

**Shailendra Education Society's**  
**ARTS, COMMERCE & SCIENCE COLLEGE**

NAAC Re-accredited 'B++' grade with CGPA score 2.98 Shailendra Nagar, Dahisar  
(East), Mumbai - 400 068.



## CERTIFICATE

This is to certify that Mr. /Miss. \_\_\_\_\_  
of B.Sc. (I.T.) Semester VI has completed the practical work in the subject of  
“**Advanced Mobile Programming**” during the academic year 2022-23 under  
the guidance of **Asst. Prof. Vibhuti Borse** being the partial requirement for the  
fulfillment of the curriculum of Master of Science in Information Technology,  
University of Mumbai.

**Place: Mumbai**

**Date:     /     /2023**

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Internal Examiner

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External Examiner

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**B.Sc. (IT) Coordinator**

**College Seal**

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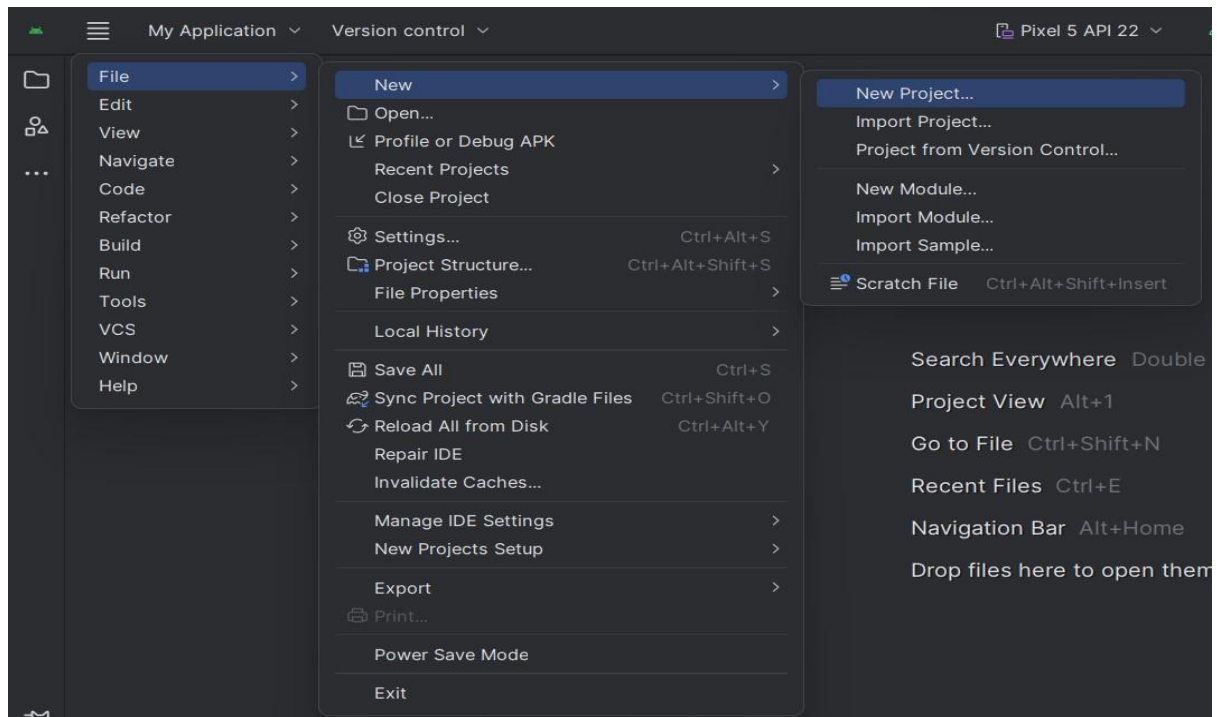
	accordingly. i.e. “Correct Username and Password” if username and password match and “Incorrect Username and Password” if username and password do not match.	
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## Practical No :-1

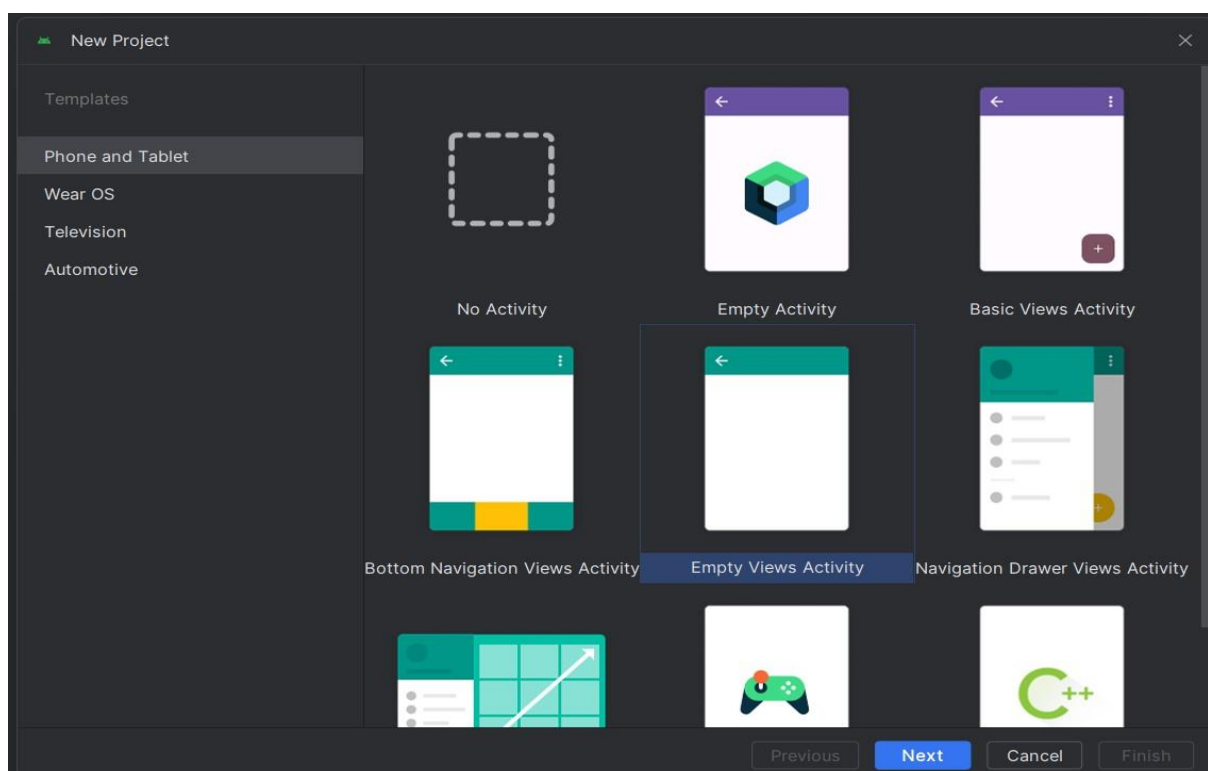
**Aim :-** Using Android Studio Create Hello World Program.

### Step 1: Create New Project in Android Studio

Open Android Studio and go to the File Menu >> New >> New Project .



**Select>> Empty Views Activity**

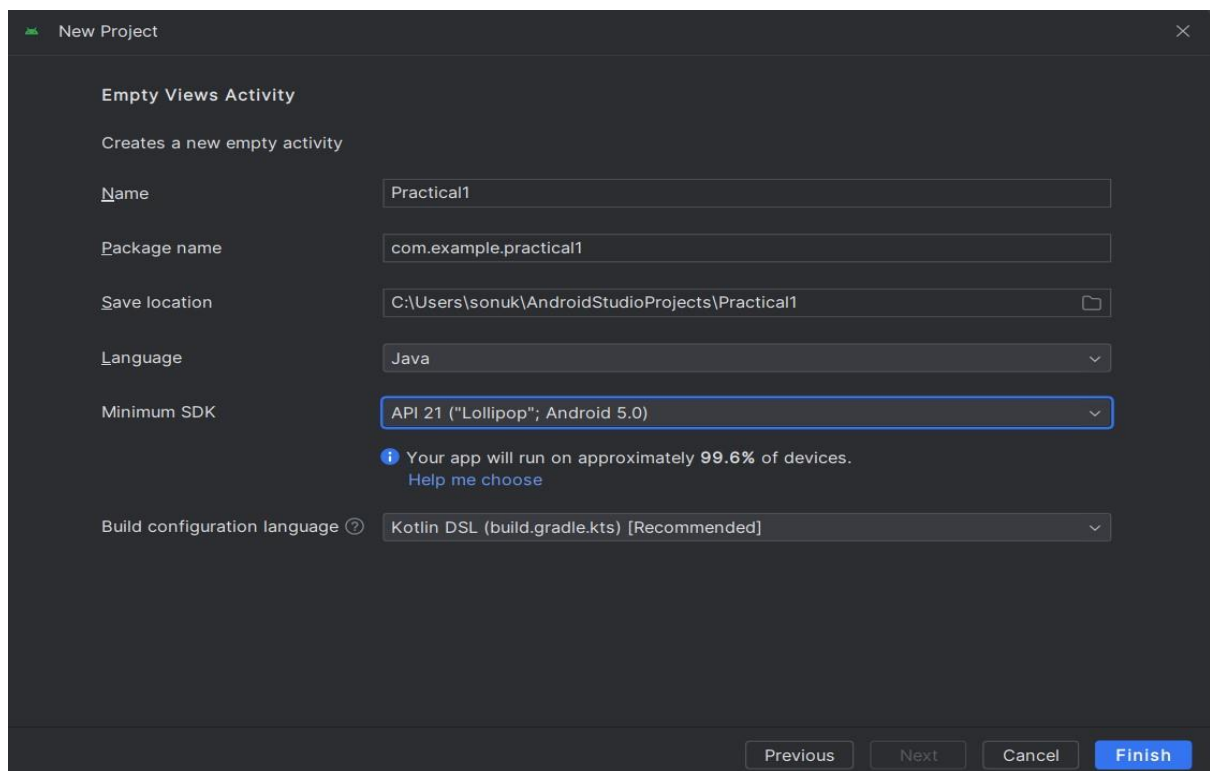


## Step 2: Configure Your New Project

Add your application details over here and hit "Next" button.

i.e.

