Certificate

Name: Class:

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Institution _____

This is certified to be the bonafide work of the student in the

_____ Laboratory during the academic

year 20   / 20   .

No. of practicals certified _____ out of _____ in the

subject of _____

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Examiner's Signature

....

Principal

Date: ....

Institution Rubber Stamp

(N.B: The candidate is expected to retain his/her journal till he/she passes in the subject.)

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Practical 1: Show steps to create a Simple Project in Android Studio & write a simple "Hello World" Program.
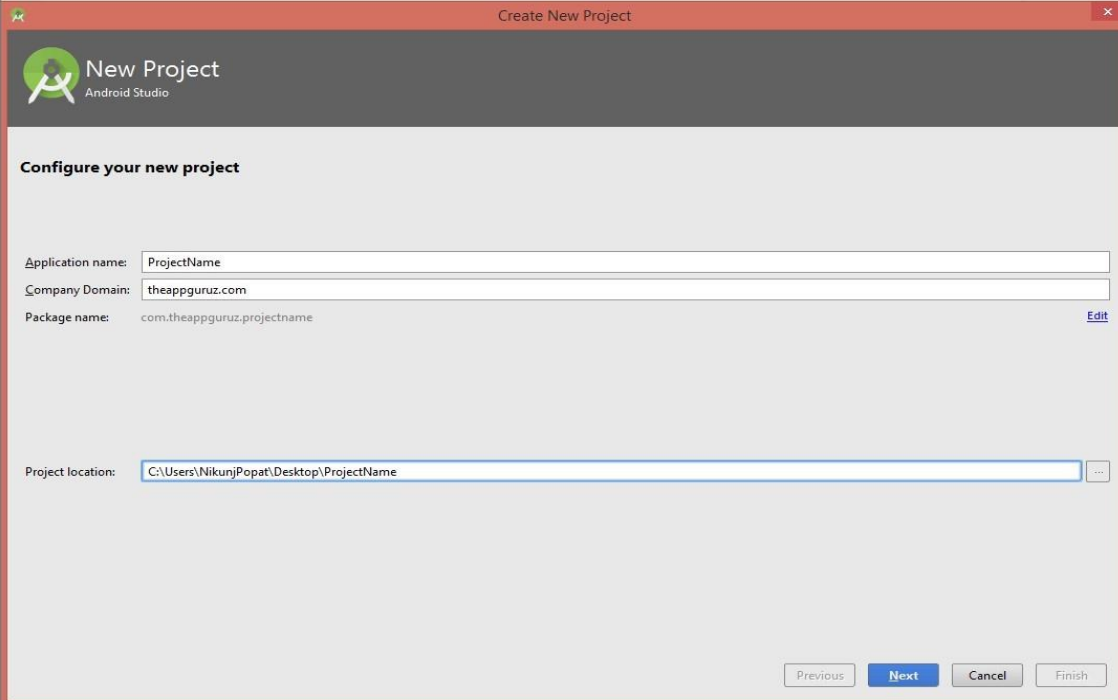
Step 1: Create New Project in Android Studio

Open Android Studio and go to the $\boxed{\textit{File Menu} >> \textit{New} >> \textit{New Project}}$.

Step 2: Configure Your New Project

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

i.e.

- Application name
- Company domain
- Package name
- Project location

Step 3: Target Android Devices

Select the form factors your app will be run on. Here, you can select device type for your android application. And at the same time, you select Minimum SDK which will be supported by your android application.

When you select Minimum SDK, Android studio will give you some active android devices percentage that will support your android application. Otherwise, you can also click on "Help me choose" button for more information about android platform versions.

Hit "Next" button once you are done.

Step 4: Add activity

This screen suggests you add any activity at first. If you don't want to add any activity at starting, you can select Add no activity option. If you have selected Phone and Tablet in option in the last screen then it will display the only phone related suggestions. Select Activity as per your project requirements.

For example, select Google Maps Activity for google map project, Blank Activity for blank project etc.
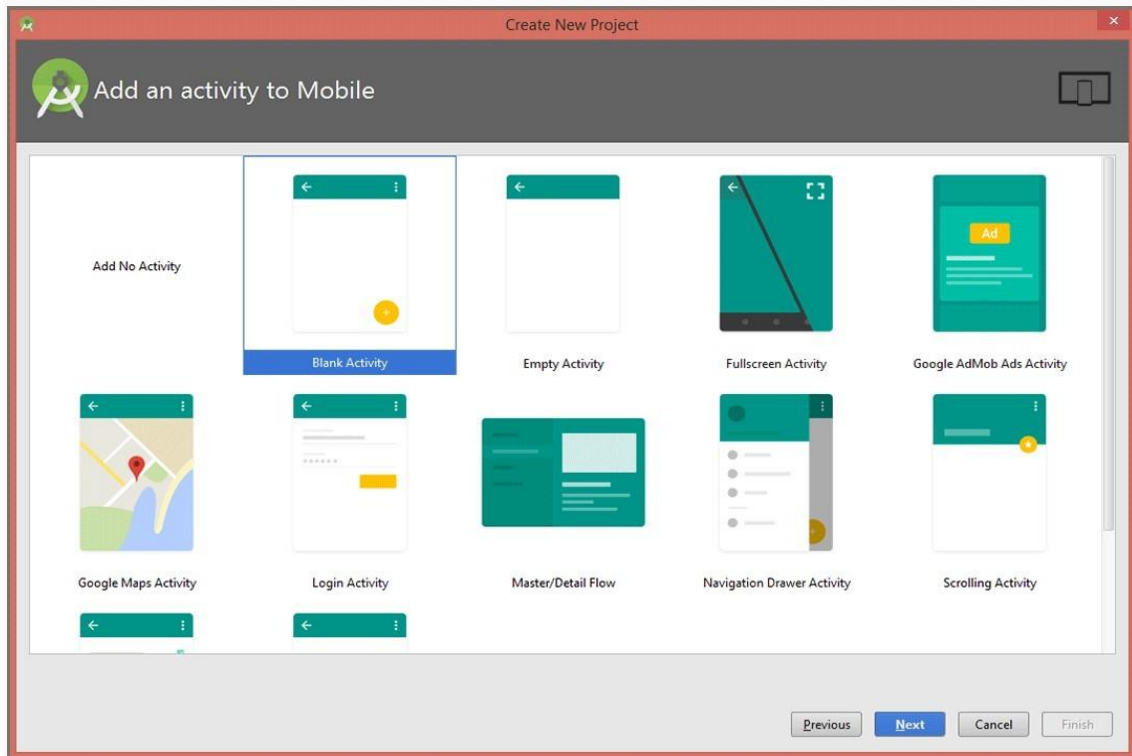
If you are done with it, click "Next" button.

Step 5: Customize the Activity

Here, you can customize your selected activity. You can change your Activity name from here. And also you can change Layout name (that will be attached to your activity), Title (Title of the activity), Menu Resource Name (Menu's resource file name).

If you want to add fragment to your activity then select Use a fragment option given below.

