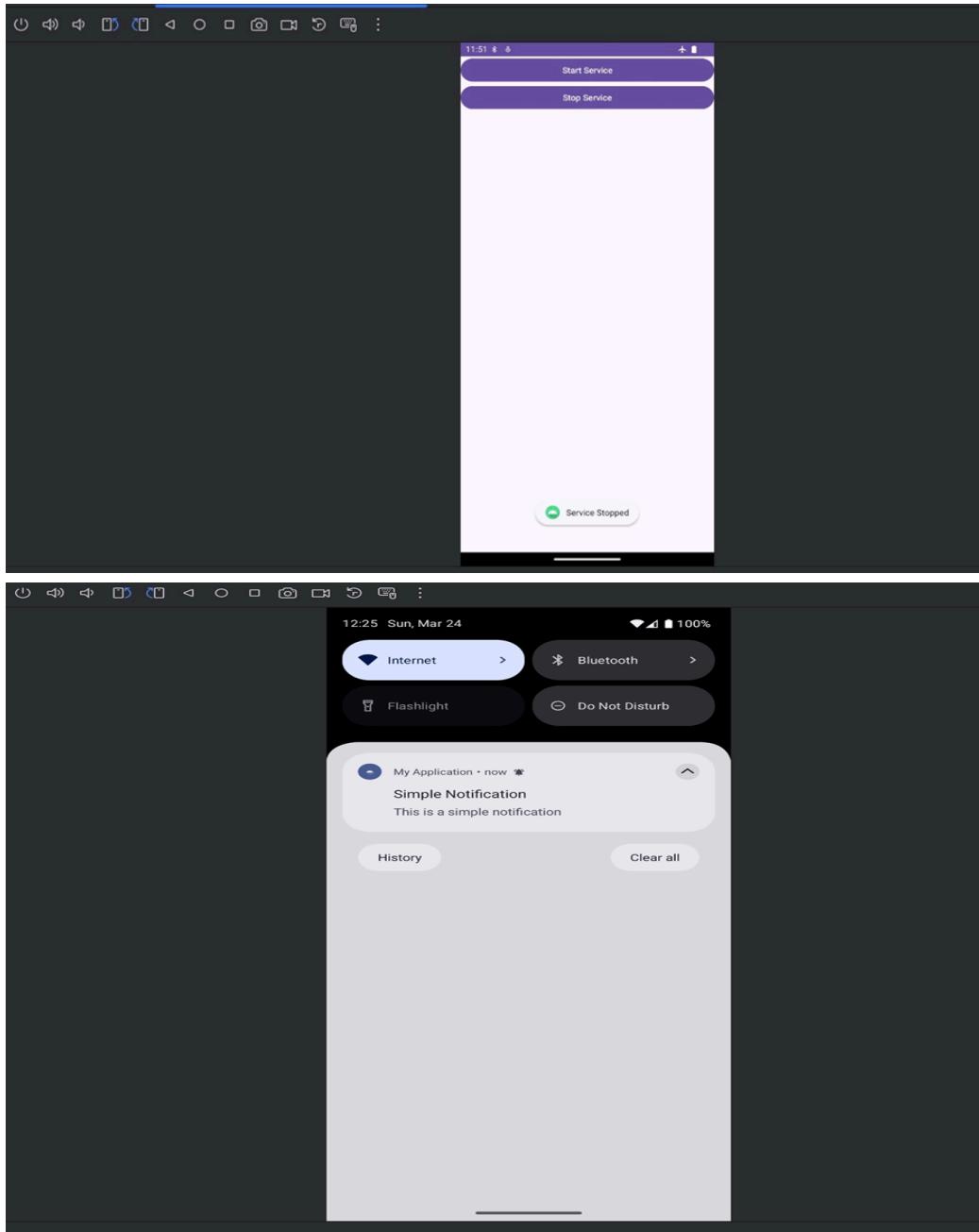
    <uses-permission
        android:name="android.permission.ACCESS_NOTIFICATION_POLICY" />

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

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.MyApplication"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
```

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

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

OUTPUT:

PRACTICAL 8C**Programs on broadcast receivers****Activiy_main.xml**

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        android:textSize="35dp"
        android:textColor="#FF4B2B"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```
package com.example.my_application;

import androidx.appcompat.app.AppCompatActivity;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.provider.Settings;
import android.widget.Toast;
import android.content.Intent;
import android.content.IntentFilter;
import android.os.Bundle;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    AirplaneModeChangeReceiver airplaneModeChangeReceiver = new
    AirplaneModeChangeReceiver();

    @Override
```

```

protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
@Override
protected void onStart() {
super.onStart();
IntentFilter filter = new IntentFilter(Intent.ACTION_AIRPLANE_MODE_CHANGED);
registerReceiver(airplaneModeChangeReceiver, filter);
}

@Override
protected void onStop() {
super.onStop();
unregisterReceiver(airplaneModeChangeReceiver);
}
}

```

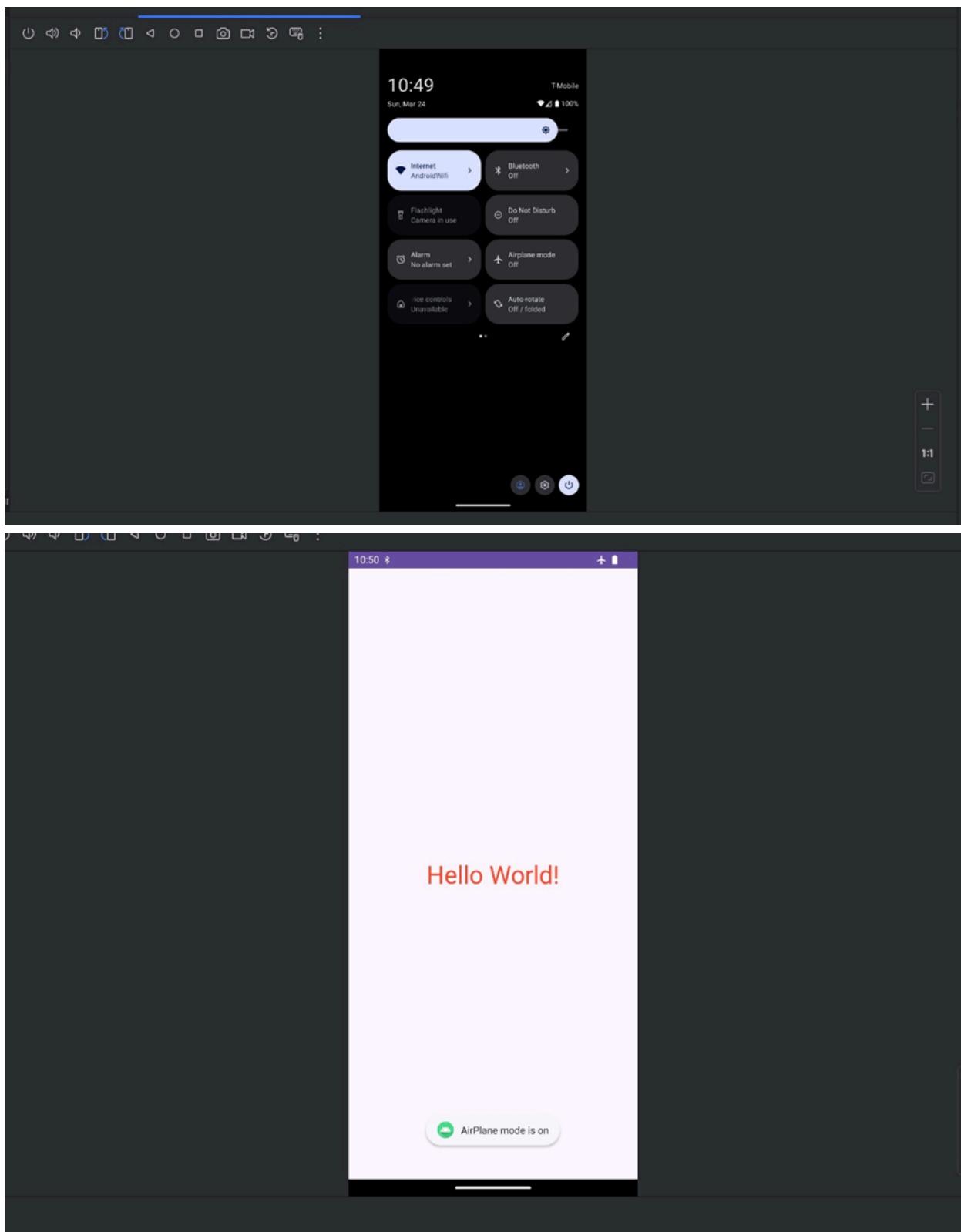
AirplaneModeChangeReceiver.java

```

package com.example.my_application;

import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.provider.Settings;
import android.widget.Toast;
public class AirplaneModeChangeReceiver extends BroadcastReceiver {
@Override
public void onReceive(Context context, Intent intent) {
if (isAirplaneModeOn(context.getApplicationContext())) {
Toast.makeText(context, "AirPlane mode is on", Toast.LENGTH_SHORT).show();
} else {
Toast.makeText(context, "AirPlane mode is off", Toast.LENGTH_SHORT).show();
}
}
private static boolean isAirplaneModeOn(Context context) {
return Settings.System.getInt(context.getContentResolver(),
Settings.Global.AIRPLANE_MODE_ON, 0) != 0;
}
}