- Application name
- Package name
- Language
- Project location



### ➤ 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!"
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

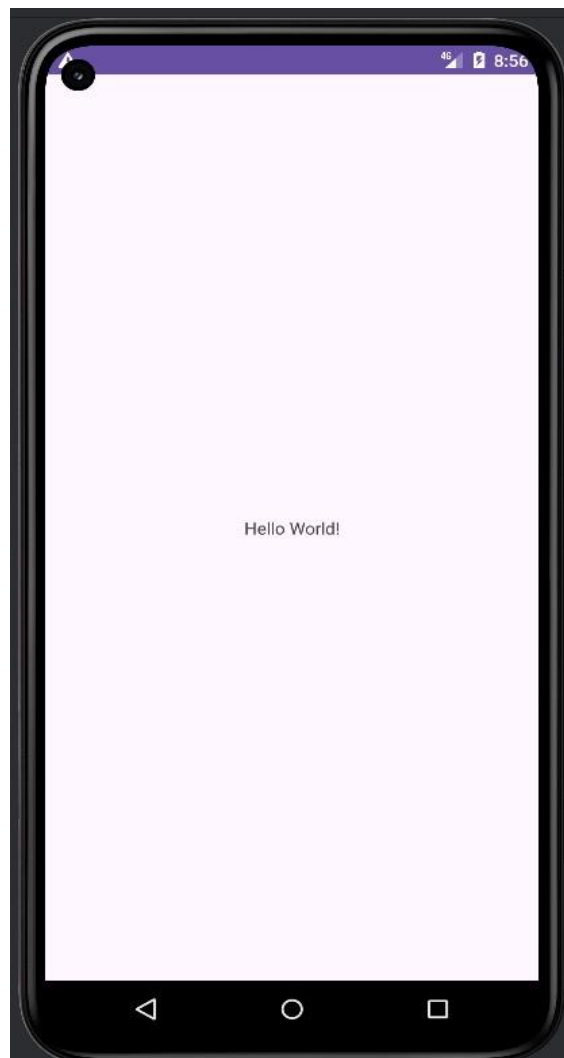
```
package com.example.practical1;

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);

}
}
```



## Practical No :-2

**Aim :-** Android Resources: (Color, Theme, String, Drawable, Dimension, Image)

### 1. Color:-

#### ➤ Colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFF</color>
    <color name="darkblue">#673AB7</color>
    <color name="green">#00FE5F</color>
    <color name="purple">#C500FE</color>
    <color name="orange">#FE9700</color>
    <color name="blue">#00BCD4</color>
</resources>
```

#### ➤ Activity\_main.xml

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

    <TextView
        android:id="@+id/t1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@color/orange"
        android:text="color 1"
        tools:ignore="TextContrastCheck"
        tools:layout_editor_absoluteX="28dp"
        tools:layout_editor_absoluteY="70dp" />
```

```
<TextView
    android:id="@+id/t2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="@color/blue"
    android:text="color 2"
    tools:ignore="TextContrastCheck"
    tools:layout_editor_absoluteX="28dp"
    tools:layout_editor_absoluteY="70dp" />
```

```
<TextView
    android:id="@+id/t3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="@color/green"
    android:text="color 3"
    tools:layout_editor_absoluteX="28dp"
    tools:layout_editor_absoluteY="70dp"/>
```

```
</LinearLayout>
```





## 2. Theme:-

### ➤ 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">

    <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/mytheme"
        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>
```

### ➤ Styles.xml

```
<resources>
    <!-- Base application theme. -->
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
    <!-- Customize your theme here. -->
    <item name="colorPrimary">@color/colorPrimary</item>
    <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
    <item name="colorAccent">@color/colorAccent</item>
    </style>
    <style name="BlueTheme" parent="Theme.AppCompat.Light.DarkActionBar">
    <item name="colorPrimary">@color/colorPrimary</item>
    <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
    <item name="colorAccent">@color/colorAccent</item>
    <item name="android:Background">#00FF00</item>
    <item name="android:textColor">#000000</item>
```

```
</style>
</resources>
```

### 3. Dimension:-

#### ➤ Dimens.xml

```
<resources>
    <string name="app_name">theme</string>
    <dimen name="myfontsize">20dp</dimen>
    <dimen name="myheight">200dp</dimen>
    <dimen name="mywidth">200dp</dimen>
    <string name="mystring">Shailendra college</string>
</resources>
```

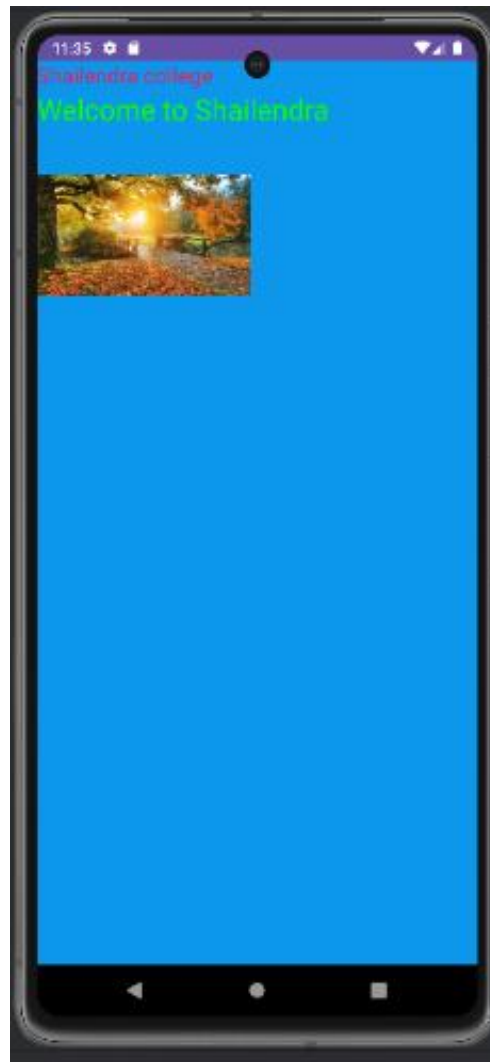
#### ➤ Activity\_main.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/mystring"
        android:textSize="@dimen/myfontsize"
        android:textColor="@color/mycolor"
        tools:ignore="MissingConstraints" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to Shailendra"
        android:textSize="12pt"
        tools:ignore="MissingConstraints" />

    <ImageView
        android:layout_width="@dimen/mywidth"
        android:layout_height="@dimen/myheight"
        android:src="@drawable/scenery"/>
</LinearLayout>
```



#### 4. String:-

##### ➤ Activity\_main.xml

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

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

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/Description"
/>
</LinearLayout>
```

### ➤ **Strings.xml**

```
<resources>
    <string name="app_name">My Application</string>
    <string name="ParaHead">Programming Media</string>
    <string name="Description">The android Multimedia Framework</string>
</resources>
```



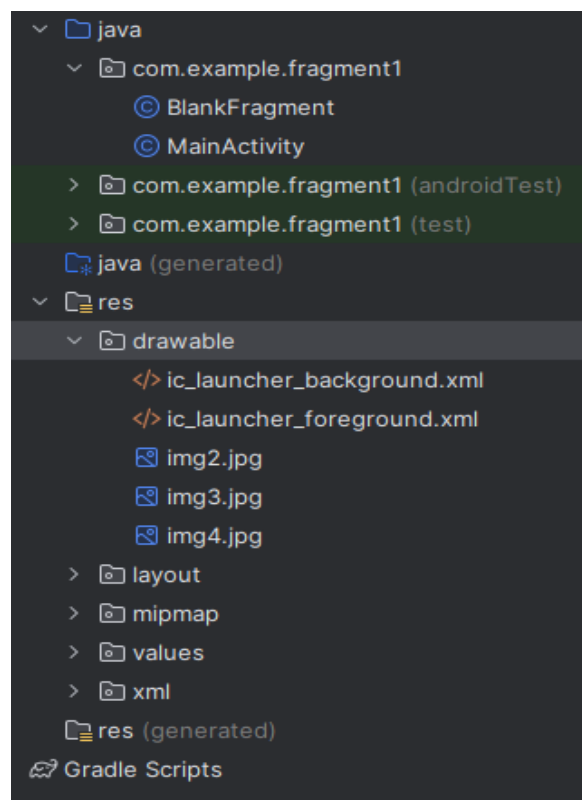
## 5. Drawable and Images:-

### ➤ 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">

    <ImageView
        android:id="@+id/img1"
        android:layout_width="259dp"
        android:layout_height="150dp"
        android:src="@drawable/img2" />
    <ImageView
        android:id="@+id/img2"
        android:layout_width="230dp"
        android:layout_height="136dp"
        android:src="@drawable/img3" />
    <ImageView
        android:id="@+id/img3"
        android:layout_width="304dp"
        android:layout_height="165dp"
        android:src="@drawable/img4" />
</LinearLayout>
```

### ➤ Add Images





### Practical No :-3

**A :-** Create an android application that display a welcome message on the click of button. In this program show the various stages of the lifecycle of an activity.

➤ **activity\_main.xml.**

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

    <Button
        android:id="@+id/b1"
        android:layout_width="197dp"
        android:layout_height="67dp"
        android:text="Click Here"
        android:onClick="MessageButton"
        tools:layout_editor_absoluteX="107dp"
        tools:layout_editor_absoluteY="222dp"
        tools:ignore="MissingConstraints" />

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

➤ **MainActivity.java**

```
package com.example.a3a;
import androidx.appcompat.app.AppCompatActivity;
import android.view.View;
import android.widget.Toast;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {
    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
    public 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");
    }
    public void MessageButton(View v)
    {
        if(v.getId() == R.id.b1)
        {
            MessageBox("Welcome Akanksha!!!");
        }
    }
    public void MessageBox(String message)
    {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}

```





```
Logcat: Logcat x +
Pixel 7 Pro API 34 (emulator-5554) Android 14, API 34 lifecycle x Cc
2024-03-01 18:22:11.755 7744-8159 RcsClientLib com.google.android.apps.messaging I Connecting RcsEngineLifecycleService
2024-03-01 18:22:11.773 7744-8159 RcsClientLib com.google.android.apps.messaging I com.google.android.rcs.client.lifecycle.RcsEngineLifecycleService connected
2024-03-01 18:22:11.810 7744-8053 RcsClientLib com.google.android.apps.messaging I Disconnecting RcsEngineLifecycleService
2024-03-03 00:46:43.344 7744-8561 RcsClientLib com.google.android.apps.messaging I Connecting RcsEngineLifecycleService
2024-03-03 00:46:43.478 7744-8682 RcsClientLib com.google.android.apps.messaging I com.google.android.rcs.client.lifecycle.RcsEngineLifecycleService connected
2024-03-03 00:46:43.710 7744-8053 RcsClientLib com.google.android.apps.messaging I Disconnecting RcsEngineLifecycleService
2024-03-03 00:47:15.427 8866-8866 lifecycle com.example.a3a D in the onCreate event
2024-03-03 00:47:15.504 8866-8866 lifecycle com.example.a3a D in the onStart event
2024-03-03 00:47:15.514 8866-8866 lifecycle com.example.a3a D In the onResume() event
```

## Practical No :-3

**B :- Creating a Fragment.**

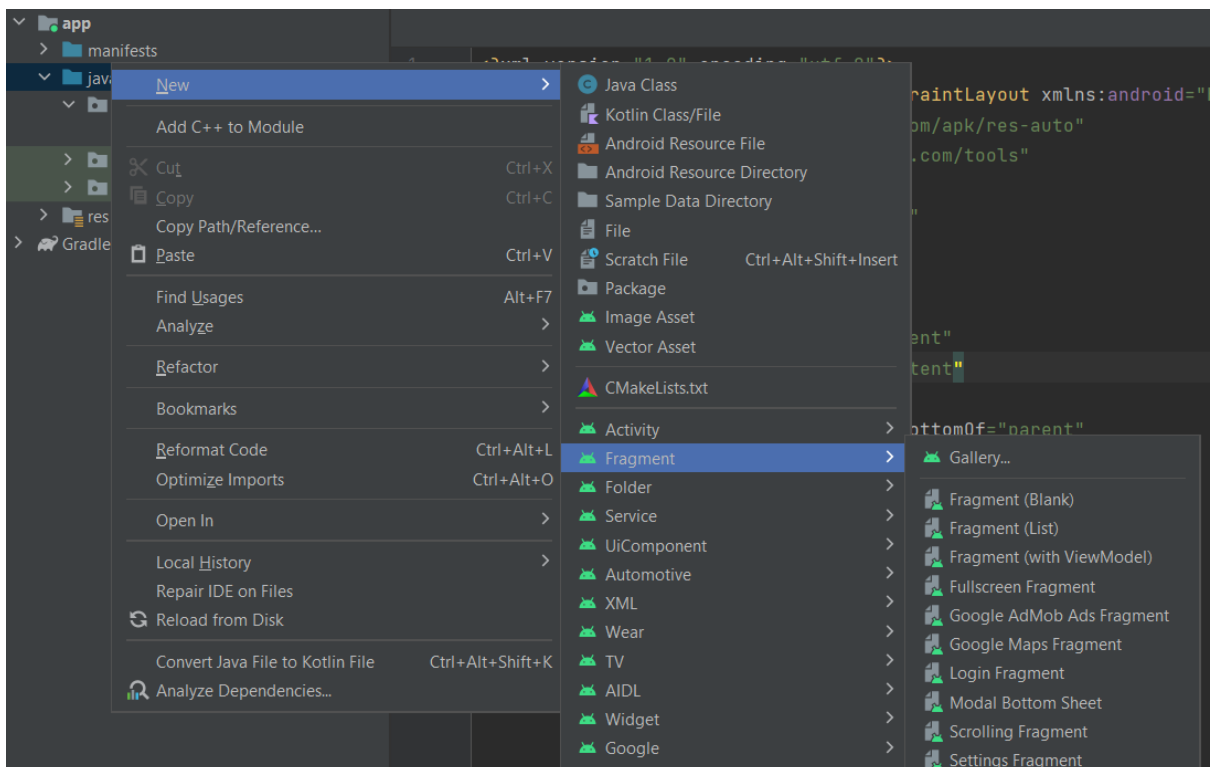
### ➤ **activity\_main.xml**

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

    <fragment
        android:id="@+id/fl1"
        class="com.example.a3b.BlankFragment"
        tools:layout="@layout/fragment_blank"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>