Input

Main Activity.java

```java
package com.example.hello.helloworld;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#00FFFF"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/H1"
        style="@android:style/Widget.Holo.TextView.SpinnerItem"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        android:textColor="#000000"
        android:textSize="30sp"
        app:fontFamily="casual"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>
```
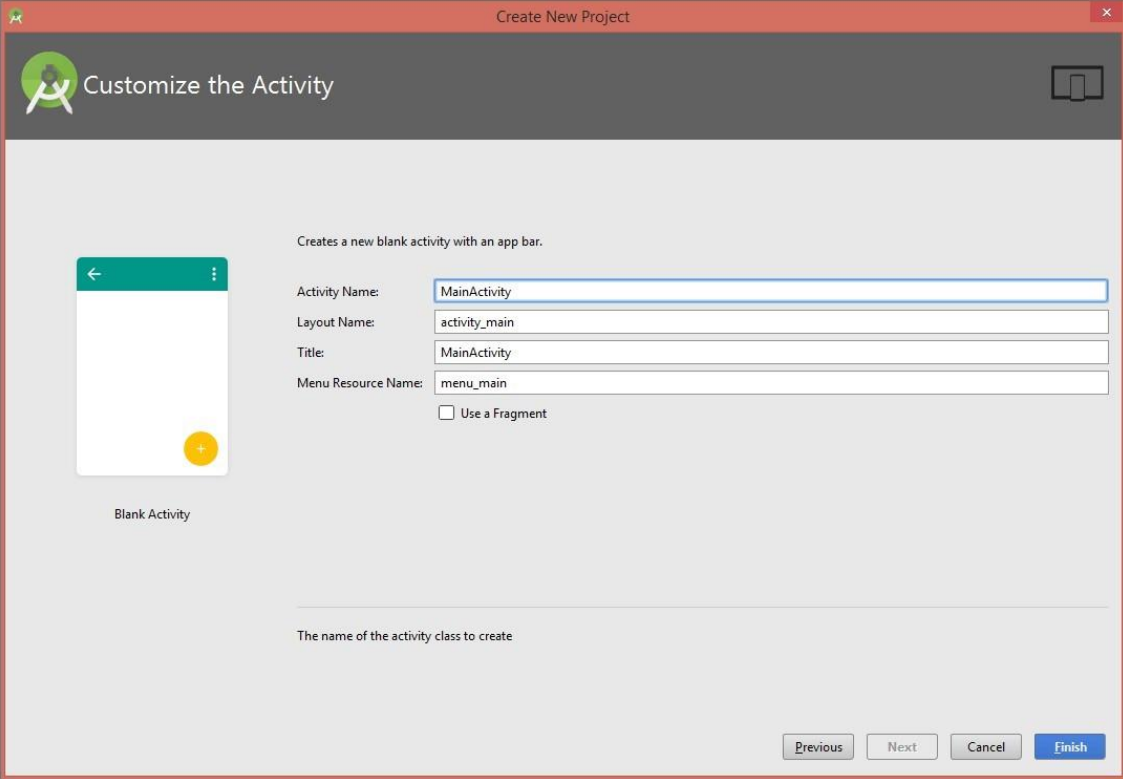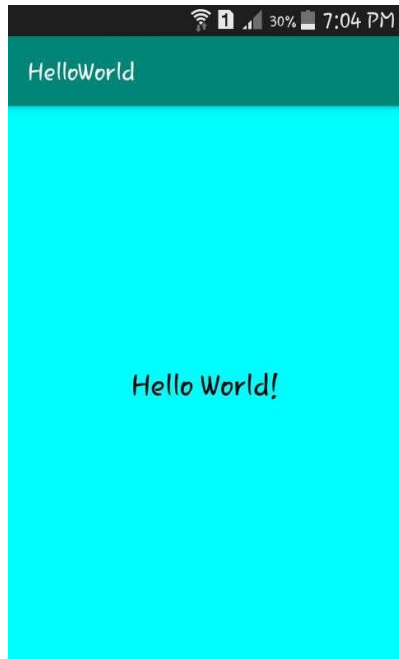
Practical 2: Android Resources: (Color, Theme, String, Drawable, Dimension, Image)

Color:

Color.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008577</color>
    <color name="colorPrimaryDark">#00574B</color>
    <color name="colorAccent">#D81B60</color>
    <color name="colorRed">#FF0000</color>
    <color name="colorBlue">#0000FF</color></resources>
```

activity_main_xml:

```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/textview1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@color/colorRed"
        android:textColor="@color/colorPrimaryDark"
        android:textSize="@android:dimen/app_icon_size"
        android:text="Shaliendra Education Society's"/>
</LinearLayout>
```

OUTPUT:

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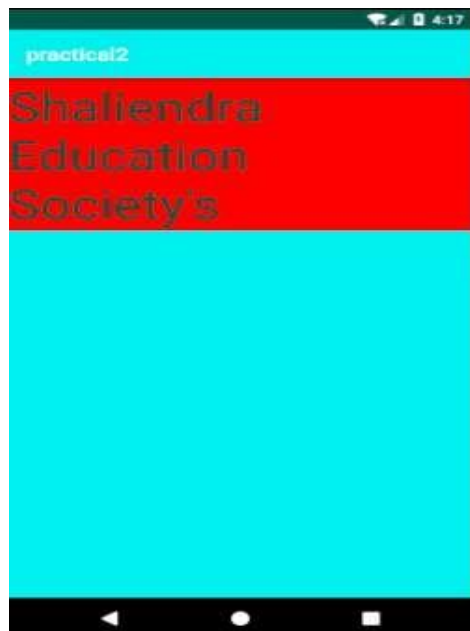
Styles:

styles.xml:
```xml
<resources>
  <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">#00F0EF</item>
    <item name="android:textColor">#000000</item>
  </style></resources>
```

AndroidManifest.xml:
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  package="com.example.myapplication">
  <application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/BlueTheme">
    <activity android:name=".MainActivity">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter></activity></application></manifest>
```

OUTPUT:
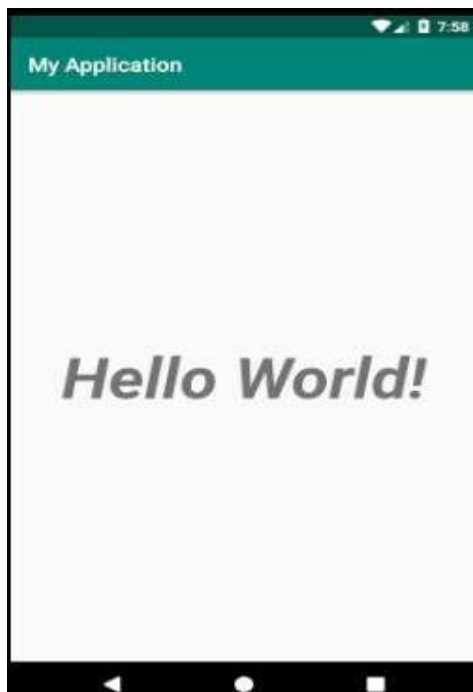
Before	After

String:

string.xml:
```xml
<resources>
    <string name="app_name">Android Studio</string>
    <string name="college">Shailendra Degree College</string></resources>
```
activity_main.xml:
```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/app_name"
        android:textSize="50sp"
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.494"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.218" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/college"
        android:textSize="35sp"
        android:textStyle="bold|italic"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="55dp" />
</android.support.constraint.ConstraintLayout>
```

OUTPUT:

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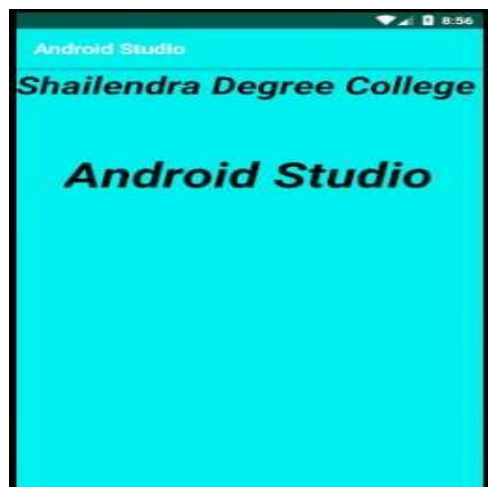
Drawables and Images :

activity_main_xml:

```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="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/star" />
</LinearLayout>
```

OUTPUT:

Add Images:
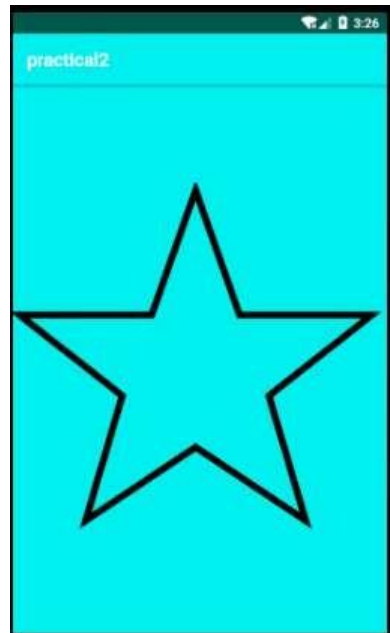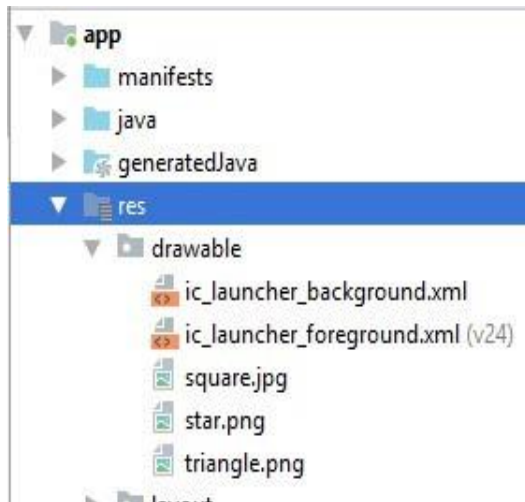
Dimension:

dimens.xml:
```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <dimen name="textview_height">35dp</dimen>
    <dimen name="textview_width">150dp</dimen>
    <dimen name="font_size">26sp</dimen></resources>
```

activity_main_xml:
```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/College"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="@dimen/font_size"
        android:text="Shaliendra Education Society's"/>
</LinearLayout>
```

OUTPUT:
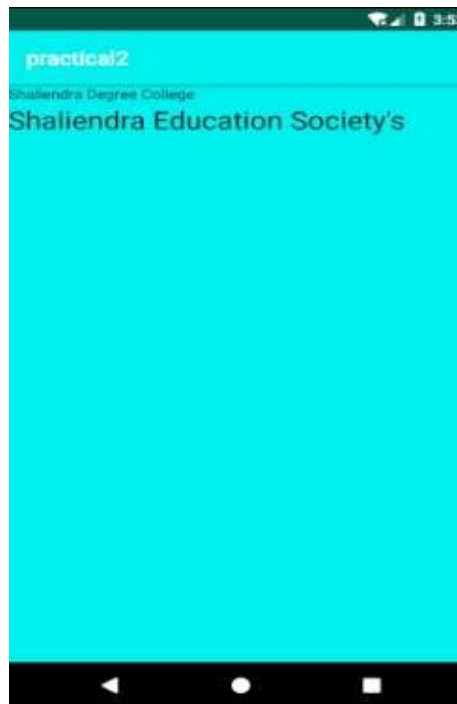
Practical 3: Activity Lifecycle
Input

MainActivity.java

```java
package com.example.hello.androidlifecycle;
import android.support.v7.app.AppCompatActivity;
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");
   }
   public void onStart(){
      super.onStart();
      Log.d(tag,"In the onStart() event");
   }
   public void onRestart() {
      super.onRestart();
      Log.d(tag, "In the onRestart() event");
   }
   public void onResume(){
      super.onResume();
      Log.d(tag,"In the onResume() event");
   }
   public void onPause(){
      super.onPause();
      Log.d(tag,"In the onPause() event");
   }
   public void onStop(){
      super.onStop();
      Log.d(tag,"In the onStop() event");
   }
   public void onDestroy(){
      super.onDestroy();
      Log.d(tag,"In the onDestroy() event");
   }
}
```

Output:


```
Logcat

  Samsung SM-G355H /  ∨    com.example.hello.andro ∨    Verbose  ∨    Q▾ Lifecycle

🗑   01-11 20:53:35.120 22632-22632/com.example.hello.androidlifecycle D/Lifecycle: In the onCreate() event
     01-11 20:53:35.120 22632-22632/com.example.hello.androidlifecycle D/Lifecycle: In the onStart() event
📥   01-11 20:53:35.120 22632-22632/com.example.hello.androidlifecycle D/Lifecycle: In the onResume() event
↑    01-11 20:53:40.130 22632-22632/com.example.hello.androidlifecycle D/Lifecycle: In the onPause() event
     01-11 20:53:40.450 22632-22632/com.example.hello.androidlifecycle D/Lifecycle: In the onStop() event
↓    01-11 20:53:42.760 22632-22632/com.example.hello.androidlifecycle D/Lifecycle: In the onDestroy() event
››
```

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Practical 4: Program for Testing Different Layouts.

Create this Activity

- **AbsoluteLayout.java**
- **FrameLayout.java**
- **GridviewLayout.java**
- **LinearLayoutHorizontal.java**
- **LinearLayoutVertical.java**
- **ListviewLayout.java**
- **RelativeLayout.java**
- **ScrollLayout.java**
- **TableActivity.java**

Main Activity.java

```java
package com.example.pc.testinglayouts;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.app.Activity;
import android.view.View;
import android.widget.*;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Button brel= (Button) findViewById(R.id.rel);
    Button bllh= (Button) findViewById(R.id.llh);
    Button bllv= (Button) findViewById(R.id.llv);
    Button bTab= (Button) findViewById(R.id.tl);
    Button bsv= (Button) findViewById(R.id.sl);
    Button bab= (Button) findViewById(R.id.al);
    Button bList= (Button) findViewById(R.id.lv);
    Button bgv= (Button) findViewById(R.id.gv);
    Button bfv= (Button) findViewById(R.id.fl);
    brel.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        Intent i=new Intent(getApplicationContext(),RelativeLayout.class);
        startActivity(i);
      }
    });
    bllh.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        Intent i=new Intent(getApplicationContext(),LinearLayoutHorizontal.class);
        startActivity(i);
      }
    });
    bllv.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        Intent i=new Intent(getApplicationContext(),LinearLayoutVertical.class);
        startActivity(i);
      }
    });
    bTab.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        Intent i=new Intent(getApplicationContext(),TableActivity.class);
        startActivity(i);
      }
    });
    bsv.setOnClickListener(new View.OnClickListener() {
```

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

                    Intent i=new Intent(getApplicationContext(),ScrollLayout.class);
                    startActivity(i);
                }
        });
        bab.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(),AbsoluteLayout.class);
                startActivity(i);
            }
        });
        bList.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(),ListviewLayout.class);
                startActivity(i);
            }
        });
        bgv.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(),GridviewLayout.class);
                startActivity(i);
            }
        });
        bfv.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(getApplicationContext(),FrameLayout.class);
                startActivity(i);
            }
        });
    }
}
```

activity_main.xml

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Layout Demonstration"
        android:textAlignment="center"
        android:textSize="30sp"
        android:textStyle="bold" />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Relative Layout"
        android:layout_gravity="center"
        android:id="@+id/rel"/>
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Linear Layout(Horizontal)"
        android:layout_gravity="center"
        android:id="@+id/llh"/>
    <Button
```

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```xml
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Linear Layout(Vertical)"
            android:layout_gravity="center"

            android:id="@+id/llv"/>
    <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Table Layout"
            android:layout_gravity="center"
            android:id="@+id/tl"/>
    <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Scrollview Layout"
            android:layout_gravity="center"
            android:id="@+id/sl"/>
    <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Absolute Layout"
            android:layout_gravity="center"
            android:id="@+id/al"/>
    <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="List View"
            android:layout_gravity="center"
            android:id="@+id/lv"/>
    <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Grid View"
            android:layout_gravity="center"
            android:id="@+id/gv"/>
    <Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Frame Layout"
    android:layout_gravity="center"
    android:id="@+id/fl"/>
</LinearLayout>
```

AbsolueLayout.java

No Change

activity_absolute_layout.xml

```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="com.example.pc.testinglayouts.AbsoluteLayout">

    <Button
        android:id="@+id/button11"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="22dp"
        android:layout_y="16dp"
        android:text="Button" />

    <Button
        android:id="@+id/button12"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="132dp"
        android:layout_y="128dp"
        android:text="Button" />