```

OUTPUT

PRACTICAL 9**Database Programming with SQLite****Activity_main.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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:layout_margin="20dp"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <TextView
            android:id="@+id/luser"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Username:" />
        <EditText
            android:id="@+id/txtusername"
            android:layout_width="0dp"
            android:layout_weight="1"
            android:layout_height="wrap_content"
            android:layout_marginStart="8dp"
            android:hint="Enter username"
            android:inputType="textPersonName" />
    </LinearLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:orientation="horizontal">
        <TextView
            android:id="@+id/lpass"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Password:" />
        <EditText
            android:id="@+id/txtpass"

```

```

        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:hint="Enter password"
        android:inputType="textPassword"/>
    </LinearLayout>
    <Button
        android:id="@+id/login"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="50dp"
        android:onClick="login_fun"
        android:text="Login" />
    <Button
        android:id="@+id/drop"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:onClick="drop_fun"
        android:text="Drop" />
    <Button
        android:id="@+id/register"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:onClick="register_fun"
        android:text="Register" />
</LinearLayout>
```

MyDB.java

Create a new Java class file: Right-click on the package name (com.example.practical_9_sqlite), then choose New -> Java Class. Give the class a name, such as MyDB, and click OK.

```

package com.example.practical_9_sqlite;

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

public class MyDB extends SQLiteOpenHelper {

    private static final String DATABASE_NAME = "my_database.db";
    private static final int DATABASE_VERSION = 1;

    // Define your table creation query here
```

```

private static final String CREATE_TABLE_LOGIN = "CREATE TABLE login (" +
    "id INTEGER PRIMARY KEY AUTOINCREMENT," +
    "username TEXT," +
    "password TEXT)";

public MyDB(Context context) {
    super(context, DATABASE_NAME, null, DATABASE_VERSION);
}

@Override
public void onCreate(SQLiteDatabase db) {
    // Create the necessary tables
    db.execSQL(CREATE_TABLE_LOGIN);
}

@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
    // Drop older tables if they exist
    db.execSQL("DROP TABLE IF EXISTS login");

    // Recreate tables
    onCreate(db);
}
}

```

DBHelper.java

```

package com.example.practical_9_sqlite;

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

public class DBHelper extends SQLiteOpenHelper {

    private static final String DATABASE_NAME = "my_database.db";
    private static final int DATABASE_VERSION = 1;

    // Define your table creation query here
    private static final String CREATE_TABLE_USERS = "CREATE TABLE users (" +
        "id INTEGER PRIMARY KEY AUTOINCREMENT," +
        "username TEXT," +
        "password TEXT)";

    public DBHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }
}

```

```

    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        // Create the necessary tables
        db.execSQL(CREATE_TABLE_USERS);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        // Drop older tables if they exist
        db.execSQL("DROP TABLE IF EXISTS users");

        // Recreate tables
        onCreate(db);
    }
}

```

MainActivity.java

```

package com.example.practical_9_sqlite;

import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteException;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    MyDB mdb;

    EditText userName, password;

    Button bregister, bdrop, blogin;

    SQLiteDatabase db;

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

```

```

userName = findViewById(R.id.txtusername);
password = findViewById(R.id.txtpass);
blogin = findViewById(R.id.login);
bregister = findViewById(R.id.register);
bdrop = findViewById(R.id.drop);

mdb = new MyDB(this);
}

public void login_fun(View v) {
    String un = userName.getText().toString();
    String pas = password.getText().toString();

    db = mdb.getReadableDatabase();

    String q = "SELECT * FROM login WHERE username = ? AND password = ?";
    try {
        Cursor c = db.rawQuery(q, new String[]{un, pas});

        if (c.moveToFirst()) {
            int usernameIndex = c.getColumnIndex("username");
            int passwordIndex = c.getColumnIndex("password");

            if (usernameIndex >= 0 && passwordIndex >= 0) {
                String uname = c.getString(usernameIndex);
                String passw = c.getString(passwordIndex);

                Toast.makeText(getApplicationContext(), "Username: " + uname + "\nPassword: " +
                passw, Toast.LENGTH_LONG).show();
                Toast.makeText(getApplicationContext(), "Welcome user: " + un,
                Toast.LENGTH_LONG).show();
            } else {
                Toast.makeText(getApplicationContext(), "Invalid cursor column index",
                Toast.LENGTH_SHORT).show();
            }
        } else {
            Toast.makeText(getApplicationContext(), "Username or password is incorrect",
            Toast.LENGTH_SHORT).show();
        }
        c.close();
    } catch (SQLException sqle) {
        sqle.printStackTrace();
    }
}

```

```

public void register_fun(View v) {
    String un = userName.getText().toString();
    String pas = password.getText().toString();

    db = mdb.getWritableDatabase();

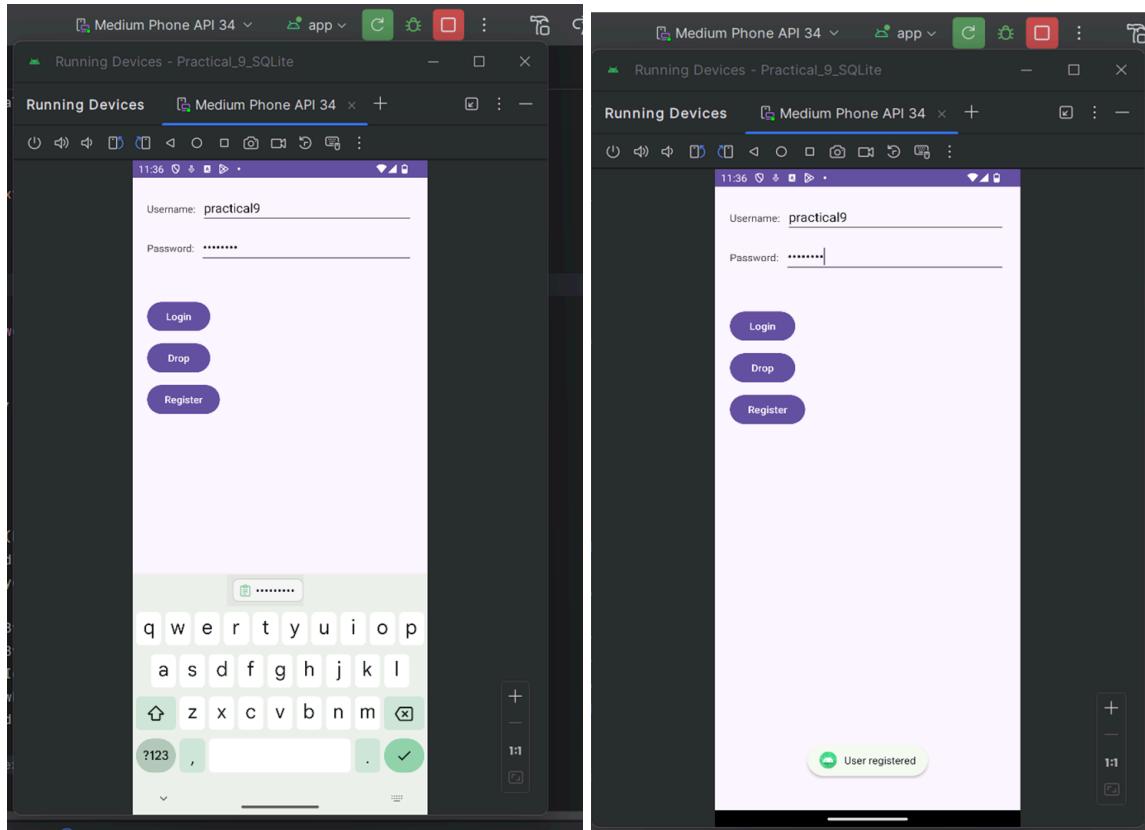
    String q = "INSERT INTO login (username, password) VALUES (" + un + ", " + pas +
    ")";