</LinearLayout>
```

### ➤ **Create New Fragment.**



In Fragment select → Fragment(Blank)

➤ **Fragment\_blank.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".BlankFragment">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Check Logcat" />

</FrameLayout>
```

➤ **BlankFragment.java**

```
package com.example.a3b;
import android.content.Context;
import android.os.Bundle;
import android.net.Uri;
import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class BlankFragment extends Fragment {
    String tag="lifecycle";
    public BlankFragment() {
        // Required empty public constructor
    }
    @Override
    public void onAttach(Context context) {
        super.onAttach(context);
    }
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
    }
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_blank, container, false);
    }
}
```

```
@Override
public void onViewCreated(@NonNull View view, @Nullable Bundle
savedInstanceState) {
    super.onViewCreated(view, savedInstanceState);
}
@Nullable
@Override
public View getView() {
    return super.getView();
}
@Override
public void onActivityCreated(@Nullable Bundle savedInstanceState) {
    super.onActivityCreated(savedInstanceState);
}
@Override
public void onStart() {
    super.onStart();
}
@Override
public void onResume() {
    super.onResume();
}
@Override
public void onPause() {
    super.onPause();
}
@Override
public void onStop() {
    super.onStop();
}
@Override
public void onDestroyView() {
    super.onDestroyView();
}
@Override
public void onDestroy() {
    super.onDestroy();
}
}
```



```
Logcat: Logcat x +
Pixel 7 Pro API 34 (emulator-5554) Android 14, API 34 lifecycle
2024-03-01 18:22:11.755 7744-8159 RcsClientLib com.google.android.apps.messaging I Connecting RcsEngineLifecycleService
2024-03-01 18:22:11.773 7744-8159 RcsClientLib com.google.android.apps.messaging I com.google.android.rcs.client.lifecycle.RcsEngineLifecycleService connected
2024-03-01 18:22:11.810 7744-8053 RcsClientLib com.google.android.apps.messaging I Disconnecting RcsEngineLifecycleService
2024-03-03 00:46:43.344 7744-8561 RcsClientLib com.google.android.apps.messaging I Connecting RcsEngineLifecycleService
2024-03-03 00:46:43.478 7744-8682 RcsClientLib com.google.android.apps.messaging I com.google.android.rcs.client.lifecycle.RcsEngineLifecycleService connected
2024-03-03 00:46:43.710 7744-8053 RcsClientLib com.google.android.apps.messaging I Disconnecting RcsEngineLifecycleService
2024-03-03 00:47:15.427 8866-8866 lifecycle pid-8866 D in the onCreate event
2024-03-03 00:47:15.504 8866-8866 lifecycle pid-8866 D in the onStart event
2024-03-03 00:47:15.514 8866-8866 lifecycle pid-8866 D In the onResume() event
```

## Practical No :-4

A: - Program related to different layouts.

### ➤ activity\_main.xml

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Layouts Demonstration"
        android:textSize="24dp"
        android:layout_gravity="center" />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Relative Layout"
        android:layout_gravity="center"
        android:id="@+id/btnRelative" />

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

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

</LinearLayout>
```

### ➤ MainActivity.java

```
package com.example.a4a;

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

```

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

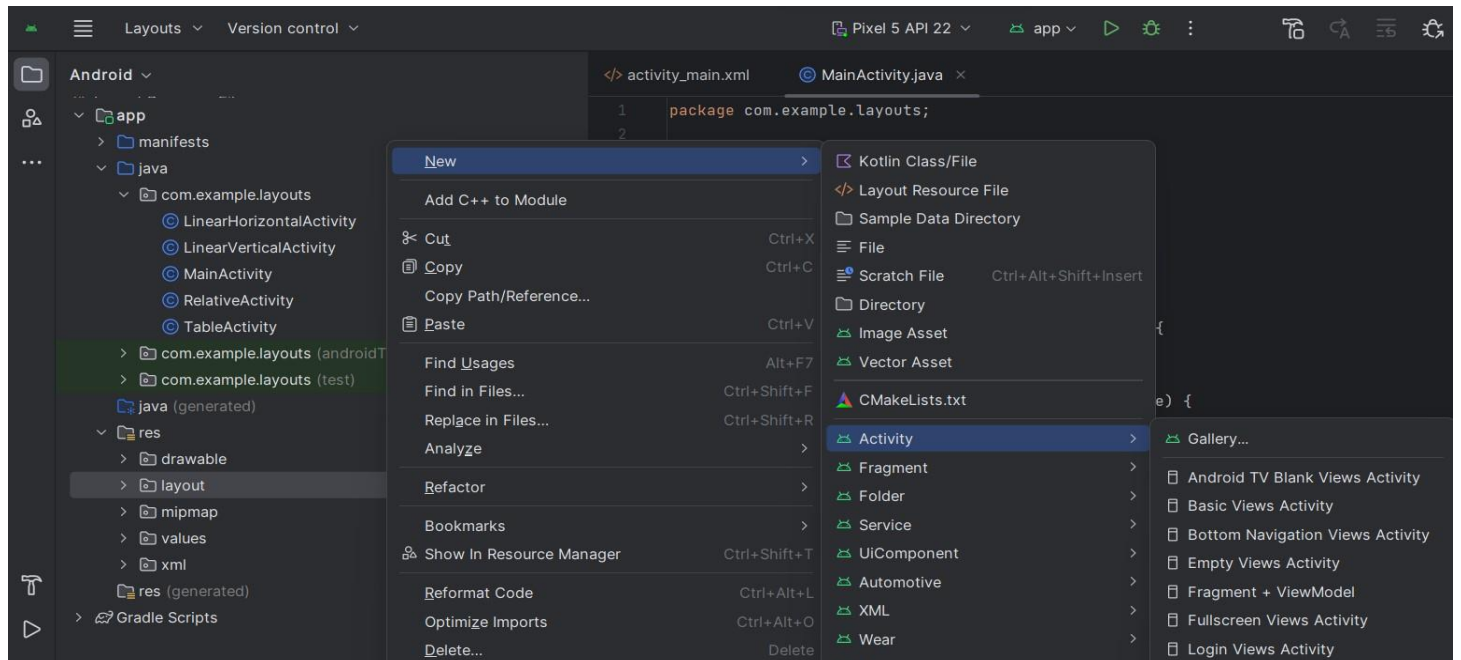
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button relative=findViewById(R.id.btnRelative);
        Button linearH=findViewById(R.id.btnLinearH);
        Button linearV=findViewById(R.id.btnLinearV);
        relative.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(), RelativeActivity.class);
                startActivity(i);
            }
        });
        linearH.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(), LinearHorizontal.class);
                startActivity(i);
            }
        });
        linearV.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(), LinearVertical.class);
                startActivity(i);
            }
        });
    }
}

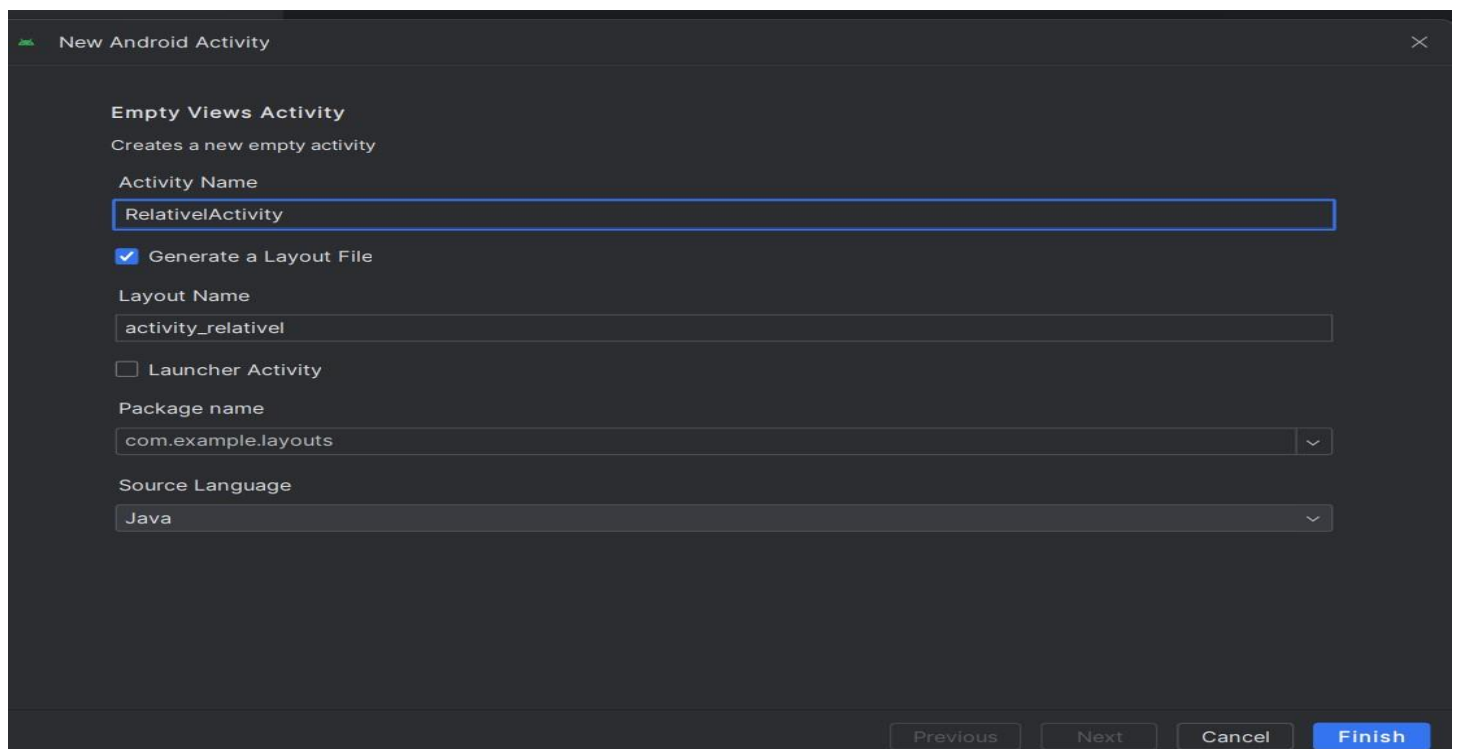
```

→ **Adding Layouts :-**

**a. Right Click on layout → Click activity → and select empty views activity**



## b. Give Activity name as RelativeActivity



→ Similarly add LinearVertical and LinearHorizontal activities and their corresponding layouts.