    <Button
        android:id="@+id/button14"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="207dp"
        android:layout_y="16dp"
        android:text="Button" />

    <Button
        android:id="@+id/button13"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="30dp"
        android:layout_y="205dp"
        android:text="Button" />
</AbsoluteLayout>
```

FrameLayout.java

activity_frame_layout.xml

```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="com.example.pc.testinglayouts.FrameLayout">

    <TextView
        android:id="@+id/Tvcom"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello Android!!"
        android:layout_alignParentTop="true"
        android:layout_alignParentLeft="true"
        />

    <FrameLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@id/Tvcom"
        android:layout_below="@id/Tvcom"
        android:layout_centerHorizontal="true">
        <ImageView
            android:src="@mipmap/ic_launcher"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content" />
    </FrameLayout>
</RelativeLayout>
```

GridviewLayout.java

```java
package com.example.pc.testinglayouts;
import android.content.Context;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.app.Activity;
import android.view.*;
import android.widget.*;
import  android.widget.AdapterView;
import  android.widget.BaseAdapter;
import android.widget.ImageView;
public class GridviewLayout extends AppCompatActivity {
    Integer[] imgids={
        R.mipmap.ic_launcher,
        R.mipmap.ic_launcher,
        R.mipmap.ic_launcher,
        R.mipmap.ic_launcher,
        R.mipmap.ic_launcher,
        R.mipmap.ic_launcher,
        R.mipmap.ic_launcher,
    };
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_gridview_layout);
        GridView gridView= (GridView) findViewById(R.id.gdview);
        gridView.setAdapter(new ImageAdapter(this));
        gridView.setOnItemClickListener(new AdapterView.OnItemClickListener(){
            public void onItemClick(AdapterView parent, View v,int pos,long id){
```

```java
                    Toast.makeText(getBaseContext(),"pic"+(pos+1)+"selected",
                        Toast.LENGTH_SHORT).show();
            }
        });
    }
    public class ImageAdapter extends BaseAdapter{
        private Context context;
        public ImageAdapter(Context c){
            context=c;
                }
        public int getCount(){
            return imgids.length;
                }
        public Object getItem(int pos){
            return pos;
                }
        public long getItemId(int pos){
            return pos;
        }
        @Override
        public View getView(int pos, View convertView, ViewGroup parent) {
            ImageView imageView;
            if(convertView==null){
                imageView=new ImageView(context);
                imageView.setLayoutParams(new    GridView.LayoutParams(85,85));
                imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
                imageView.setPadding(5,5,5,5);
            }else{
                imageView= (ImageView) convertView;
            }
            imageView.setImageResource(imgids[pos]);
            return imageView;
        }
    }
}
```

activity_gridview_layout.xml

```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="com.example.pc.testinglayouts.GridviewLayout">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Grid View"
        android:gravity="center"/>
    <GridView
        android:id="@+id/gdview"
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:numColumns="auto_fit"
        android:verticalSpacing="10dp"
        android:horizontalSpacing="10dp"
        android:columnWidth="90dp"
        android:stretchMode="columnWidth"
        android:gravity="center"></GridView>
</LinearLayout>
```

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LinearLayoutHorizontal.java
No Change

activity_linear_layout_horizontal.xml

```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="com.example.pc.testinglayouts.LinearLayoutHorizontal">


    <Button
        android:id="@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />

    <Button
        android:id="@+id/button6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />

    <Button
        android:id="@+id/button5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />
</LinearLayout>
```

LinearLayoutVertical.java
No Change

activity_linear_layout_vertical.xml

```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="com.example.pc.testinglayouts.LinearLayoutVertical">
    <Button
        android:id="@+id/button8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />

    <Button
        android:id="@+id/button10"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />
    <Button
        android:id="@+id/button9"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />
    <Button
        android:id="@+id/button7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />
</LinearLayout>
```

ListviewLayout.java

```java
package com.example.pc.testinglayouts;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.app.Activity;
import android.view.View;
import android.widget.*;

public class ListviewLayout extends AppCompatActivity {
    ListView I;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_listview_layout);

        final String[] s={"Android","IOS","Windows","Linux","OS","Symbian","Blackberry","J2ME"};
        setContentView(R.layout.activity_listview_layout);
        I= (ListView) findViewById(R.id.lv);
        ArrayAdapter ada=new ArrayAdapter(ListviewLayout.this,android.R.layout.simple_list_item_1,s);
        I.setAdapter(ada);
        I.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                Toast.makeText(ListviewLayout.this,"Item Clicked "+position,Toast.LENGTH_LONG).show();;
                Toast.makeText(ListviewLayout.this,"Item: "+s[position],Toast.LENGTH_SHORT).show();
            }
        });
    }
```

activity_listview_layout.xml

```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="com.example.pc.testinglayouts.ListviewLayout">


    <TextView
        android:id="@+id/textView8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_alignParentTop="true"
        android:textSize="30dp"
        android:text="ListView" />
    <ListView
        android:id="@+id/lv"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView8">
    </ListView>
</RelativeLayout>
```

RelativeLayout.java
No Change

activity_relative_layout.xml

```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="com.example.pc.testinglayouts.RelativeLayout">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="28dp"
        android:text="Comments"
        android:textSize="24sp" />

    <EditText
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginTop="34dp" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="96dp"
        android:text="Save" />
    <Button
        android:id="@+id/button2"
```

```
        android:layout_width="wrap_content"

        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button"
        android:layout_alignStart="@+id/button"
        android:layout_below="@+id/button"
        android:layout_marginTop="52dp"
        android:text="Cancel" />
</RelativeLayout>
```

ScrollLayout.java
No Change

activity_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="com.example.pc.testinglayouts.ScrollLayout">
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line1"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line2"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line3"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line4"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line5"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line6"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line7"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line8"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line9"
```

```xml
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line10"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line11"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line12"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line13"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line14"
            android:textSize="40dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Line15"
            android:textSize="40dp"/>

    </LinearLayout>

</ScrollView>
```