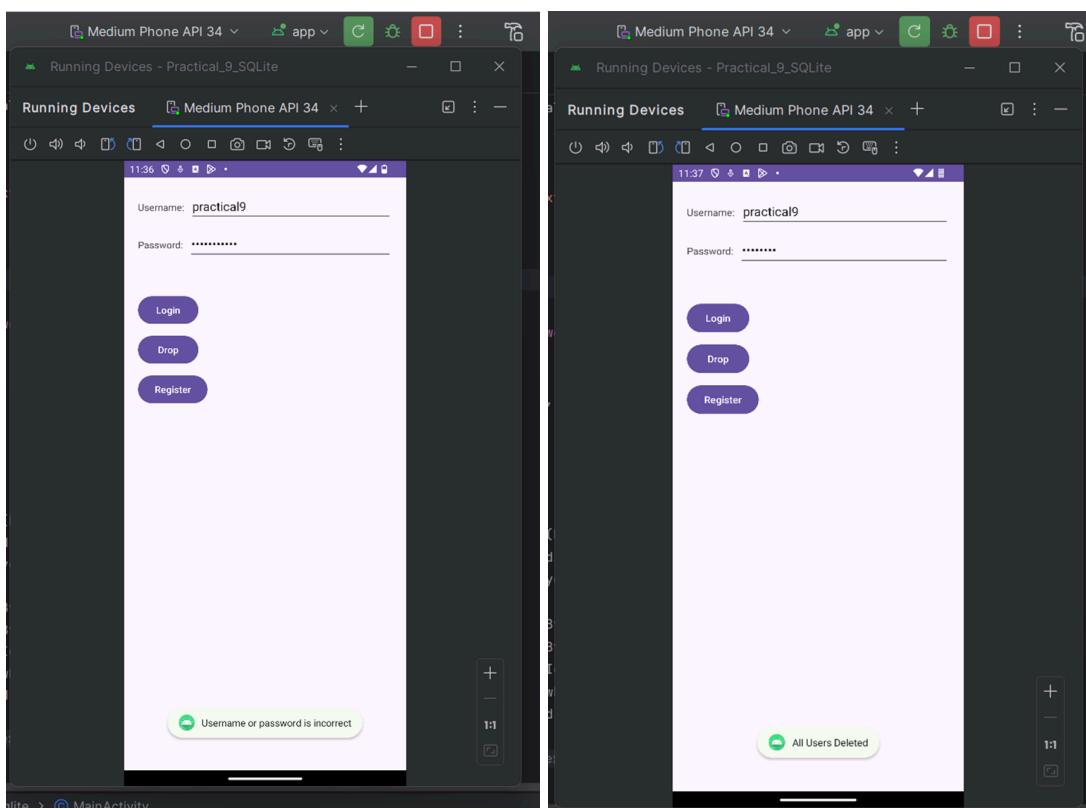
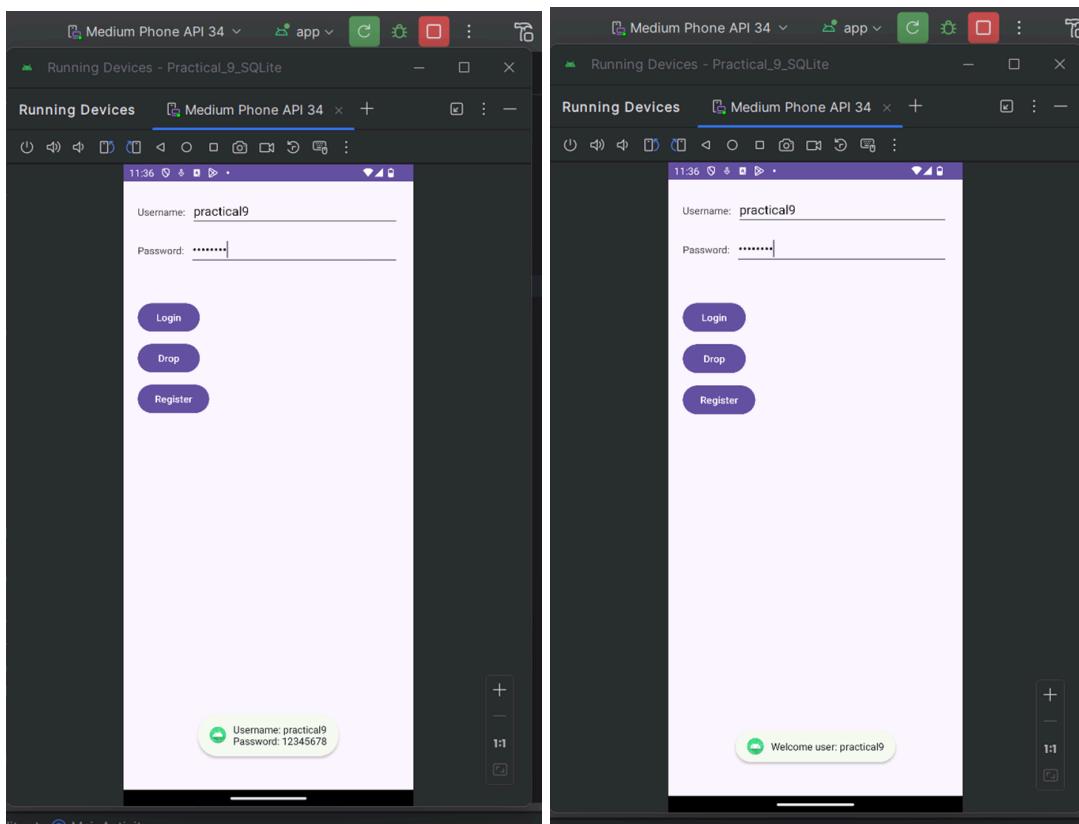
    db.execSQL(q);

    Toast.makeText(getApplicationContext(), "User registered",
    Toast.LENGTH_LONG).show();
}

public void drop_fun(View v) {
    db = mdb.getWritableDatabase();
    mdb.onUpgrade(db, 1, 2);
    Toast.makeText(getApplicationContext(), "All Users Deleted",
    Toast.LENGTH_SHORT).show();
}
}

```

OUTPUT:



PRACTICAL 10A

Programming threads, handles and synchronized programs.

Activity_main.xml

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

    <ProgressBar
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/progressBar1"
        style="?android:attr/progressBarStyleHorizontal"
        android:indeterminate="false"
        android:max="10"
        android:padding="4dip">
    </ProgressBar>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/button"
        android:text="Button"
        android:onClick="startProgress"/>

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

activityMain.java

```
package com.example.prac10;
```

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
```

```
import android.widget.ProgressBar;
import android.widget.TextView;
import java.util.*;

public class MainActivity extends AppCompatActivity {
    private ProgressBar bar;
    TextView textView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textView = (TextView) findViewById(R.id.textView);
        bar = (ProgressBar) findViewById(R.id.progressBar1);

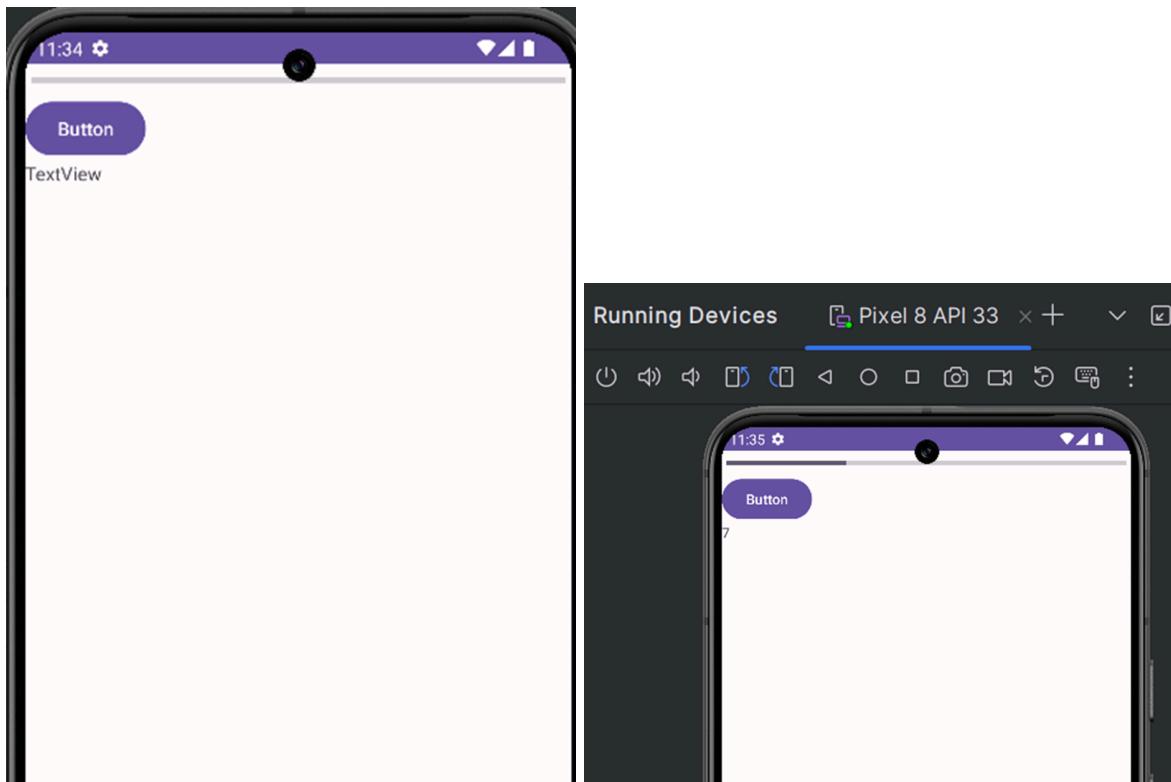
    }

    public void startProgress(View view) {
        bar.setProgress(0);
        new Thread(new Task()).start();
        new Thread(new Task2()).start();
    }

    class Task implements Runnable {
        public void run() {
            for (int i = 0; i <= 10; i++) {
                final int value = i;
                try {
                    Thread.sleep(1000);
                } catch (InterruptedException e) {
                    e.printStackTrace();
                }
                bar.setProgress(value);
            }
        }
    }

    class Task2 implements Runnable {
        public void run() {
            for (int i = 10; i >= 0; i--) {
                final int value = i;
                try {
                    Thread.sleep(1000);
                } catch (InterruptedException e) {
                    e.printStackTrace();
                }
            }
        }
    }
}
```

```
        textView.setText(String.valueOf(value));
    }
}
}
}
```