### 1. Activity Name = RelativeActivity

Layout Name= activity\_relative

App -> res -> layout -> activity\_relative.xml



## ➤ activity\_relative.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=".RelativeActivity">

    <TextView
        android:id="@+id/lblComments"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Comments"
        android:layout_alignParentTop="true"
        android:layout_alignParentLeft="true" />
    <EditText
        android:id="@+id/txtComments"
        android:layout_width="fill_parent"
        android:layout_height="170px"
        android:textSize="18dp"
        android:layout_alignLeft="@id/lblComments"
        android:layout_below="@id/lblComments"
        android:layout_centerHorizontal="true" />
    <Button
        android:id="@+id/btnSave"
        android:layout_width="220px"
        android:layout_height="wrap_content"
        android:text="Save"
        android:layout_below="@id/txtComments"
        android:layout_alignRight="@id/txtComments" />
    <Button
        android:id="@+id/btnCancel"
        android:layout_width="250px"
        android:layout_height="wrap_content"
        android:text="Cancel"
        android:layout_below="@id/txtComments"
        android:layout_alignLeft="@id/txtComments" />
</RelativeLayout>
```

## 2. Activity Name = LinearHorizontal

Layout Name= activity\_linear\_horizontal

App -> res -> layout -> activity\_relative.xml

### ➤ activity\_linear\_horizontal.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="horizontal"
    tools:context=".LinearHorizontal">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b1"
        android:text="Button1" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b2"
        android:text="Button2" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b3"
        android:text="Button3" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b4"
        android:text="Button4" />
</LinearLayout>
```

### 3. Activity Name = LinearVertical

Layout Name= activity\_linear\_vertical  
App -> res -> layout -> activity\_relative.xml

### ➤ activity\_linear\_vertical.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=".LinearVertical">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Linear Layout Vertical" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b1"
        android:text="Button1" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b2"
        android:text="Button2" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b3"
        android:text="Button3" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b4"
        android:text="Button4" />

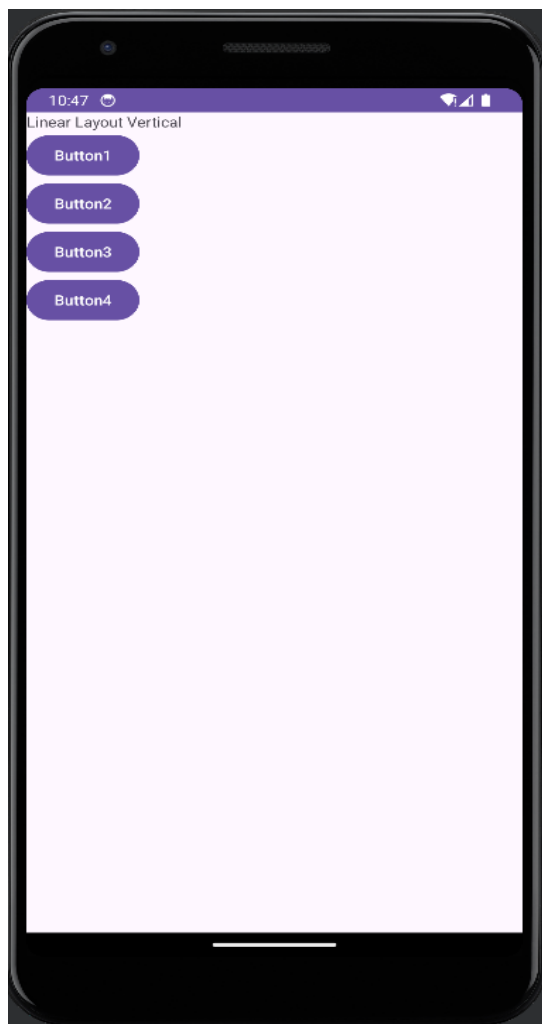
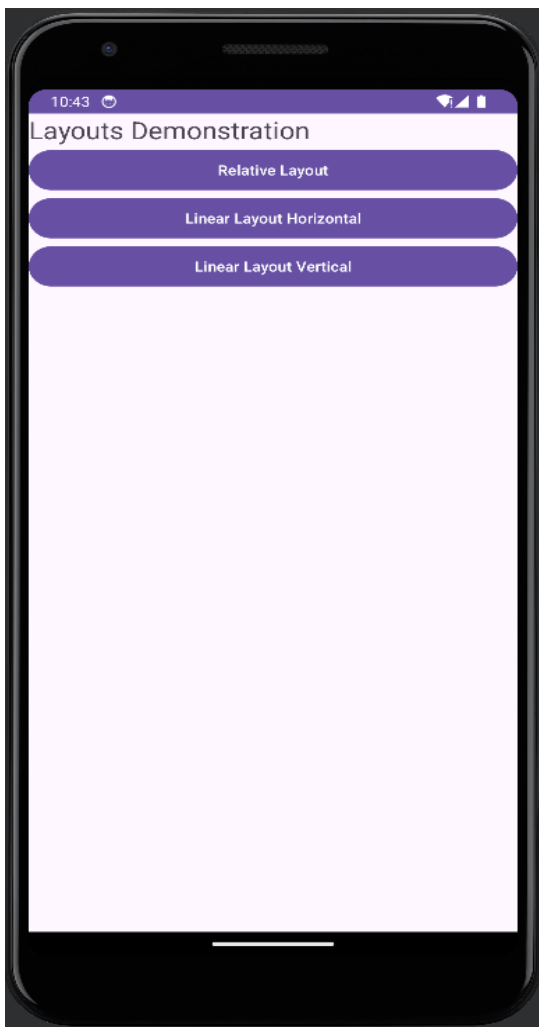
</LinearLayout>

```

```
{
```

Note :- No change in all activities' java file

1. RelativeActivity.java
  2. LinearHorizontal.java
  3. LinearVertical.java
- ```
}
```



## Practical No :-4

**B:** - Create an android application using gridview layout and insert images of different animals and toast the animal namely clicking the image.

### ➤ **activity\_main.xml**

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

    <GridView
        android:id="@+id/myGridView1"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_gravity="center"
        android:columnWidth="100dp"
        android:gravity="center"
        android:minHeight="90dp"
        android:numColumns="auto_fit"
        android:stretchMode="columnWidth"
        />
</LinearLayout>
```

### ➤ **MainActivity.java**

```
package com.example.fragment1;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
import android.widget.BaseAdapter;
import android.widget.GridView;
import android.widget.ImageView;
import android.widget.Toast;
import android.os.Bundle;
import java.util.ArrayList;
```

```

public class MainActivity extends AppCompatActivity {
    GridView androidGridView;
    Integer[] imageIDs={
        R.drawable.cat,R.drawable.koala,R.drawable.alpaca,
        R.drawable.panda,R.drawable.dog,R.drawable.penguin
    };
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        androidGridView = (GridView) findViewById(R.id.myGridView1);
        androidGridView.setAdapter(new ImageAdapterGridView(this));
        final ArrayList<String> message = new ArrayList<>();
        message.add("cat.bmp");
        message.add("Koala.bmp");
        message.add("alpaca.bmp");
        message.add("Panda.bmp");
        message.add("dog.bmp");
        message.add("penguin.bmp");
        androidGridView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            public void onItemClick(AdapterView<?> parent,
                                    View v, int position, long id) {
                String m = message.get(position);
                Toast.makeText(MainActivity.this, "" + m, Toast.LENGTH_LONG).show();
            }
        });
    }
    public class ImageAdapterGridView extends BaseAdapter {
        private Context mContext;
        public ImageAdapterGridView(Context c) {
            mContext = c;
        }
        public int getCount() {
            return imageIDs.length;
        }
        public Object getItem(int position) {
            return null;
        }
        public long getItemId(int position) {
            return 0;
        }
        public View getView(int position, View convertView, ViewGroup parent) {
            ImageView mImageView;
            if (convertView == null) {

```

```

        mImageView = new ImageView(mContext);
        mImageView.setLayoutParams(new GridView.LayoutParams(130, 130));
        mImageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
        mImageView.setPadding(16, 16, 16, 16);
    } else {
        mImageView = (ImageView) convertView;
    }
    mImageView.setImageResource(imageIDs[position]);
    return mImageView;
}
}
}

```







## Practical No :-4

**C:** - Create a table of button. On clicking the button it toast should appear mentioning on button clicked.

### ➤ activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TableLayout
        android:layout_width="409dp"
        android:layout_height="729dp"
        tools:layout_editor_absoluteX="1dp"
        tools:layout_editor_absoluteY="1dp">
        <TableRow
            android:layout_width="match_parent"
            android:layout_height="match_parent">
            <Button
                android:id="@+id/b1"
                android:text="Button 1" />
            <Button
                android:id="@+id/b2"
                android:text="Button 2" />
            <Button
                android:id="@+id/b3"
                android:text="Button 3" />
        </TableRow>
    </TableLayout>
</LinearLayout>
```

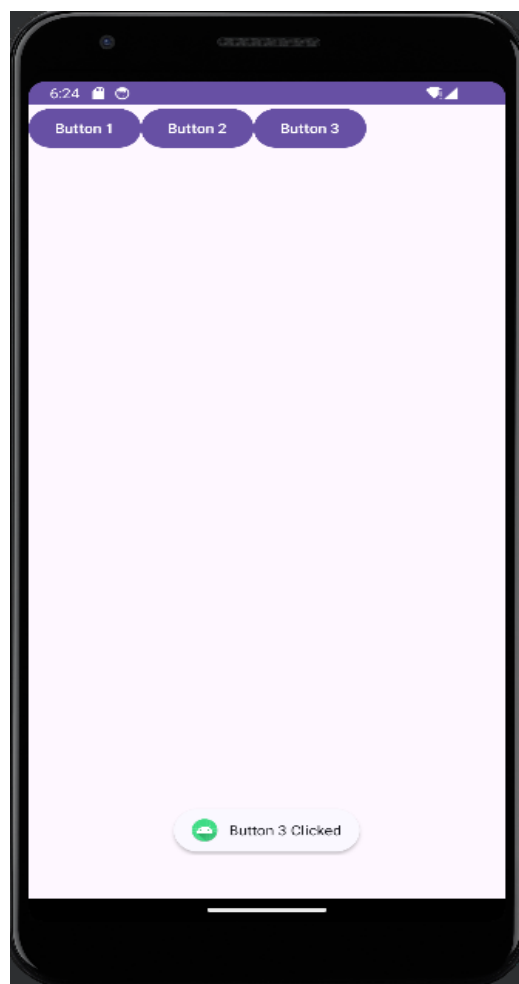
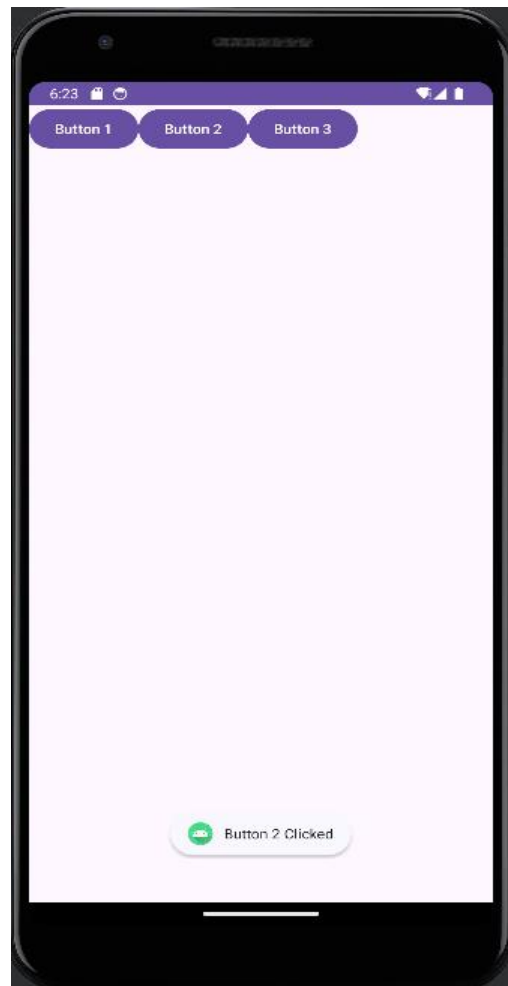
### ➤ MainActivity.java