TableActivity.java
No Change

activity_layout.xml

```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="com.example.pc.testinglayouts.TableActivity">

    <TableRow>

        <TextView
            android:id="@+id/textView2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="30dp"
            android:text="Row1 Column1" />

        <TextView
            android:id="@+id/textView3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="100dp"
            android:text="Row1 Column2" />
    </TableRow>
```

```xml
        <TableRow>

          <TextView
            android:id="@+id/textView4"

            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="30dp"
            android:text="Row2 Column1" />

          <TextView
            android:id="@+id/textView5"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="100dp"
            android:text="Row2 Column2" />
        </TableRow>

        <TableRow>

          <TextView
            android:id="@+id/textView6"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="30dp"
            android:text="Row3 Column1" />

          <TextView
            android:id="@+id/textView7"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="100dp"
            android:text="Row3 Column2" />
        </TableRow>

        <TableRow>

          <TextView
            android:id="@+id/text5"
            android:layout_marginLeft="120dp"
            android:text="Username" />

          <EditText
            android:id="@+id/txtuname"
            android:width="200dp"/>

        </TableRow>

        <TableRow>
          <Button
            android:id="@+id/button10"
            android:text="Log In"/>
        </TableRow>

    </TableLayout>
```
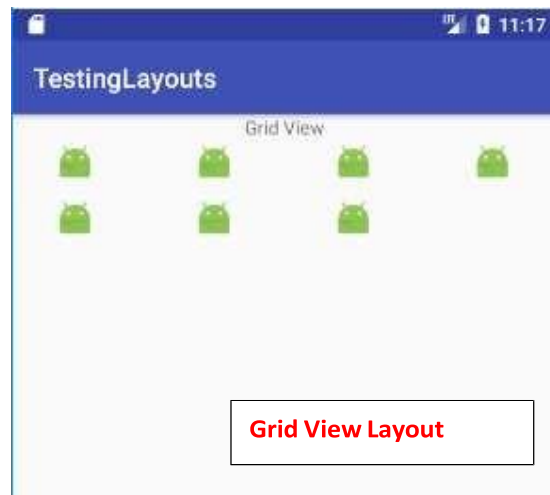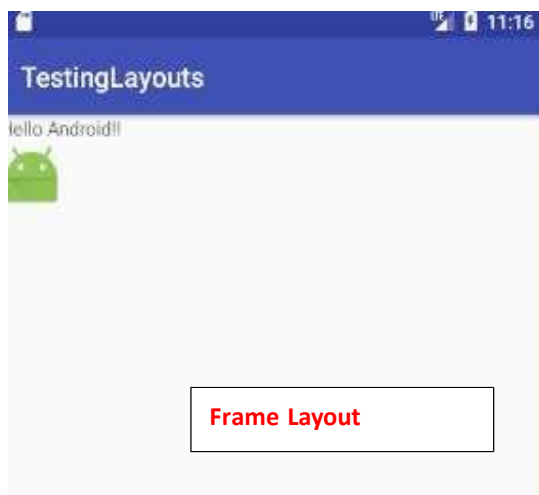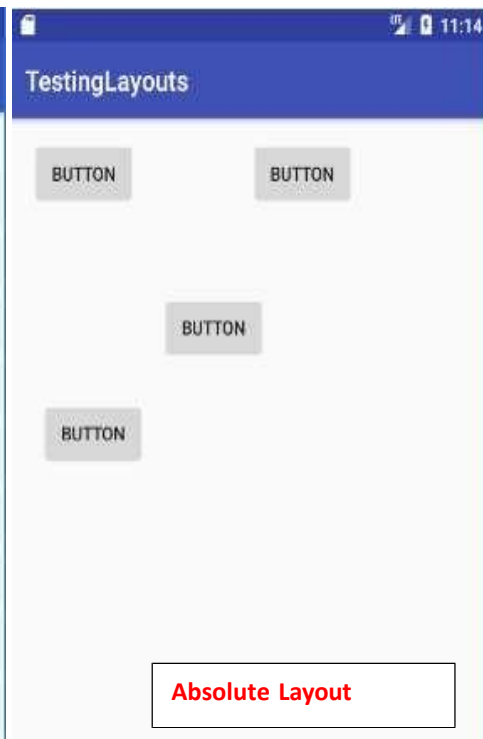
Output

Absolute Layout

Frame Layout

Grid View Layout

Linear Horizontal

Linear vertial Layout

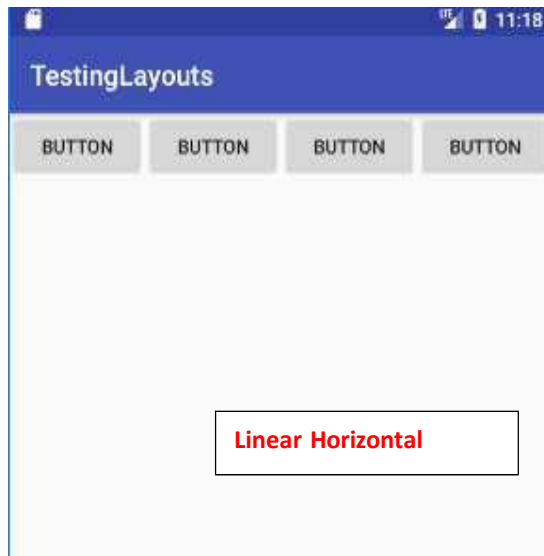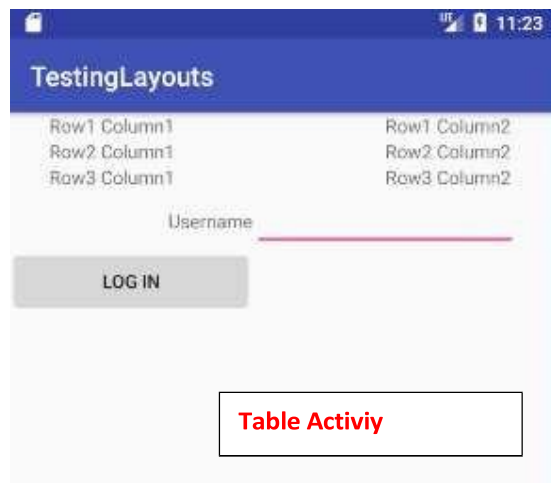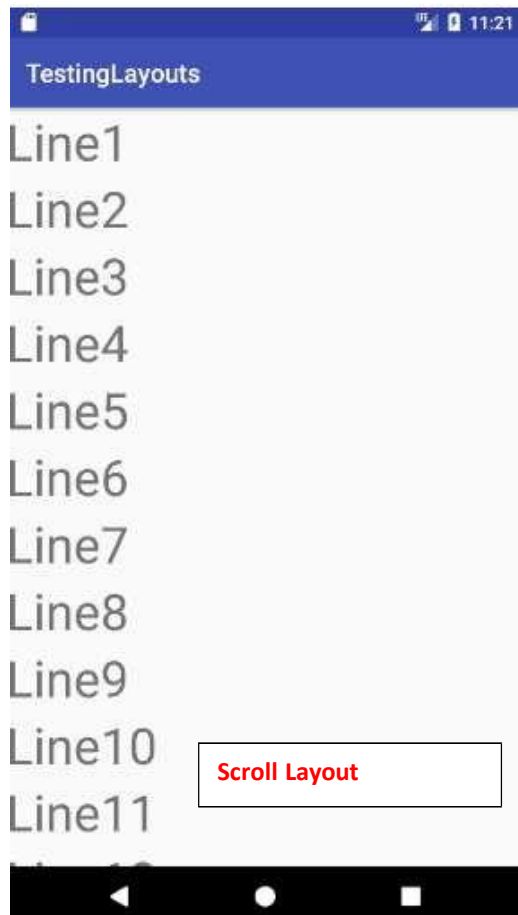List View Layout

Relative Layout

Scroll Layout

Table Activiy
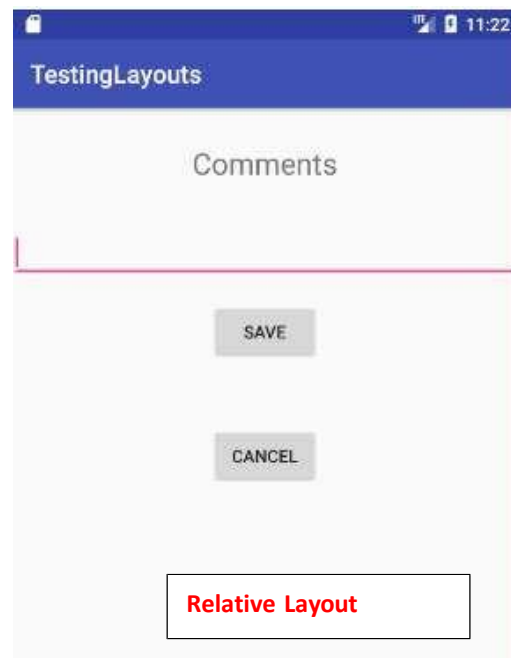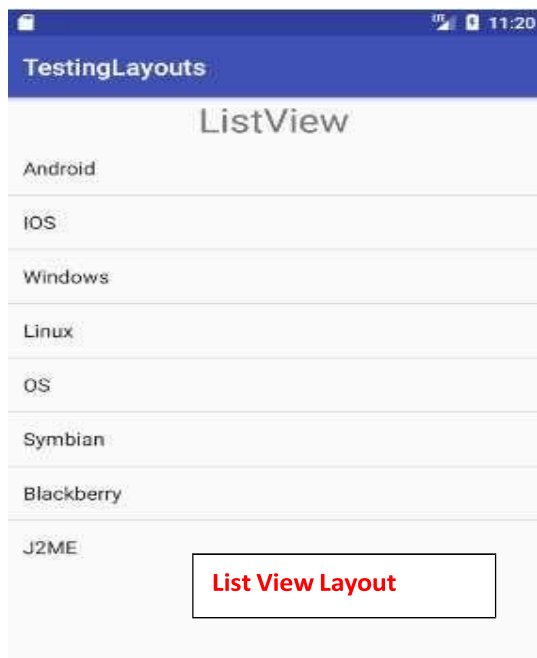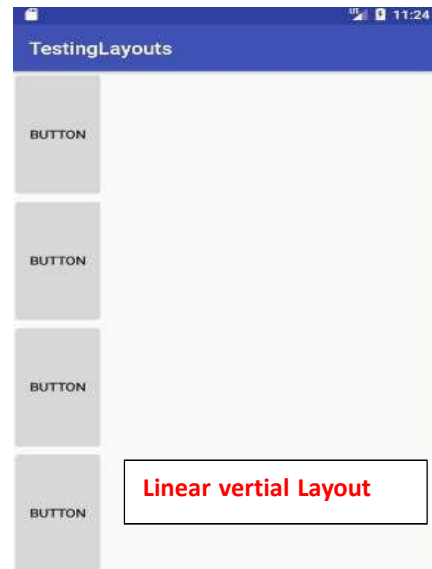
Practical 5: UI Elements App Bar