OUTPUT:

PRACTICAL 10B**Activity_main.xml**

```

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

    <TextView
        android:id="@+id/textView"
        android:text="Count"
        android:layout_width="234dp"
        android:layout_height="wrap_content"/>
    <Button
        android:id="@+id/bStartTimer"
        android:layout_width="236dp"
        android:layout_height="wrap_content"
        android:text="Start Timer Count"
        android:onClick="timer"/>
    <Button
        android:id="@+id/bStartNonTimer"
        android:layout_width="234dp"
        android:layout_height="wrap_content"
        android:text="Start Non Timer Count"
        android:onClick="nonTimer"/>
</LinearLayout>

```

MainActivity.java

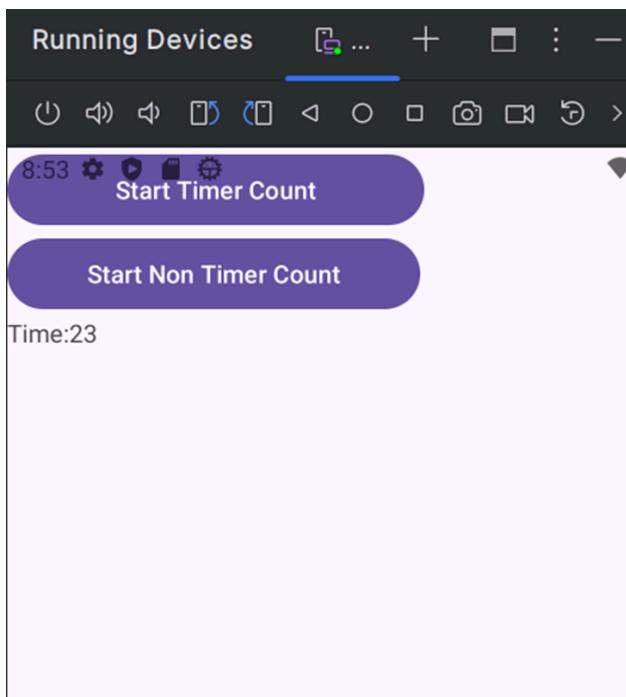
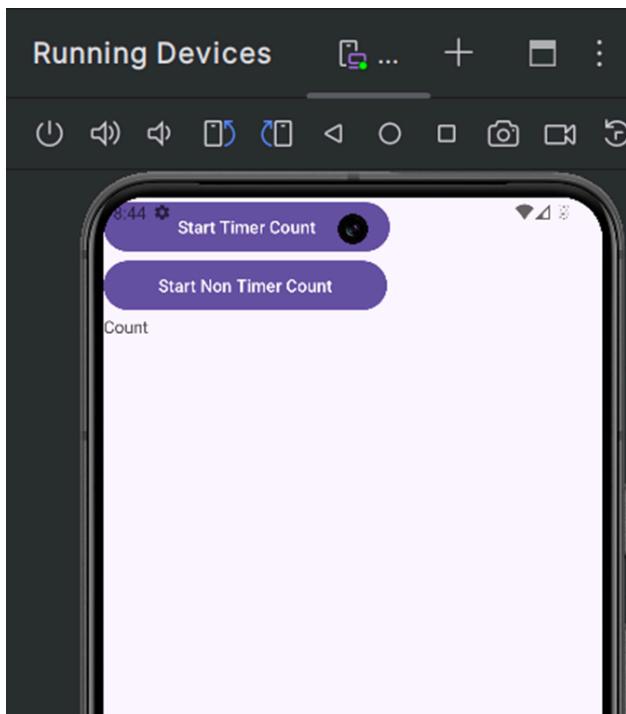
```

package com.example.prac10b;

import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.os.Handler;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

```

```
public class MainActivity extends AppCompatActivity {  
    TextView textView;  
    private int stopLoop=30;  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        EdgeToEdge.enable(this);  
        setContentView(R.layout.activity_main);  
        textView=(TextView)findViewById(R.id.textView);  
    }  
    public void timer(View view) {  
        final Handler handler = new Handler();  
        handler.post(new Runnable() {  
            @Override  
            public void run() {  
                if (stopLoop > 0) {  
                    stopLoop--;  
                    textView.setText("Time:" + stopLoop);  
                    handler.postDelayed(this, 1000);  
                } else {  
                }  
            }  
        });  
    }  
    public void nonTimer(View view){  
        int i=0;  
        for(i=0;i<3;i++)  
        {  
            textView.setText("Time:"+i);  
            try{  
                Thread.sleep(1000);  
            }catch(InterruptedException e){  
                e.printStackTrace();  
            }  
        }  
    }  
}
```

OUTPUT:

PRACTICAL 10C**Activity_main.xml**

```

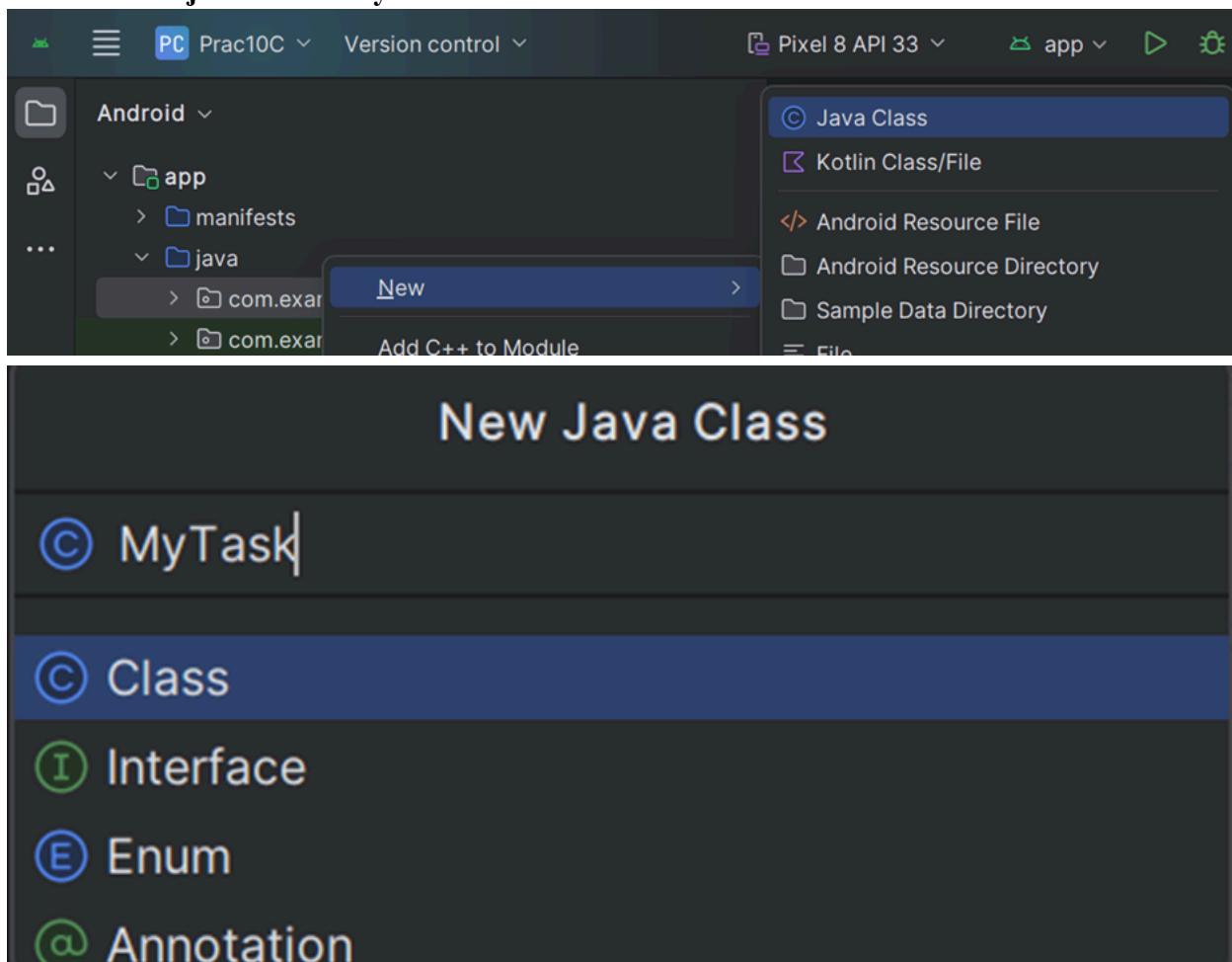
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"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

    <TextView android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.168"/>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="112dp"
        android:text="Button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

Create a new java Class: MyTask**MyTask.java**