```
package com.example.a4b;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Button b1=(Button)findViewById(R.id.b1);
    Button b2=(Button)findViewById(R.id.b2);
    Button b3=(Button)findViewById(R.id.b3);
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Toast.makeText(getApplicationContext(), "Button 1 Clicked",
                Toast.LENGTH_SHORT).show();
        }
    });
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Toast.makeText(getApplicationContext(), "Button 2 Clicked",
                Toast.LENGTH_SHORT).show();
        }
    });
    b3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Toast.makeText(getApplicationContext(), "Button 3 Clicked",
                Toast.LENGTH_SHORT).show();
        }
    });
}
}

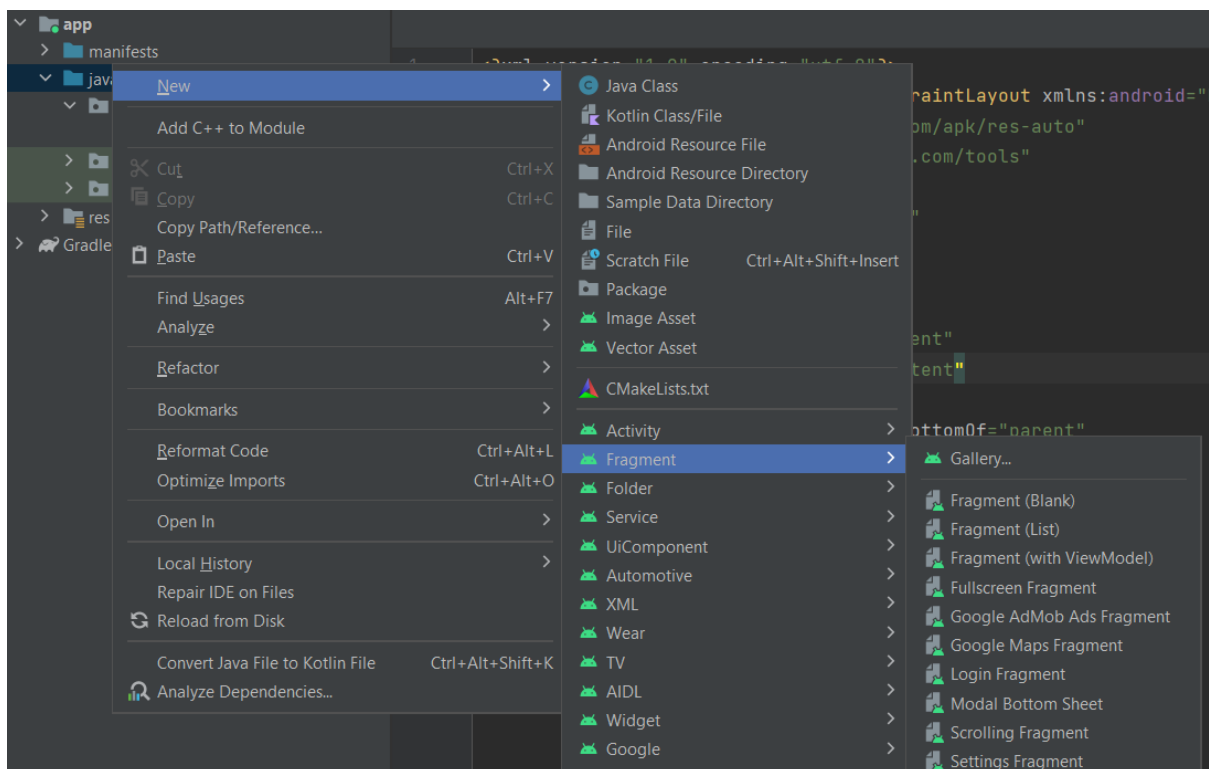
```



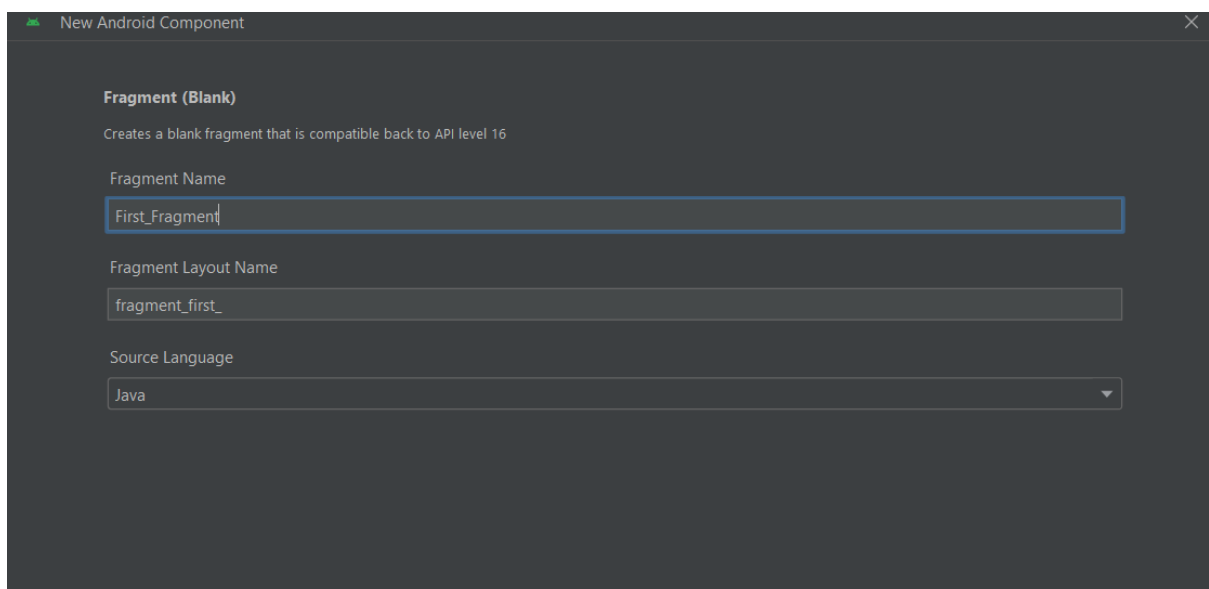
## Practical No :-5

**A:** - Create an android application with two fragments and load them on the click of button's. Display two buttons and a fragment in our activity and perform setOnClickListener event on both Button's. On the click of first button replace first fragment and on second button replace the second fragment with the layout. In the both fragment's display a TextView and a Button and click of button we display the name of the fragment with the help of the toast.

### ➤ Add 2 Blank Fragments, First\_Fragment and Second\_Fragment



In Fragment select → Fragment(Blank)



→ Similarly add Second\_Fragment

➤ **activity\_main.xml**

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

    <LinearLayout
        android:id="@+id/frag_contain"
        android:layout_width="312dp"
        android:layout_height="564dp"
        android:layout_marginStart="24dp"
        android:layout_marginTop="24dp"
        android:layout_marginEnd="24dp"
        android:layout_marginBottom="24dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">
        <Button
            android:id="@+id/b1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="Fragment1" />
        <Button
            android:id="@+id/b2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="Fragment2" />
    </LinearLayout>
</FrameLayout>
```

➤ **MainActivity.java**

```
package com.example.a5a;

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

```

import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    private Button clickbutton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        OnClickListener listener = new OnClickListener() {
            public void onClick(View view) {
                Fragment fragment = null;
                if(view == findViewById(R.id.b1)){
                    fragment = new First_Fragment();
                } else {
                    fragment = new Second_Fragment();
                }
                FragmentManager manager = getSupportFragmentManager();
                FragmentTransaction transaction = manager.beginTransaction();
                transaction.replace(R.id.frag_contain, fragment);
                transaction.commit();
            }
        };
        Button btn1 = (Button)findViewById(R.id.b1);
        btn1.setOnClickListener(listener);
        Button btn2 = (Button)findViewById(R.id.b2);
        btn2.setOnClickListener(listener);
    }
}

```

### ➤ **fragment\_first.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"
    tools:context=".First_Fragment">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="24dp"

```

```

        android:layout_marginTop="24dp"
        android:text="First Fragment"
    />
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginTop="40dp"
    android:text="click First Fragment "
    />
</LinearLayout>

```

### ➤ **First\_Fragment.java**

```

package com.example.a5a;

import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class First_Fragment extends Fragment {
    private Button button;
    public First_Fragment() {
        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        {
            View view = inflater.inflate(R.layout.fragment_first_, container, false);
            button = view.findViewById(R.id.button1);
            button.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    Toast.makeText(getActivity(), "First Fragment",
                        Toast.LENGTH_SHORT).show();
                }
            });
            return view;
        }
    }
}

```

```
}
```

### ➤ **fragment\_second.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"
    tools:context=".Second_Fragment">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="24dp"
        android:layout_marginTop="24dp"
        android:text="Second fragment"
    />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="24dp"
        android:layout_marginTop="40dp"
        android:text="Click Second Fragment"
    />

</LinearLayout>
```

### ➤ **Second\_Fragment.java**

```
package com.example.a5a;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class Second_Fragment extends Fragment {
    private Button button;
    public Second_Fragment() {
```

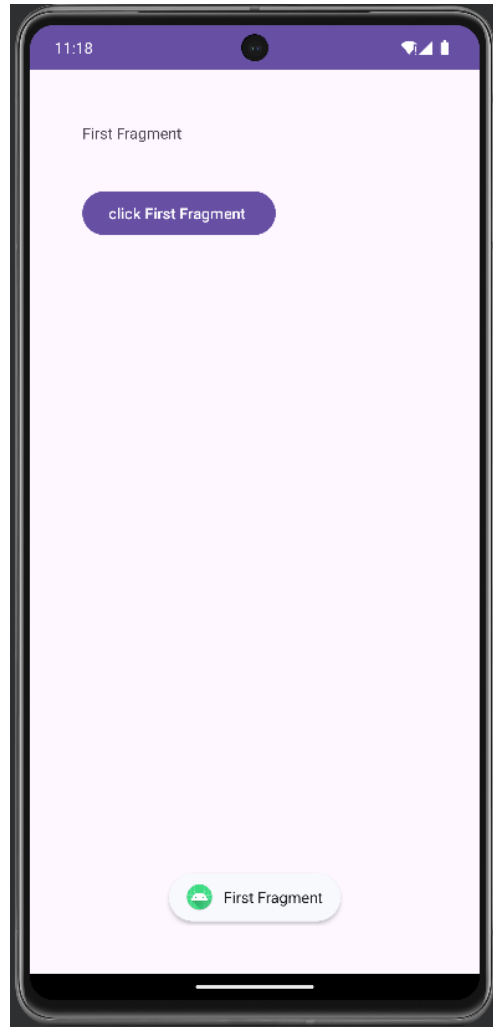


```

        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        View view=inflater.inflate(R.layout.fragment_second_,container,false);
        button=view.findViewById(R.id.button2);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getActivity(),"Second
Fragment",Toast.LENGTH_SHORT).show();
            }
        });
        return view;
    }
}

```



## Practical No :-5

**B:** - Create an android application that display a login form with text from username and password and button for submit and reset. On submitting, toast should be display accordingly. i.e. "Correct Username and Password" if username and password match and "Incorrect Username and Password" if username and password do not match.

### ➤ 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:layout_width="300dp"
        android:layout_height="600dp"
        android:orientation="vertical"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.333"
        app:layout_constraintStart_toStartOf="parent"
        tools:layout_editor_absoluteY="65dp">
        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="LOGIN" />
        <TextView
            android:id="@+id/tv1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Username" />
        <EditText
            android:id="@+id/field1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName" />
        <TextView
            android:id="@+id/tv2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Password" />
        <EditText
```

```

        android:id="@+id/field2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword" />
        <Button
            android:id="@+id/send"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Send" />
        <Button
            android:id="@+id/reset"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Reset" />
    </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

### ➤ MainActivity.java