Input:

MainActivity.java

```java
package com.example.pc.uielements;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.Toolbar;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    private Toolbar tbar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        tbar= (Toolbar) findViewById(R.id.toolbar);
        setSupportActionBar(tbar);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater mi=getMenuInflater();
        mi.inflate(R.menu.app_bar_menu,menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()){
            case R.id.action_search:
                Toast.makeText(this,"search menu click",Toast.LENGTH_SHORT).show();
                return true;
            case R.id.action_about:
                Toast.makeText(this,"About menu click",Toast.LENGTH_SHORT).show();
                return true;
            default:
            return super.onOptionsItemSelected(item);
        }
    }
}
```

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Styles.xml

```xml
<resources>
    <style name="AppTheme" parent="Theme.AppCompat.Light.NoActionBar">
        <!-- Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>
</resources>
```

toolbar_layout.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.v7.widget.Toolbar
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="@color/colorPrimary"
    android:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar"
    android:id="@+id/toolbar"/ >
</android.support.v7.widget.Toolbar>
```

app_bar_menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/action_search"
        android:title="Setting"
        android:icon="@mipmap/ic_search"
        app:showAsAction="ifRoom"/>
    <item
        android:id="@+id/action_about"
        android:title="About"
        app:showAsAction="never"/>
</menu>
```

## activity_main.xml

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

Output:
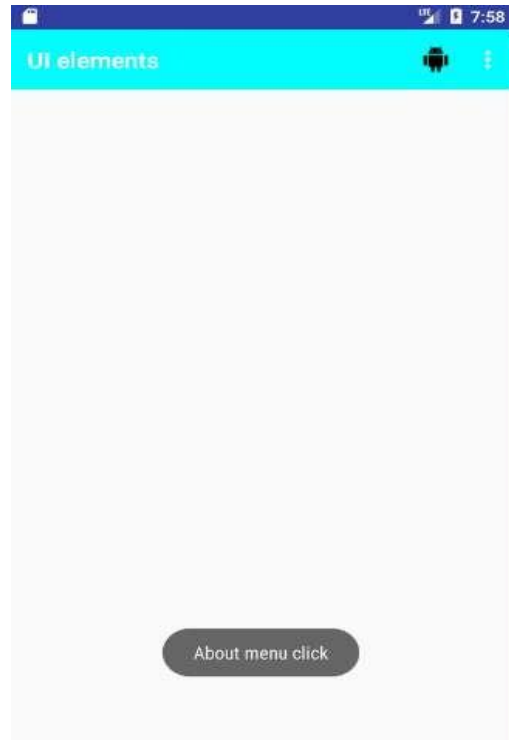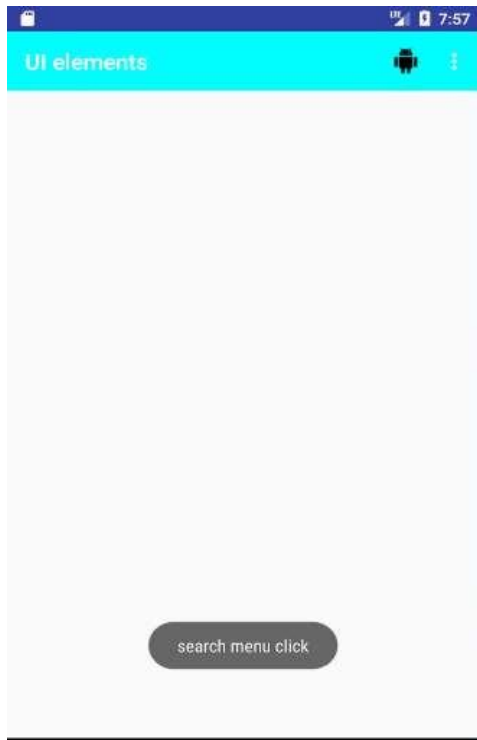
Practical 6: Creating Menus

Input:

MainActivity.java

```java
package com.example.hello.menutest;
import android.support.v7.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);}
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater mi=getMenuInflater();
        mi.inflate(R.menu.newmenu,menu);
        return true;}
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()){
            case R.id.bk:
                DisplayToast("BookMarks");
                return true;
            case R.id.search:
                DisplayToast("You selected Search");
                return true;
            case R.id.save:
                DisplayToast("You selected Save");
                return true;
            case R.id.share:
                DisplayToast("You selected Share");
                return true;
            case R.id.delete:
                DisplayToast("You selected Delete");
                return true;
            case R.id.exit:
                DisplayToast("You selected Exit");
                finish();
                System.exit(0);
                return true;
            default:
                DisplayToast("Default");
        }
        return super.onOptionsItemSelected(item); }
    public void DisplayToast(String s)
    {
        Toast.makeText(this,s,Toast.LENGTH_SHORT).show();
    }
```

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activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Menu Testing App"
        android:textSize="30sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>
```

newmenu.xml