```
package com.example.prac10c;

import android.app.ProgressDialog;
import android.content.Context;
import android.os.AsyncTask;
import android.widget.Button;
import android.widget.ProgressBar;
import android.widget.TextView;
public class MyTask extends AsyncTask<Void, Integer, String> {
    Context context;
    Button button;
    TextView textView;
    ProgressDialog progressDialog;
```

```

MyTask(Context context, TextView textView, Button button) {
    this.context = context;
    this.textView = textView;
    this.button = button;
}

@Override
protected String doInBackground(Void... voids) {

    int i = 0;
    synchronized (this) {
        while ((i < 10)) {
            try {
                wait(1000);
                i++;
                publishProgress(i);
            } catch (InterruptedException e) {
                e.printStackTrace();
            }
        }
    }
    return "Download Finish";
}

protected void onPreExecute() {
    progressDialog = new ProgressDialog(context);
    progressDialog.setTitle("Download in progress");
    progressDialog.setMax(10);
    progressDialog.setProgress(0);
    progressDialog.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
    progressDialog.show();
}

protected void onPostExecute(String result) {
    textView.setText(result);
    button.setEnabled(true);
}

protected void onProgressUpdate(Integer... values) {
    int progress = values[0];
    progressDialog.setProgress(progress);
    textView.setText("Download In Progress");
}
}

```

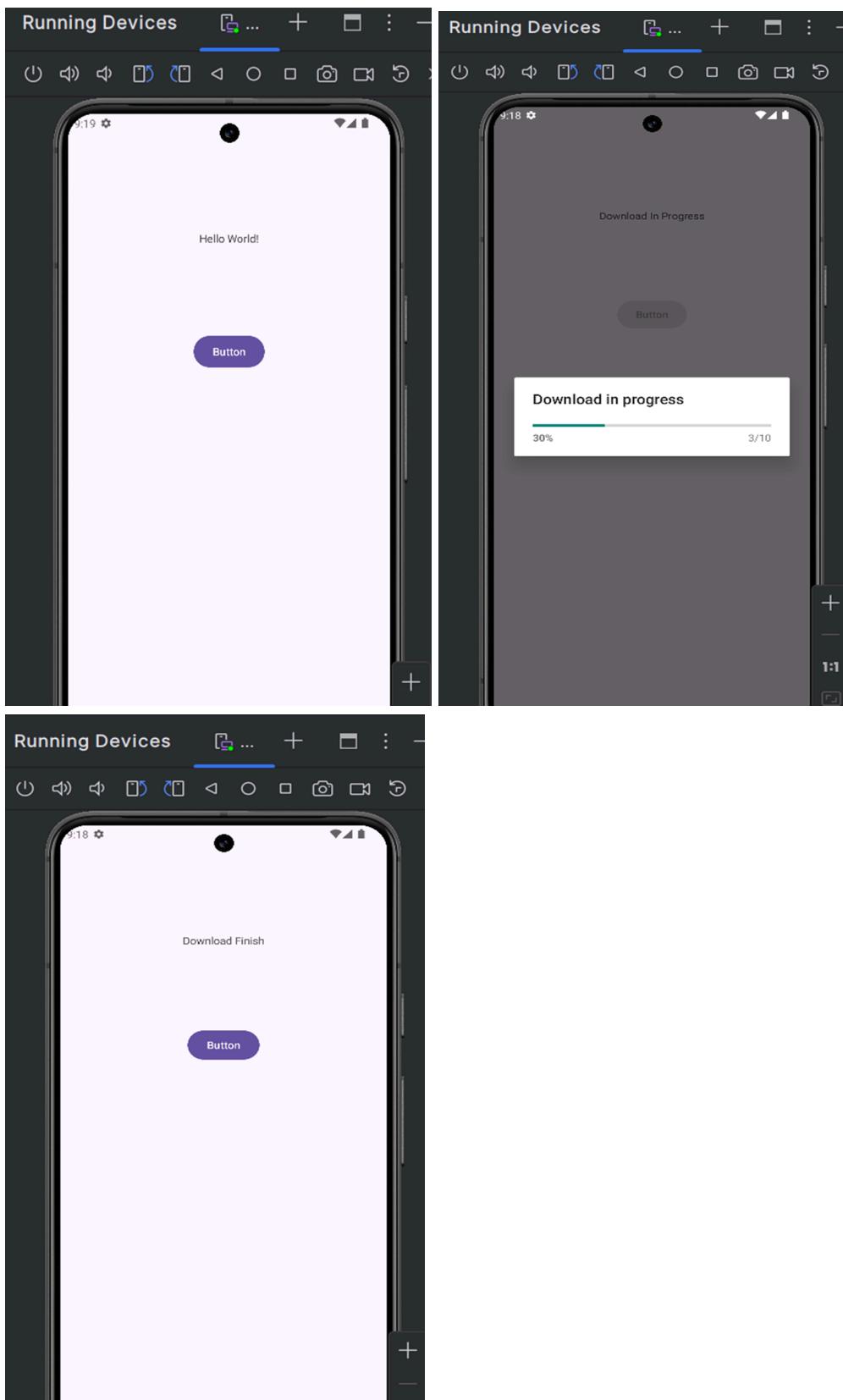
MainActivity.java

```
package com.example.prac10c;

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

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    TextView textView;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        textView=(TextView) findViewById(R.id.textView);
        button=(Button) findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                MyTask myTask=new MyTask(MainActivity.this,textView,button);
                myTask.execute();
                button.setEnabled(false);
            }
        });
    }
}
```

OUTPUT:

PRACTICAL 11A

Mainactivity.xml

```

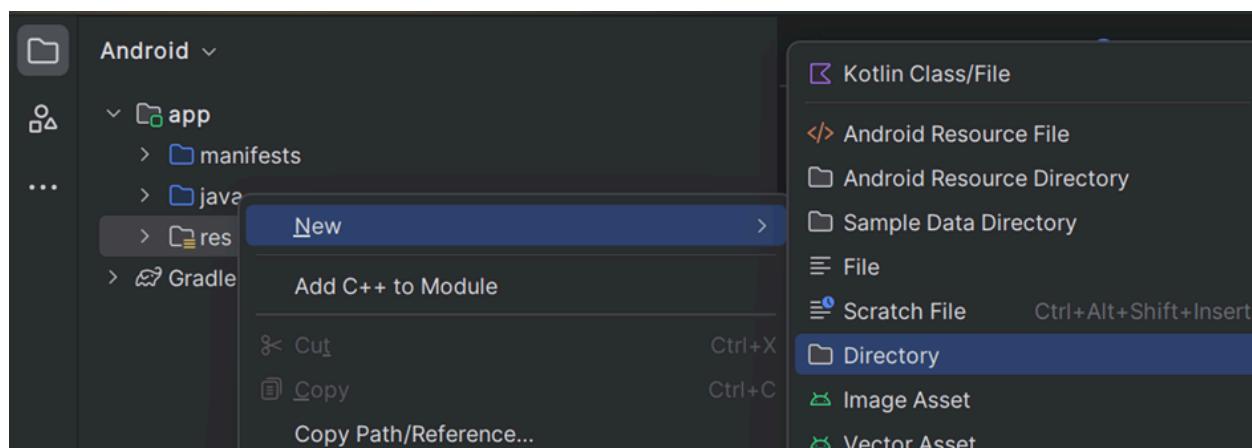
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"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