```

package com.example.validate;

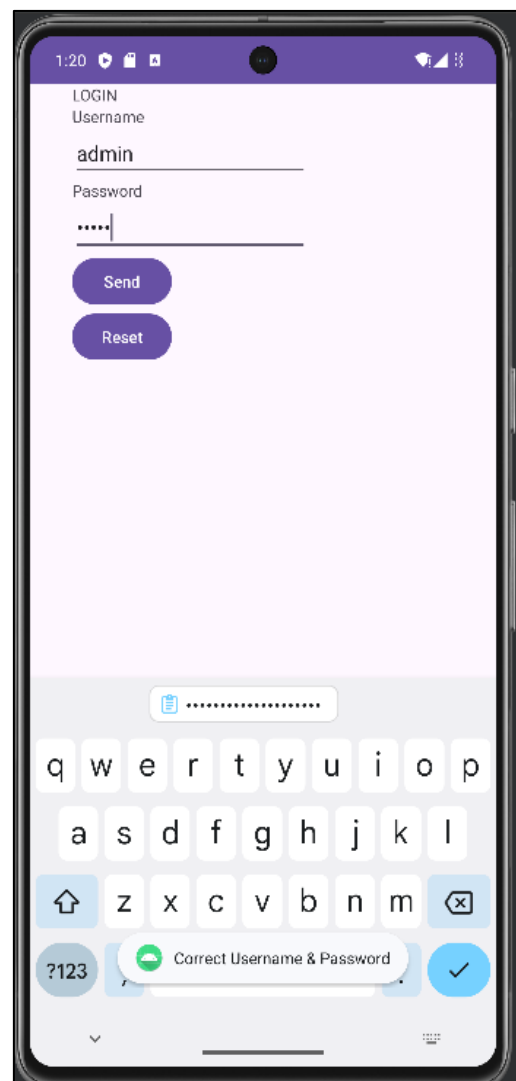
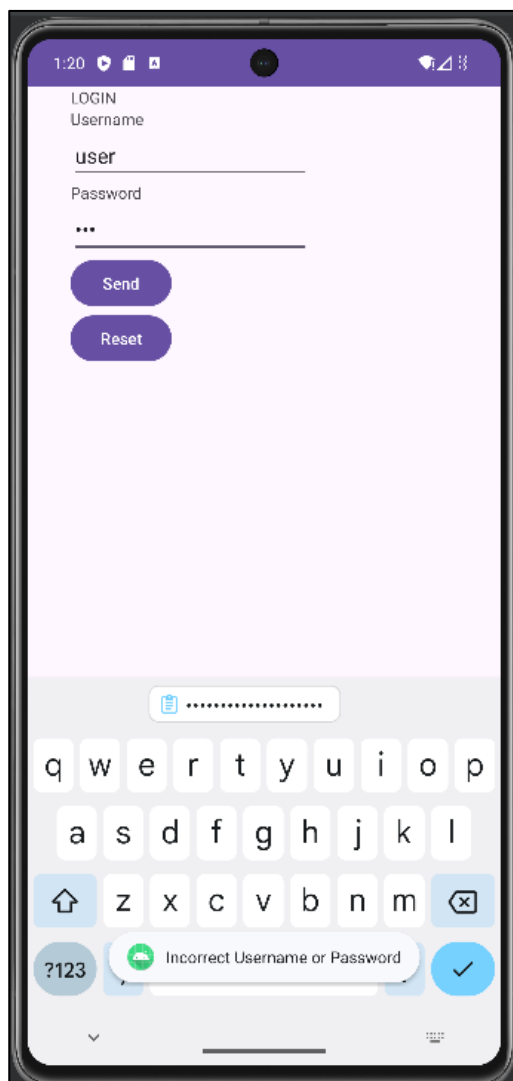
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import
android.widget.Button;
import
android.widget.EditText;
import android.widget.Toast;
import java.lang.String;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button send= (Button)findViewById(R.id.send);
        Button reset=(Button)findViewById(R.id.reset);
        send._string=username.getText().toString();
        String password_string=password.getText().toString();
        System.out.println(username_string);
        if(username_string.equals("admin")&&password_string.equals("12345"))
        {
            Toast.makeText(getApplicationContext(),"Correct Username & Password",
            Toast.LENGTH_SHORT).show();
        }
        else
        {

```

```

        Toast.makeText(getApplicationContext(),"Incorrect Username or Password",
        Toast.LENGTH_SHORT).show();
    }
}
});
reset.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText
username=(EditText)findViewById(R.id.field1);
EditText password=(EditText)findViewById(R.id.field2);
username.setText("");        password.setText("");
    }
});
}

```

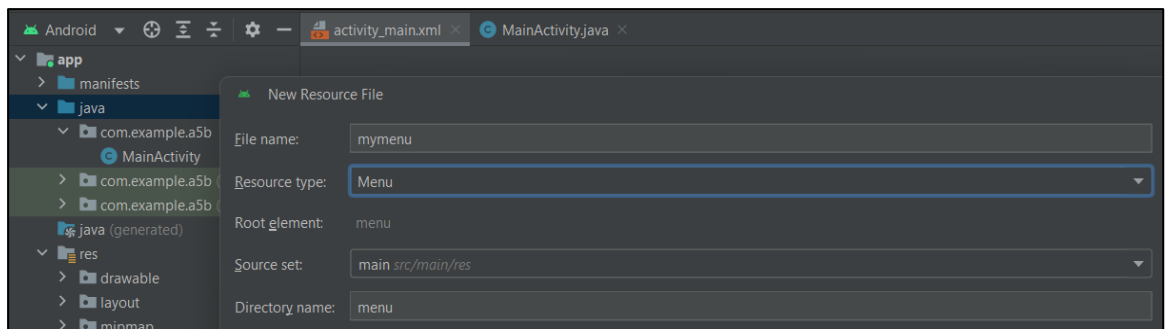
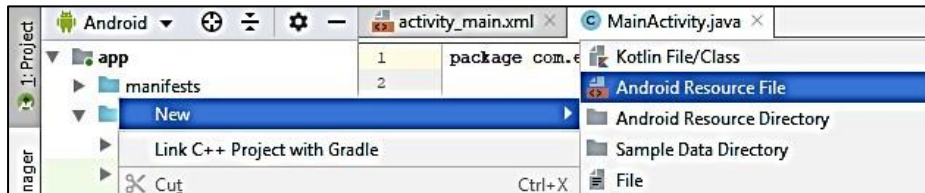


## Practical No :- 6

**A:** - Create an android application to demonstrate the use of menu the toast should be appeared by selecting the menu items.

### ➤ Create New xml file for menu.

In java → New → Android Resource File

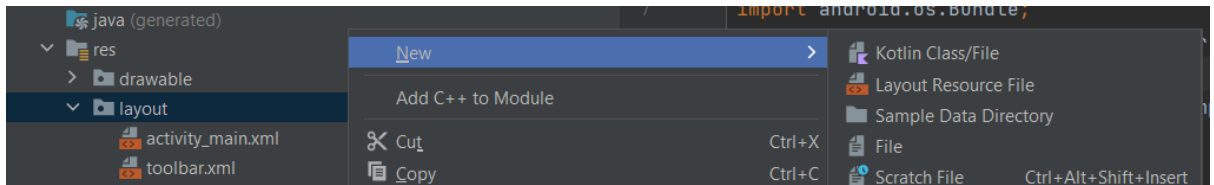


### ➤ In mymenu.xml

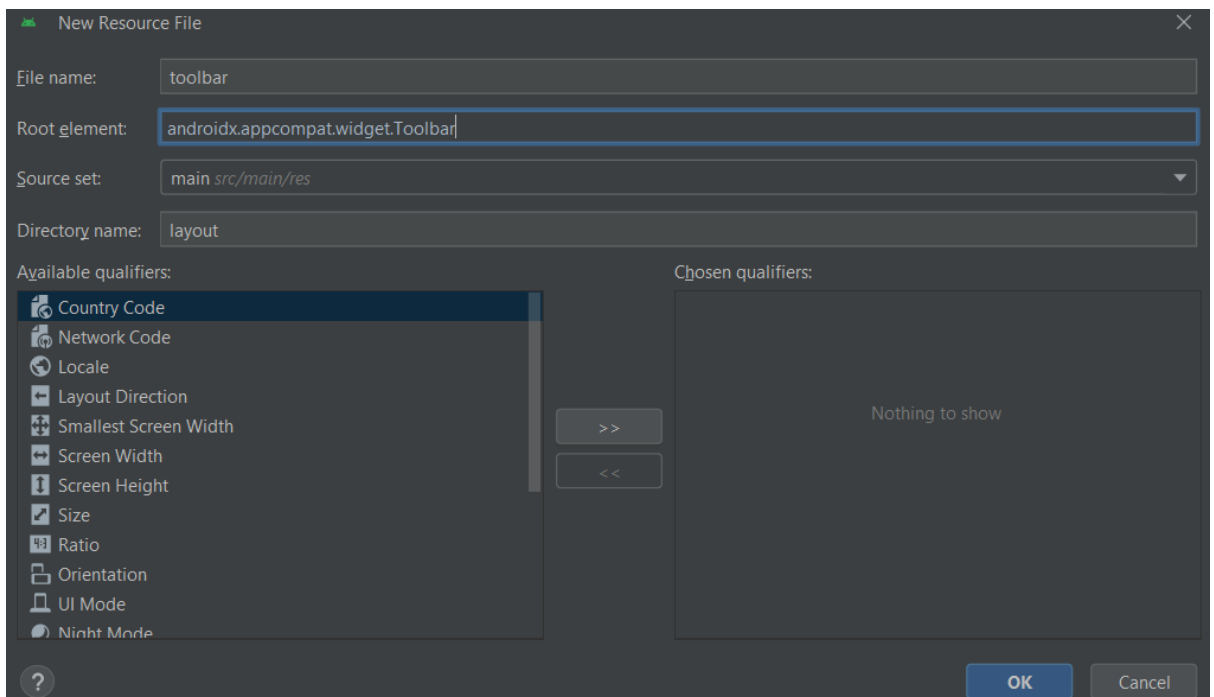
```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content">
    <item
        android:id="@+id/newb"
        android:title="Bookmarks"/>
    <item
        android:id="@+id/search"
        android:title="Search"/>
    <item
        android:id="@+id/save"
        android:title="Save"/>
    <item
        android:id="@+id/share"
        android:title="Share"/>
    <item
        android:id="@+id/delete"
        android:title="Delete"/>
    <item
        android:id="@+id/exit"
```

```
        android:title="Exit"/>
    </menu>
```

➤ **Create New xml file for toolbar**



→ In new, select Layout Resource file



➤ **In toolbar.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="wrap_content"
        android:background="@color/design_default_color_primary_dark"
        android:elevation="4dp"
    >
</androidx.appcompat.widget.Toolbar>
```

➤ **Activity\_main.xml**

```

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

    <include layout="@layout/toolbar"
        android:id="@+id/toolbar"
        />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        />

</LinearLayout>