```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/bk"
        android:title="@string/bookmarks"/>
    <item
    android:id="@+id/search"
    android:title="@string/search"/>
    <item
        android:id="@+id/save"
        android:title="@string/save"/>
    <item
        android:id="@+id/share"
        android:title="@string/share"/>
    <item
        android:id="@+id/delete"
        android:title="@string/delete"/>
    <item
        android:id="@+id/exit"
        android:title="@string/exit"/>
</menu>
```

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Output:
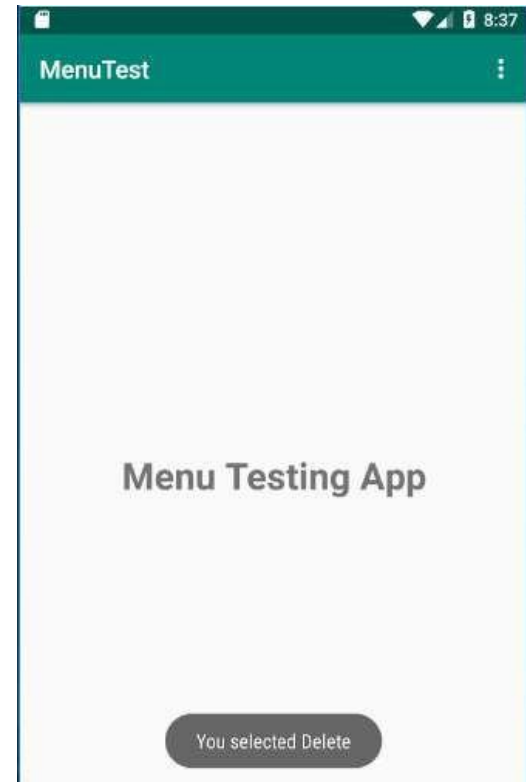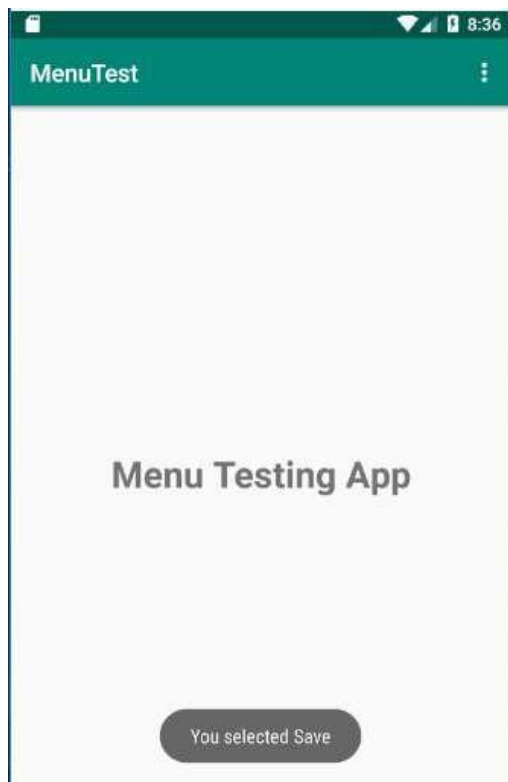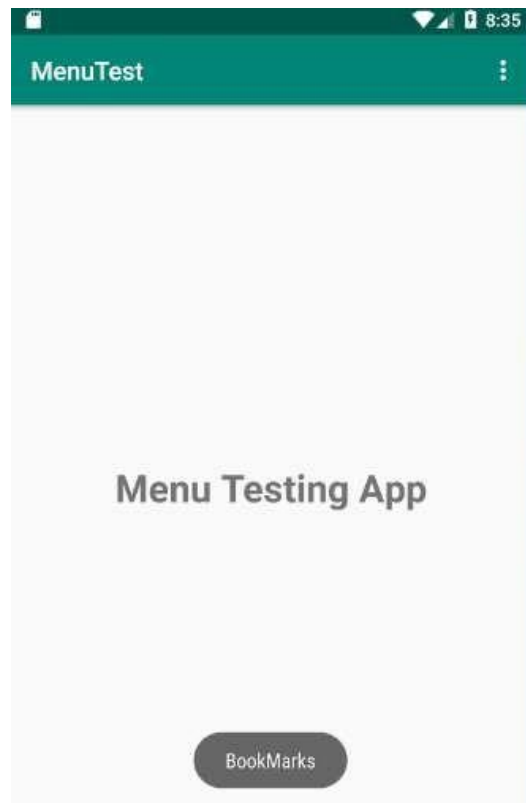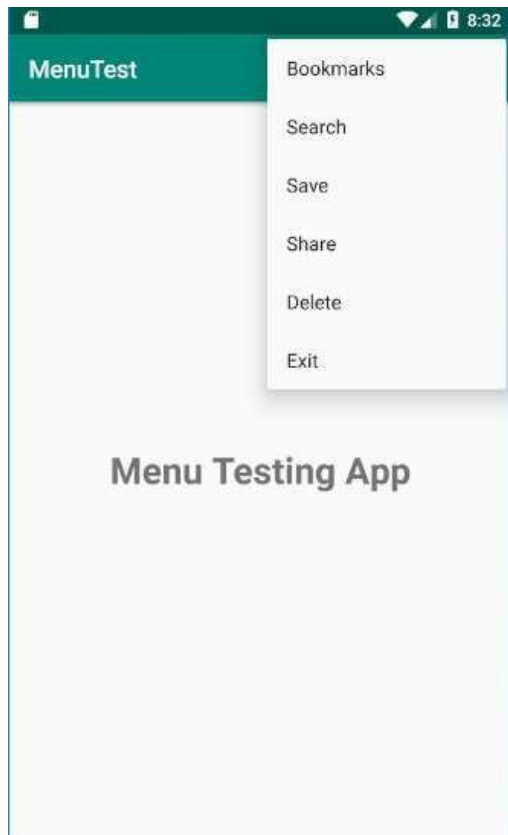
Practical 7: Android Intent Class

Input:

MainActivity.java

```java
package com.example.hello.androidintentclass;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.content.Intent;
import android.view.View;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void showText(View view)
    {
        EditText ed=findViewById(R.id.editText1);
        String msg=ed.getText().toString();
        Intent in= new Intent(this,newpage.class);
        in.putExtra("mykey",msg);
        startActivity(in);
    }
}
```

activity_main.xml

```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/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter a Value :"
        android:textSize="30sp" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Click"
        android:layout_centerVertical="true"
        android:onClick="showText"
        android:textSize="30sp" />
```

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```
</LinearLayout>
```

newpage_layout.xml

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

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginRight="8dp"
        android:layout_marginBottom="8dp"
        android:text="New Text"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.07"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.102" />
</android.support.constraint.ConstraintLayout>
```

newpage.java

```java
package com.example.hello.androidintentclass;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;
public class newpage extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.newpage_layout);
        TextView t1=findViewById(R.id.textView2);
        String myval=getIntent().getExtras().getString("mykey");
        t1.setText("Value="+myval);
    }
}
```

Output:
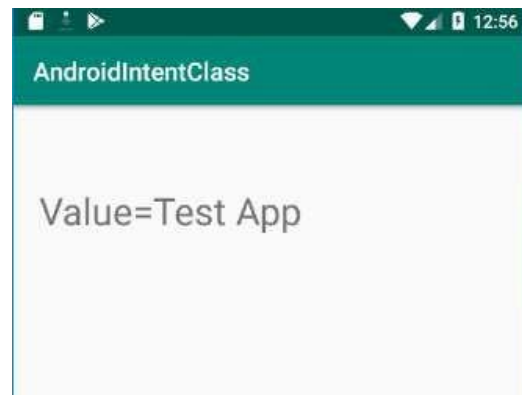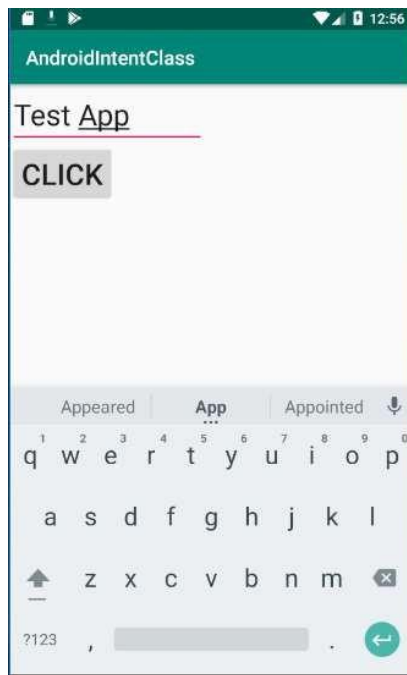
Practical 8: Programs on Services

Input:

MainActivity.java

```java
package com.example.hello.prac8a_services;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.content.Intent;
import android.view.View;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void startService(View view)
    {
        Intent intent=new Intent(this,MyServices.class);
        startService(intent);
    }
    public void stopService(View view)
    {
        Intent intent=new Intent(this,MyServices.class);
        stopService(intent);
    }
}
```

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/start"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Start Service"
        android:onClick="startService"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>
```

```xml
    <Button
        android:id="@+id/stop"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Stop Service"
        android:onClick="stopService"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/start"/>
</android.support.constraint.ConstraintLayout>
```

MyServices.java

```java
package com.example.hello.prac8a_services;
import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.support.annotation.Nullable;
import android.widget.Toast;
public class MyServices extends Service
{
    @Override
    public void onCreate(){
        super.onCreate();
    }
    @Override
    public int onStartCommand(Intent intent, int flags, int startId) {
        Toast.makeText(this,"Service Started ...",Toast.LENGTH_LONG).show();
        return START_STICKY;
    }
    @Override
    public void onDestroy() {
        super.onDestroy();
        Toast.makeText(this,"Service  Destroyed ...",Toast.LENGTH_LONG).show();
    }
    @Nullable
    @Override
    public IBinder onBind(Intent intent) {
        return null;
    }
}
```

Androidmanifest.xml

```xml
        </intent-filter>
    </activity>
    <service android:name=".MyServices"
        android:exported="false">
    </service>
</application>
```

Output:

Practical 9: Database Programming with SQLite

Input:

MainActivity.java

```java
package com.example.databaseloginapp;

import android.content.Context;
import android.database.Cursor;
import android.database.SQLException;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.util.*;

class MyDB extends SQLiteOpenHelper {

    MyDB(Context c) {

        super(c, "logindb", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase sqLiteDatabase) {

        String string = "create table login(username text, password text)";
        sqLiteDatabase.execSQL(string);
    }
    @Override
    public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1) {

        String string = "drop table if exists login";
        sqLiteDatabase.execSQL(string);
        onCreate(sqLiteDatabase);
    }
}

public class MainActivity extends AppCompatActivity {

    MyDB myDB;
    EditText user, pass;
    Button register, drop, login;
    SQLiteDatabase sqLiteDatabase;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

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

        user = findViewById(R.id.user);
        pass = findViewById(R.id.pass);
        register = findViewById(R.id.register);
        drop = findViewById(R.id.drop);
        login = findViewById(R.id.login);
        myDB = new MyDB(this);
    }

    public void login_fun(View view)
    {
        String un = String.valueOf(user.getText());
        String pas = String.valueOf(pass.getText());
        sqLiteDatabase = myDB.getReadableDatabase();
```

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```java
        String q = "select * from login where username='"+un+"' and
password='"+pas+"'";

        try {
            Cursor cursor = sqLiteDatabase.rawQuery(q,null);
            if(cursor.getCount() == 0)
            {
                Toast.makeText(getApplicationContext(), "Username or password wrong
or user doesn't exists", Toast.LENGTH_SHORT).show();
            }else {
                while (cursor.moveToNext())
                {
                    String uname = cursor.getString(0);
                    String passw = cursor.getString(1);
                    Toast.makeText(getApplicationContext(), "Username:
"+uname+"\nPassword: "+passw, Toast.LENGTH_SHORT).show();
                    if (un.contentEquals(uname) && pas.contentEquals(passw)){
                        Toast.makeText(getApplicationContext(), "Welcome user:
"+un, Toast.LENGTH_SHORT).show();
                        cursor.close();
                    }
                }
            }
        }catch (SQLException sqle)
        {
            sqle.printStackTrace();
        }
    }

    public void registerUser(View view){

        String un = String.valueOf(user.getText());
        String pas = String.valueOf(pass.getText());

        sqLiteDatabase = myDB.getWritableDatabase();
        String q = "insert into login values('"+un+"','"+pas+"')";
        sqLiteDatabase.execSQL(q);

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

    public void dropUser(View view) {

        sqLiteDatabase = myDB.getWritableDatabase();
        myDB.onUpgrade(sqLiteDatabase,1,2);
        Toast.makeText(getApplicationContext(),"All users deleted
",Toast.LENGTH_LONG).show();
    }
}
```

activity_main.xml

```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">
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">
        <TextView
            android:id="@+id/textView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="username : "
            android:textSize="24sp" />
        <EditText
            android:id="@+id/user"
```

```xml
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:ems="10"

            android:hint="enter your Username"
            android:inputType="textPersonName"
            android:textSize="24sp" />
    </LinearLayout>
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">
        <TextView
            android:id="@+id/textView2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="password : "
            android:textSize="24sp" />
        <EditText
            android:id="@+id/pass"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:ems="10"
            android:hint="password"
            android:inputType="textPersonName"
            android:textSize="24sp" />
    </LinearLayout>
    <Button
        android:id="@+id/register"
        android:layout_width="173dp"
        android:layout_height="wrap_content"
        android:onClick="registerUser"
        android:text="Register" />
    <Button
        android:id="@+id/drop"
        android:layout_width="173dp"
        android:layout_height="wrap_content"
        android:onClick="dropUser"
        android:text="Drop Users" />
    <Button
        android:id="@+id/login"
        android:layout_width="168dp"
        android:layout_height="wrap_content"
        android:onClick="login_fun"
        android:text="Login" />
</LinearLayout>
```
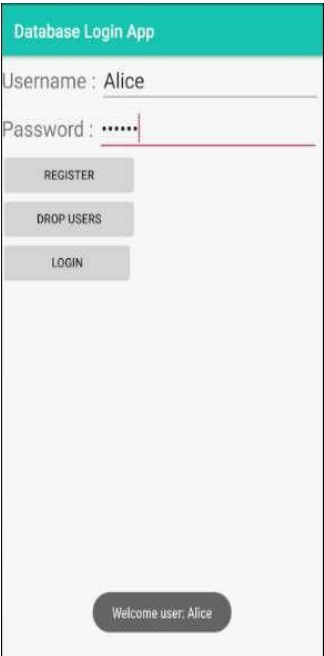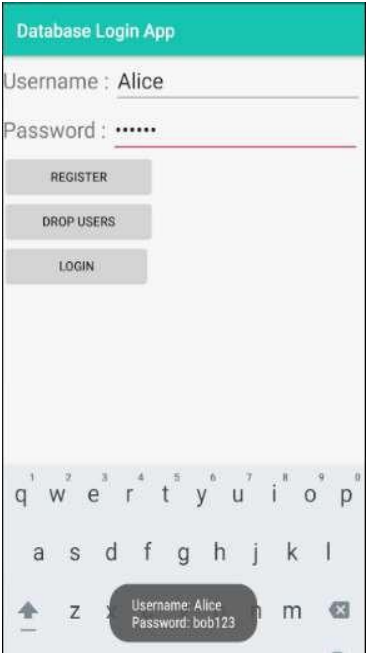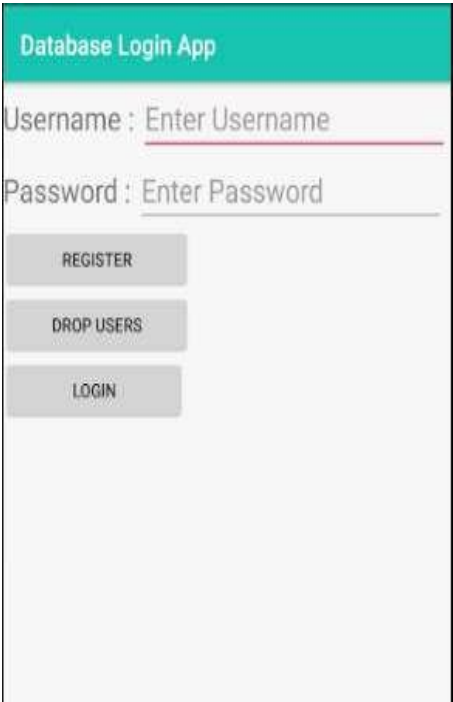
Output:
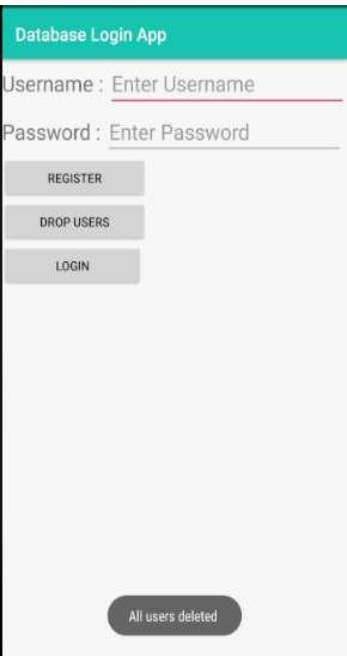
Practical 10:Threads

Input:

MainActivity.java

```java
package com.example.hello.progressbarthread;
import android.support.v7.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);
            }
        }
    }
}
```

activity_main.xml

```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>
```

Output:

Handler	Handler
Count	Time: 26
START TIMER COUNT	**START TIMER COUNT**
START NON TIMER COUNT	**START NON TIMER COUNT**