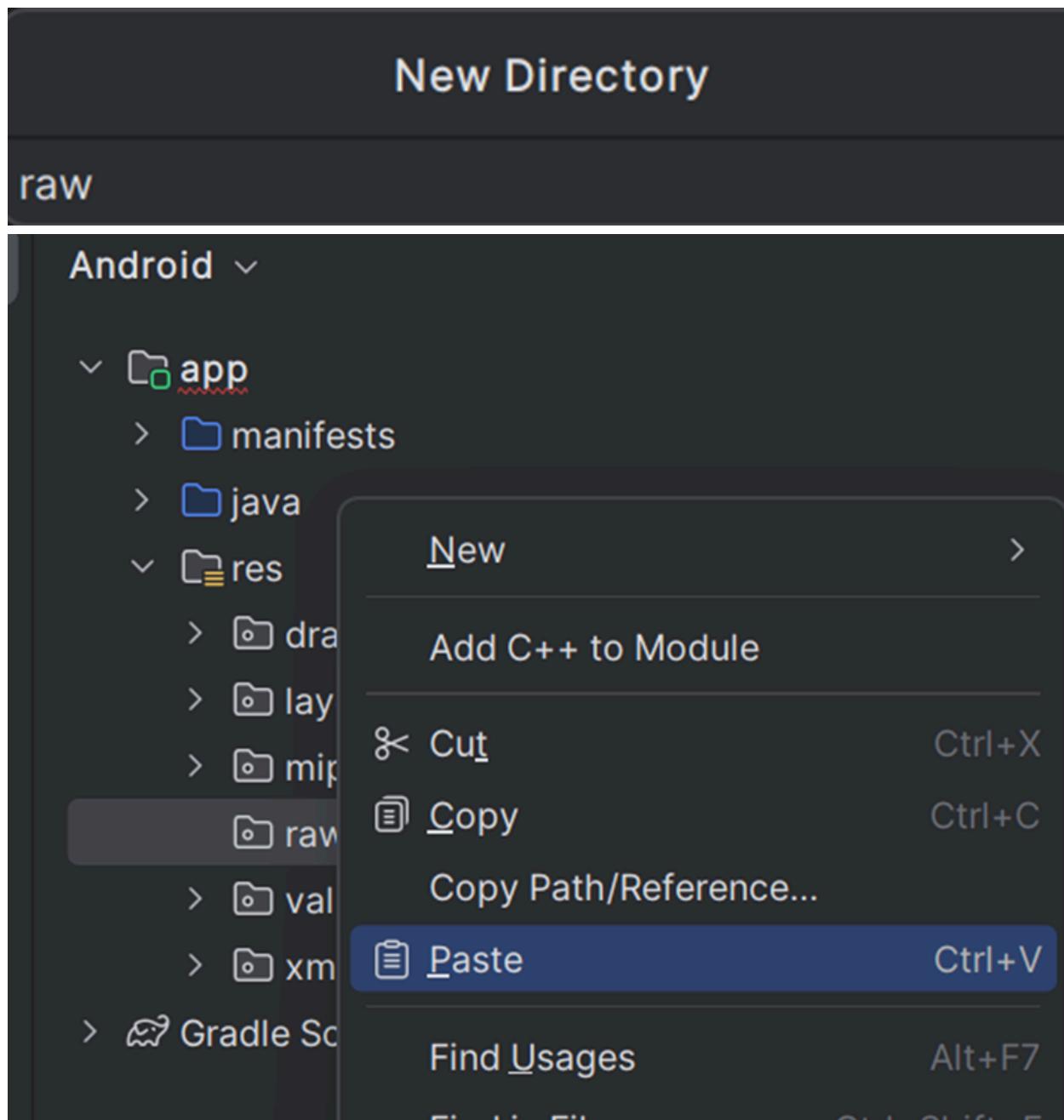
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="8dp"
        android:layout_marginTop="8dp"
        android:text="Start"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>

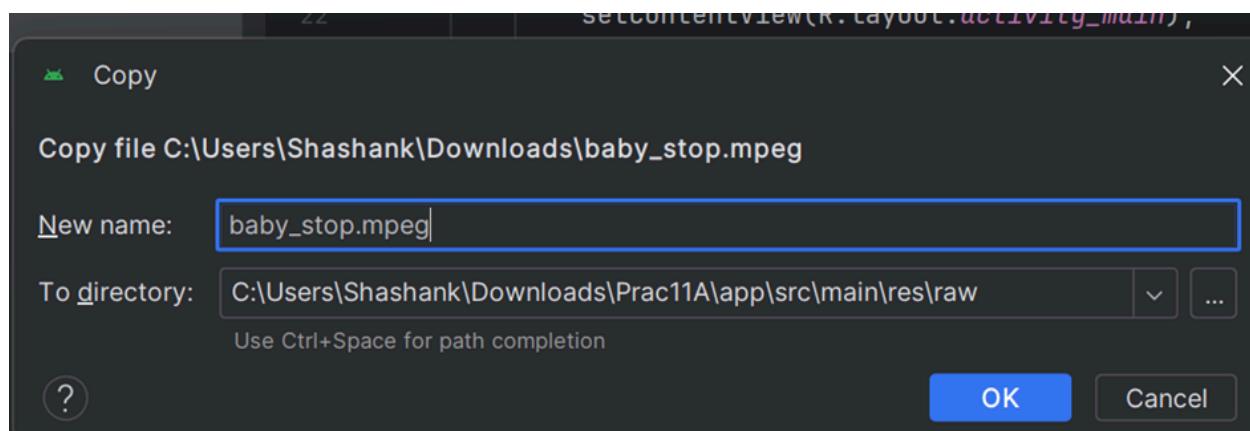
</androidx.constraintlayout.widget.ConstraintLayout>

```

Create a new directory





**MainActivity.java**

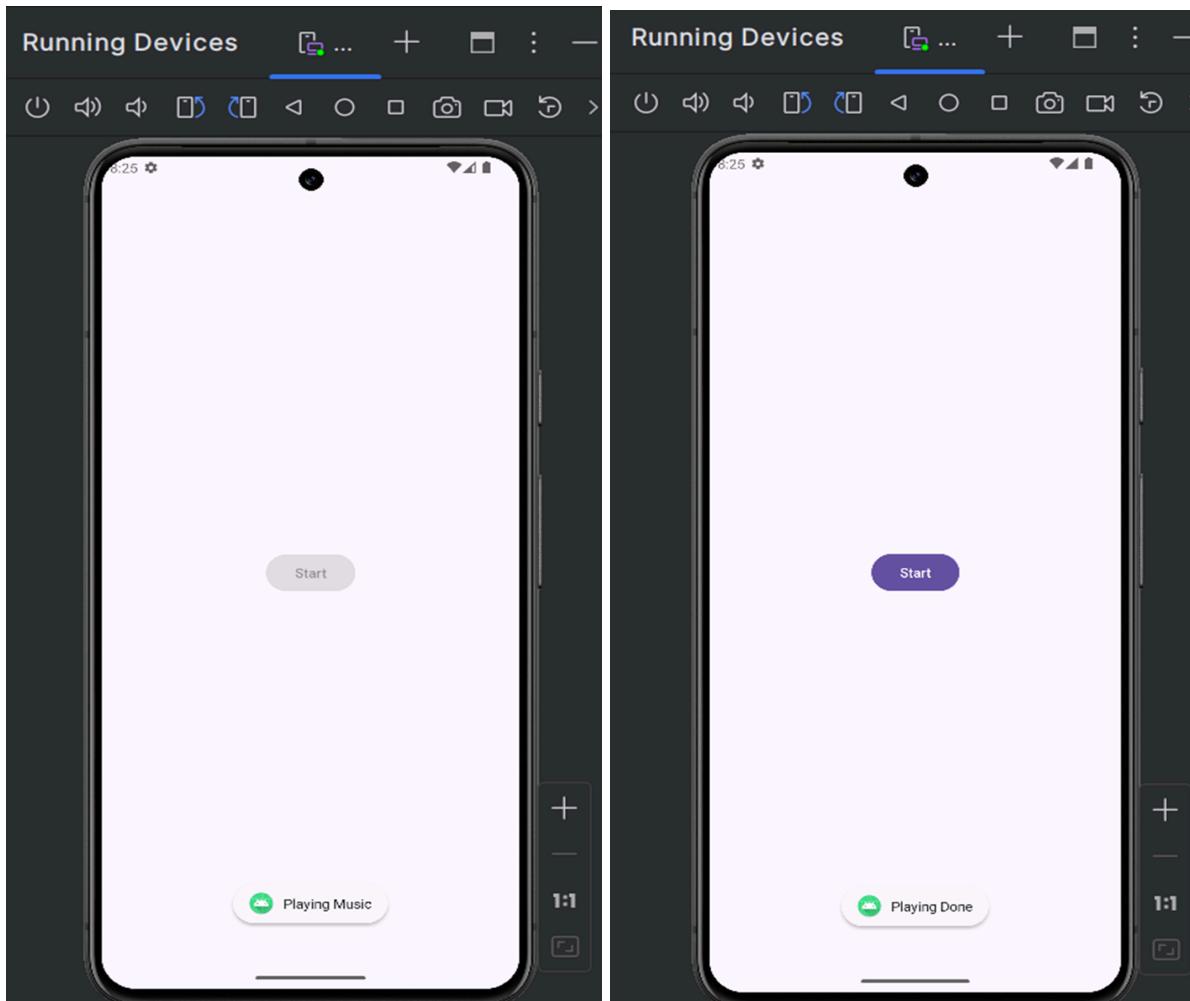
```
package com.example.prac11a;