```

### ➤ MainActivity.java

```

package com.example.a6a;
import androidx.appcompat.app.AppCompatActivity;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;
import android.os.Bundle;
import androidx.appcompat.widget.Toolbar;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Toolbar toolbar=findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
    }
    public boolean onCreateOptionsMenu(Menu menu)
    {
        MenuInflater mi=getMenuInflater();
        mi.inflate(R.menu.mymenu,menu);
        return true;
    }
    public boolean onOptionsItemSelected(MenuItem item)
    {
        if(item.getItemId()==R.id.newb)
        {
            Toast.makeText(this,"new Selected",Toast.LENGTH_SHORT).show();
            return true;
        }
    }
}

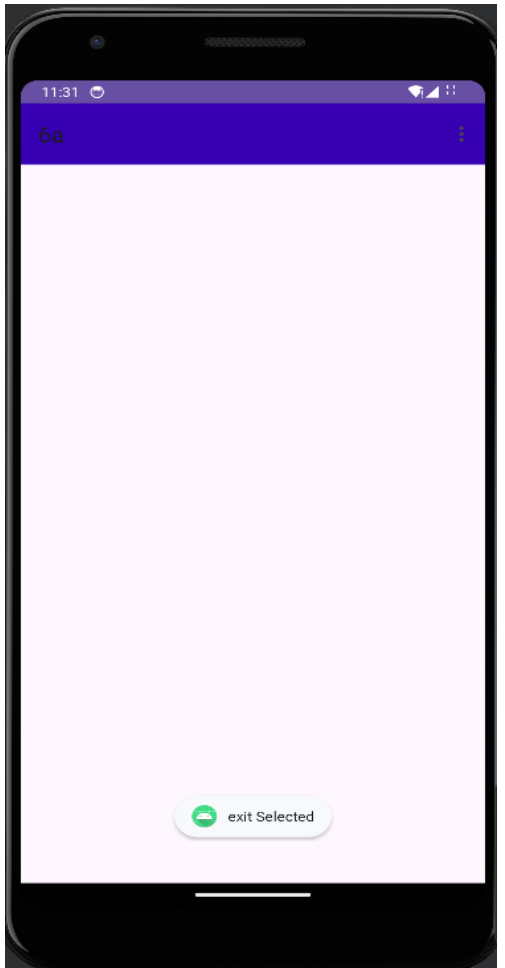
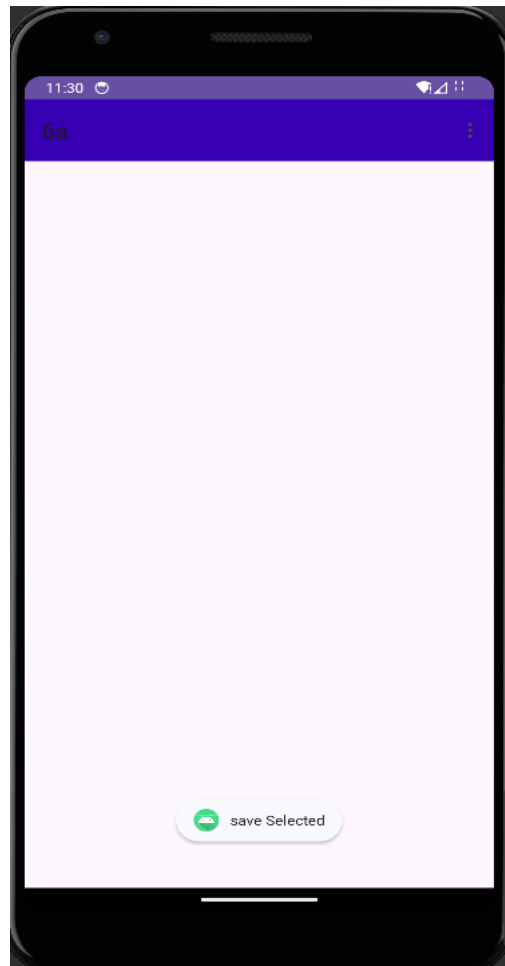
```

```

    }
    else if(item.getItemId()==R.id.search)
    {
        Toast.makeText(this,"search Selected",Toast.LENGTH_SHORT).show();
        return true;
    }
    else if(item.getItemId()==R.id.save)
    {
        Toast.makeText(this,"save Selected",Toast.LENGTH_SHORT).show();
        return true;
    }
    else if(item.getItemId()==R.id.delete)
    {
        Toast.makeText(this,"delete Selected",Toast.LENGTH_SHORT).show();
        return true;
    }
    else if(item.getItemId()==R.id.exit)
    {
        Toast.makeText(this,"exit Selected",Toast.LENGTH_SHORT).show();
        return true;
    }
    else if(item.getItemId()==R.id.share)
    {
        Toast.makeText(this,"share Selected",Toast.LENGTH_SHORT).show();
        return true;
    }
    return super.onOptionsItemSelected(item);
}
}

```





## Practical No :-6

**B: -** Create an android application to display alert dialog on pressing the Back Button.

### ➤ Activity\_main.xml

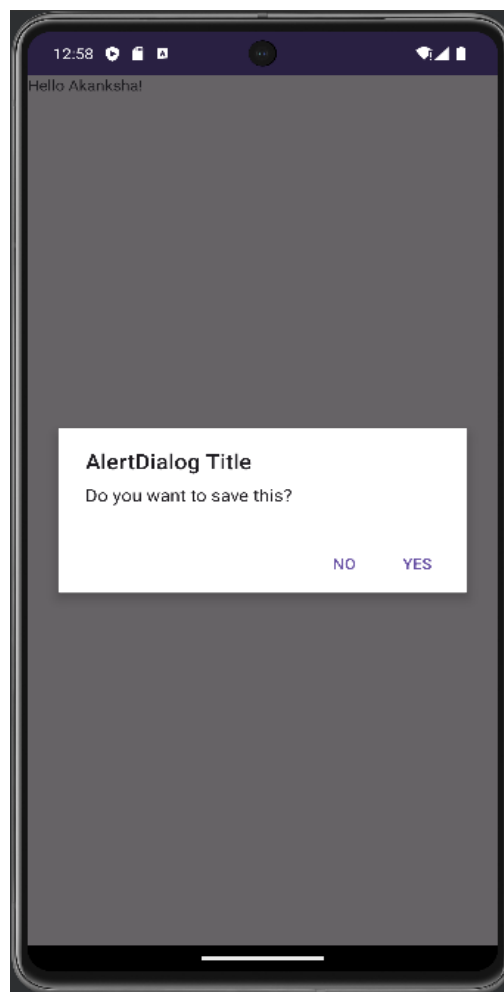
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"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

### ➤ MainActivity.java

```
package com.example.a6b;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.os.Bundle;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AlertDialog.Builder;
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    @Override
    public void onBackPressed() {
        Builder box = new Builder(this);
        box.setTitle("AlertDialog Title");
        box.setMessage("Do you want to save this? ");
        box.setPositiveButton("YES", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                finish();
            }
        });
        box.setNegativeButton("NO", new DialogInterface.OnClickListener() {
```

```
        @Override
        public void onClick(DialogInterface dialog, int which) {
            dialog.cancel();
        }
    });
    AlertDialog alert = box.create();
    alert.show();
}
```



## Practical No.: -7

**Aim:** - Create an android application to pass the data from one activity to another activity or one application to another application in a same application using the Intent.

### ➤ activity\_main.xml

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

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Type something"
        android:id="@+id/edittext1"/>

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Click"
        android:layout_below="@+id/edittext1"
        android:textSize="20sp" />

</RelativeLayout>
```

### ➤ MainActivity.java

```
package com.example.a7prac;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    Button btn;
    EditText et;
    String st;

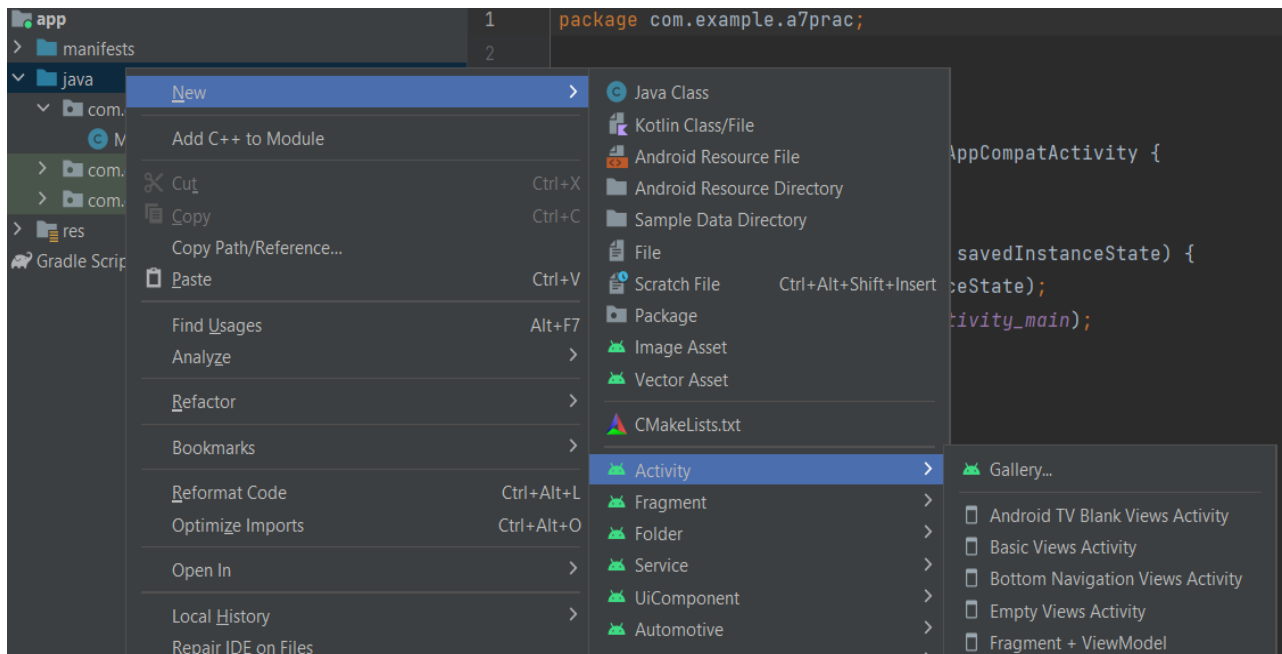
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

```

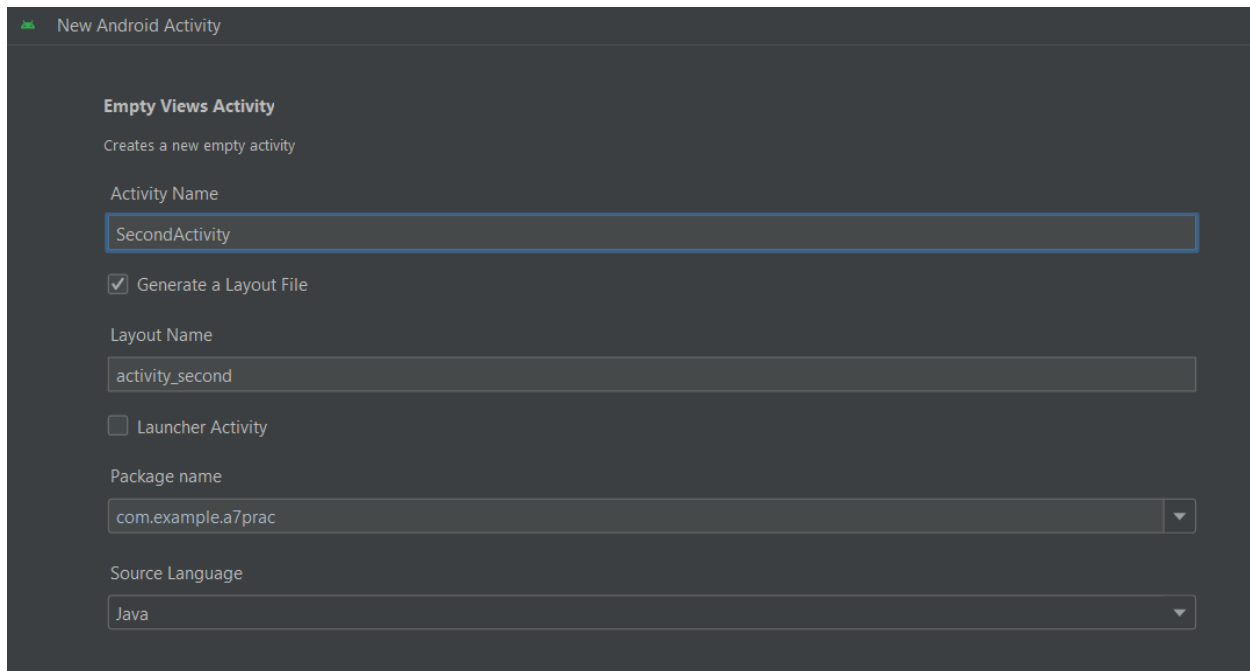
btn=findViewById(R.id.button1);
et=findViewById(R.id.edittext1);
btn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Intent i=new Intent(MainActivity.this,SecondActivity.class);
        st=et.getText().toString();
        i.putExtra("Value",st);
        startActivity(i);
        finish();
    }
});
}
}
}

```

### ➤ Create New Activity



→ In activity, select Empty Views Activity



### ➤ **activity\_second.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=".SecondActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Value"
        android:textSize="30sp"
        android:gravity="center" />
</RelativeLayout>
```

### ➤ **SecondActivity.java**

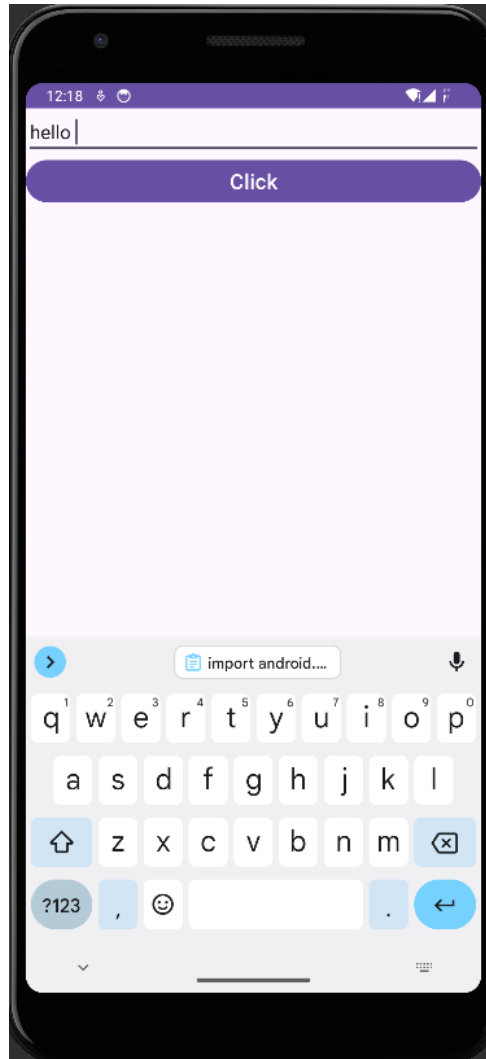
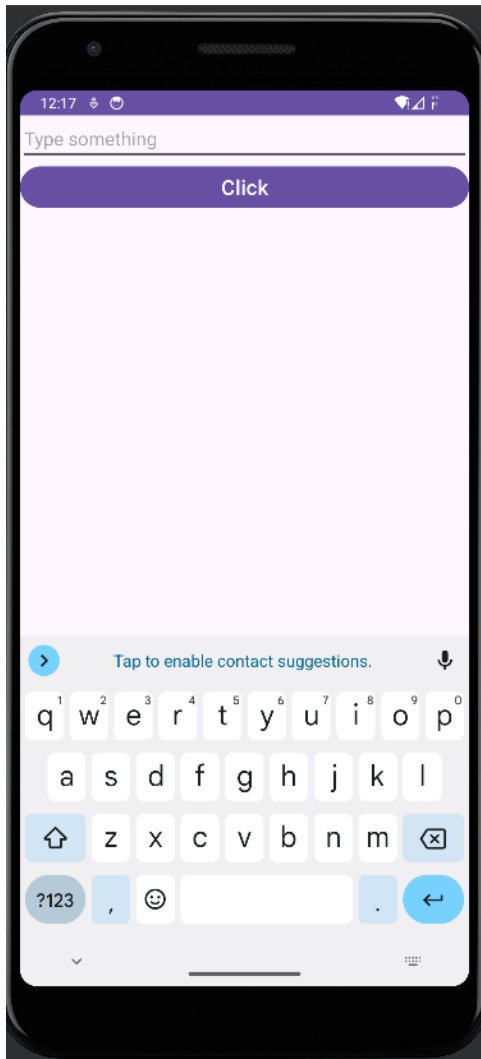
```
package com.example.a7prac;
import androidx.appcompat.app.AppCompatActivity;
import android.widget.TextView;
import android.os.Bundle;

public class SecondActivity extends AppCompatActivity {
```

```

TextView tv;
String st;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_second);
    tv=findViewById(R.id.textView);
    st=getIntent().getExtras().getString("Value");
    tv.setText(st);
}
}

```



## Practical No: - 8

**Aim:** - Create an android application to generate notification on button-click.

### ➤ **activity\_main.xml**

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

    <Button
        android:id="@+id/b1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Notify"
        tools:layout_editor_absoluteX="152dp"
        tools:layout_editor_absoluteY="163dp" />

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

### ➤ **MainActivity.java**

```
package com.example.practical8;

import androidx.appcompat.app.AppCompatActivity;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.os.Build;
import android.os.Bundle;
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;
import android.view.View;
import android.widget.Toast;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    public final String CHANNEL_ID="personal_notification";
```



```

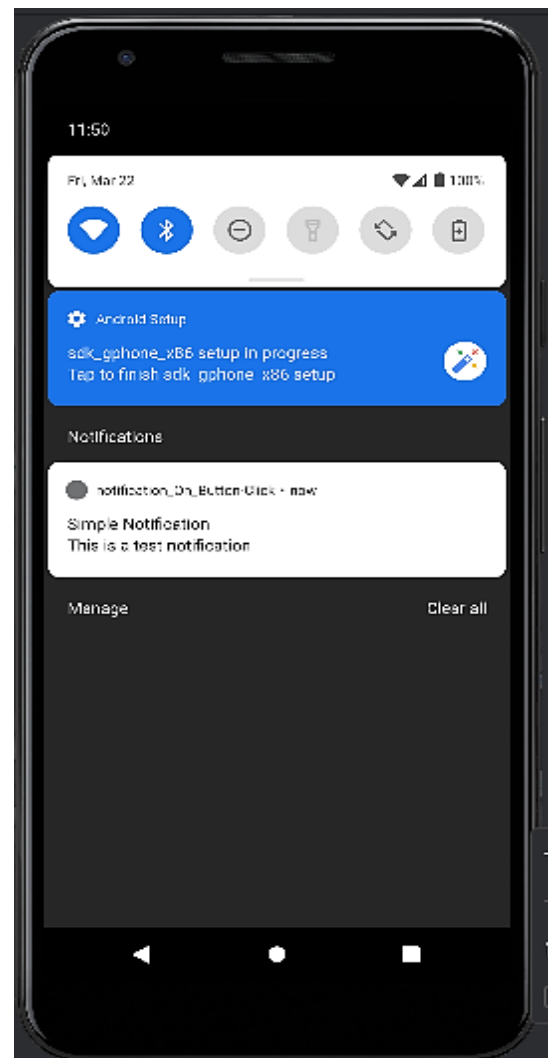
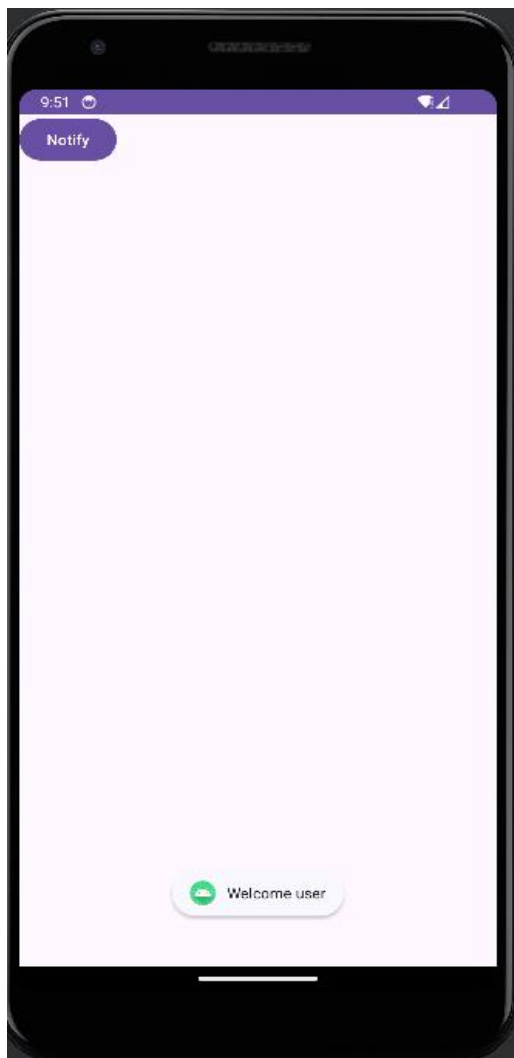
public final int NOTIFICATION_ID=001;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Button b1=(Button)findViewById(R.id.b1);
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            createNotificationChannel();
            Toast.makeText(getApplicationContext(), "Welcome user",
Toast.LENGTH_SHORT).show();
            NotificationCompat.Builder builder=new
                NotificationCompat.Builder(getApplicationContext(), CHANNEL_ID);
            builder.setSmallIcon(R.mipmap.ic_launcher);
            builder.setContentTitle("Simple Notification");
            builder.setContentText("This is a test notification");
            builder.setPriority(NotificationCompat.PRIORITY_DEFAULT);
            NotificationManagerCompat

notificationManagerCompat=NotificationManagerCompat.from(getApplicationContext());
            notificationManagerCompat.notify(NOTIFICATION_ID,builder.build());
        }
    });
}
private void createNotificationChannel() {
    if(Build.VERSION.SDK_INT>=Build.VERSION_CODES.O)
    {
        CharSequence name="Personal Notification";
        String description="This is description";
        int importance= NotificationManager.IMPORTANCE_DEFAULT;
        NotificationChannel notificationChannel=new
            NotificationChannel(CHANNEL_ID,name,importance);
        notificationChannel.setDescription(description);
    }
}

```

## NotificationManager

```
notificationManager=(NotificationManager)getSystemService(NOTIFICATION_SERVICE);  
notificationManager.createNotificationChannel(notificationChannel);  
}  
}  
}
```



## Practical No: - 9

**Aim:** - Create an android application for threads.

### ➤ **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:id="@+id/progress"
        style="@style/Base.Widget.AppCompat.ProgressBar.Horizontal"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:indeterminate="false"
        android:max="10"
        android:padding="4dp"/>
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Progress"
        android:onClick="startProgress"/>
</LinearLayout>
```

### ➤ **MainActivity.java**

```
package com.example.a9prac;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ProgressBar;
import java.util.*;
public class MainActivity extends AppCompatActivity {
    private ProgressBar bar;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bar=findViewById(R.id.progress);
    }
}
```

```

public void startProgress(View view){
    bar.setProgress(0);
    new Thread(new Task()).start();
}
private class Task implements Runnable {
    @Override
    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);
        }
    }
}
}

```