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

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    MediaPlayer mediaPLayer;
    Button bn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        bn=(Button)findViewById(R.id.button);
        bn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v)
            {
                mediaPLayer=MediaPlayer.create(getApplicationContext(),R.raw.baby_stop);
                mediaPLayer.start();
                bn.setEnabled(false);
                Toast.makeText(getApplicationContext(),"Playing
Music",Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

```
mediaPlayer.setOnCompletionListener(new MediaPlayer.OnCompletionListener ()  
{  
    @Override  
    public void onCompletion(MediaPlayer mp)  
    {  
        mediaPlayer.release ();  
        mediaPlayer=null;  
        Toast.makeText(getApplicationContext(),"Playing  
Done",Toast.LENGTH_SHORT).show();  
        bn.setEnabled(true);  
    }  
});  
});  
}  
}
```

OUTPUT:

PRACTICAL 11B**AndroidManifest.xml**

```
<uses-feature android:name="android.hardware.telephony"/>

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

    <Button
        android:id="@+id/buttonCall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="call 5556" />

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

MainActivity.java

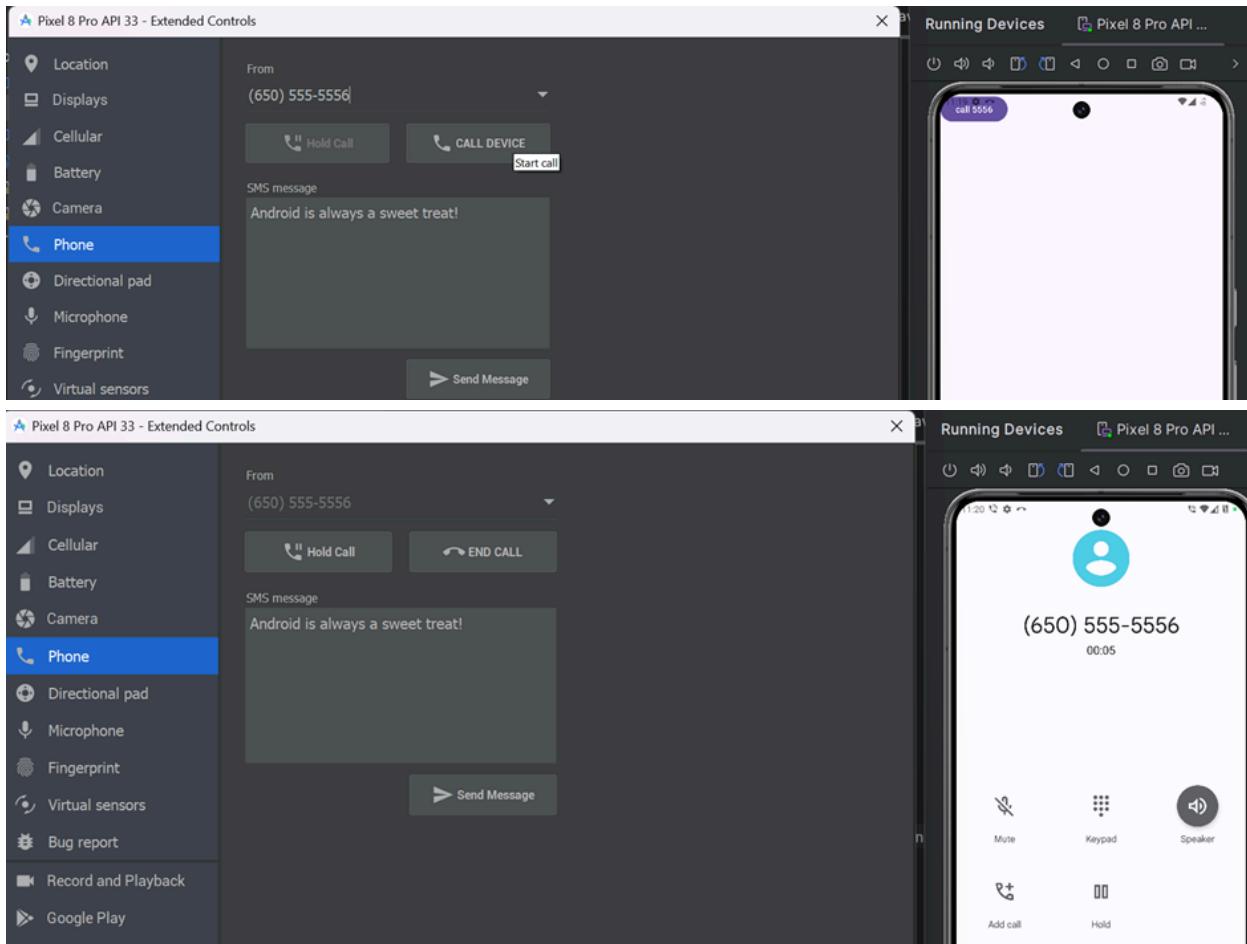
```
package com.example.prac11b;

import android.icu.util.Output;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.Manifest;
import android.content.Intent;
import android.content.pm.PackageManager;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    private Button button;
```

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    EdgeToEdge.enable(this);
    setContentView(R.layout.activity_main);
    button = (Button) this.<View>findViewById(R.id.buttonCall);
    button.setOnClickListener(new View.OnClickListener() {
        public void onClick(View arg0) {
            Intent callIntent = new Intent(Intent.ACTION_CALL);
            callIntent.setData(Uri.parse("tel:5556"));
            if (ActivityCompat.checkSelfPermission(MainActivity.this,
Manifest.permission.CALL_PHONE) != PackageManager.PERMISSION_GRANTED) {
                return;
            }
            startActivity(callIntent);
        }
    });
}
```

OUTPUT:

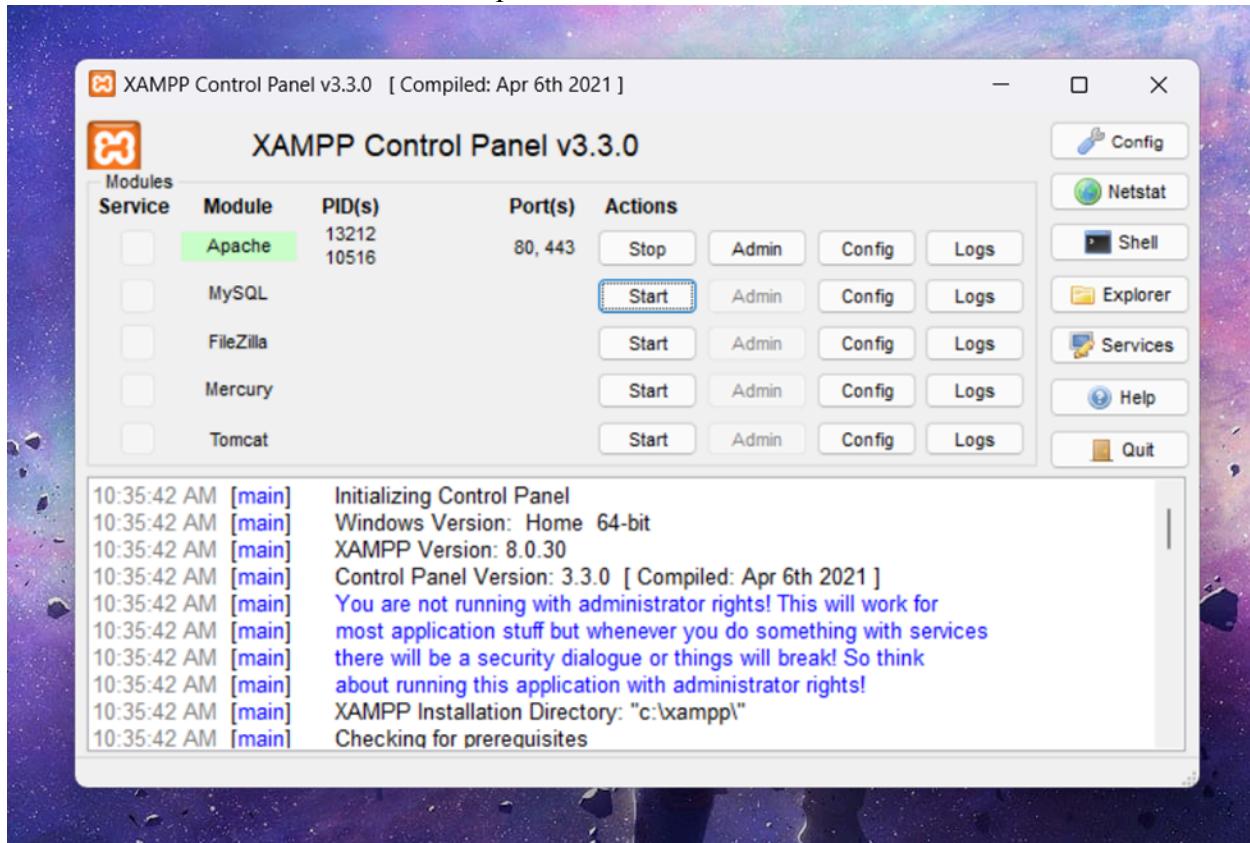


PRACTICAL 13

Programming Network Communications and Services (JSON)

1. Create JSON DATA:

Install and Run XAMP Server. Start Apache.



2. Create MYSQL Database and Table

Create database user_db;

use user_db;

Create table user_info (name varchar(20), email varchar(50), mobile varchar(20));

Insert into user_info values ("practical13", "practical13@gmail.com", "9876543210");

Select * from user_info;

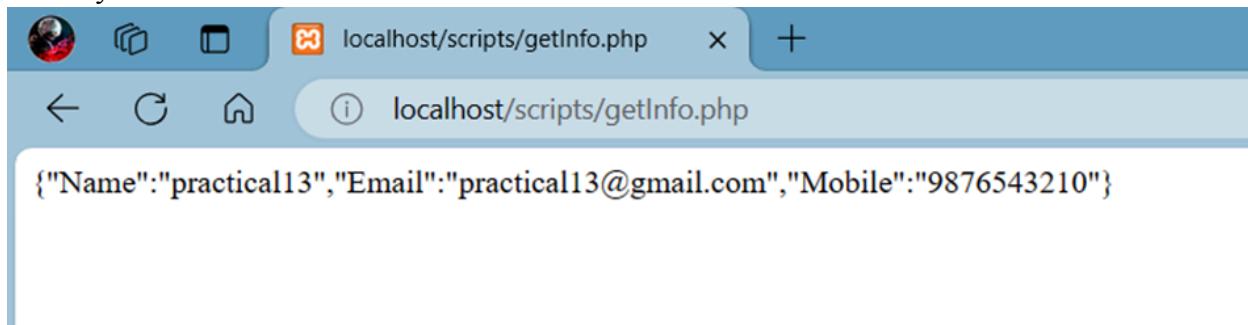
```
mysql> select * from user_info;
+-----+-----+-----+
| name | email | mobile |
+-----+-----+-----+
| practical13 | practical13@gmail.com | 9876543210 |
+-----+-----+-----+
1 row in set (0.00 sec)
```

3. Create PHP file

C:\xampp\htdocs\scripts\getInfo.php

```
<?php
$user_name = "root";
$password= "root";
$host = "localhost";
$db_name = "user_db";
$con= mysqli_connect($host,$user_name,$password,$db_name);
$sql="select * from user_info where name like practical13;";
$result = mysqli_query($con, $sql);
if(mysqli_num_rows($result)>0)
$row=mysqli_fetch_assoc($result);
echo json_encode(array("Name"=>$row["name"],
"Email"=>$row["email"],"Mobile"=>$row["mobile"]));
?
?>
```

4. verify the JSON:



5. Create New Project

In “AndroidManifest.xml” add

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

In Dependencies add below line then click on “Sync Now”

```

18
19     buildTypes { this: NamedDomainObjectContainer<ApplicationBuildType>
20         release { this: ApplicationBuildType
21             isMinifyEnabled = false
22             proguardFiles(
23                 getDefaultProguardFile( name: "proguard-android-optimize.txt"),
24                 "proguard-rules.pro"
25             )
26         }
27     }
28     compileOptions { this: CompileOptions
29         sourceCompatibility = JavaVersion.VERSION_1_8
30         targetCompatibility = JavaVersion.VERSION_1_8
31     }
32 }
33 dependencies { this: DependencyHandlerScope
34
35     implementation("androidx.appcompat:appcompat:1.6.1")
36     implementation("com.google.android.material:material:1.11.0")
37     implementation("androidx.constraintlayout:constraintlayout:2.1.4")
38     testImplementation("junit:junit:4.13.2")
39     androidTestImplementation("androidx.test.ext:junit:1.1.5")
40     androidTestImplementation("androidx.test.espresso:espresso-core:3.5.1")
41
42     implementation("com.android.volley:volley:1.2.1")
43
44 }

```

Activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:layout_margin="20dp"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name"
        android:textSize="18sp"
        android:layout_marginBottom="10dp"

```

```

        android:textStyle="bold"
    />

<TextView
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Email"
    android:textSize="18sp"
    android:layout_marginBottom="10dp"
    android:textStyle="bold"
    />

<TextView
    android:id="@+id/mobile"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Mobile"
    android:layout_marginBottom="10dp"
    android:textStyle="bold"
    />

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id	btnShow"
    android:text="show Output"
    android:textSize="18sp"
    android:layout_marginTop="10dp"
    />
</LinearLayout>

```

MainActivity.java

```

package com.example.practical_13_json_networkcommunicationsservices;

import androidx.appcompat.app.AppCompatActivity;
import com.android.volley.RequestQueue;
import com.android.volley.Request;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.JsonObjectRequest;
import org.json.JSONObject;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

```

```

import android.widget.Toast;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    Button button;
    TextView name, email, mobile;
    String Json_url = "http://10.0.2.2/scripts/getInfo.php";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button=findViewById(R.id.btnShow);
        name = findViewById(R.id.name);
        email = findViewById(R.id.email);
        mobile = findViewById(R.id.mobile);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                JsonObjectRequest jsonObjectRequest = new
                JsonObjectRequest(Request.Method.POST, Json_url, null, new
                Response.Listener<JSONObject>() {
                    @Override
                    public void onResponse(JSONObject response) {
                        try {
                            name.setText("Name: " + response.getString("Name"));
                            email.setText("Email: " + response.getString("Email"));
                            mobile.setText("Mobile: " + response.getString("Mobile"));
                        } catch (Exception e) {
                            }
                        }
                    }, new Response.ErrorListener() {
                        @Override
                        public void onErrorResponse(VolleyError error) {
                            Toast.makeText(getApplicationContext(), "error",
                            Toast.LENGTH_LONG).show();
                        }
                    });
                    MySingleton.getInstance(MainActivity.this).addToRequest(jsonObjectRequest);
                });
            }
        }
    }

MySingleton.java

```

```
package com.example.practical_13_json_networkcommunicationservices;
import com.android.volley.RequestQueue;
import com.android.volley.Request;
import com.android.volley.toolbox.Volley;
import android.content.Context;

public class MySingleton {
    private static MySingleton mySingleton;
    private RequestQueue requestQueue;
    private static Context mctx;
    public MySingleton(Context context){
        mctx= context;
        requestQueue=getRequestQueue();
    }
    public RequestQueue getRequestQueue(){
        if(requestQueue==null){
            requestQueue = Volley.newRequestQueue(mctx.getApplicationContext());
        }
        return requestQueue;
    }
    public static synchronized MySingleton getInstance(Context context){
        if(mySingleton == null){
            mySingleton = new MySingleton(context);
        }
        return mySingleton;
    }
    public <T>void addToRequest(Request<T> request){
        requestQueue.add(request);
    }
}
```

OUTPUT: