

## Week 8: Create an application that implements Multi threading.

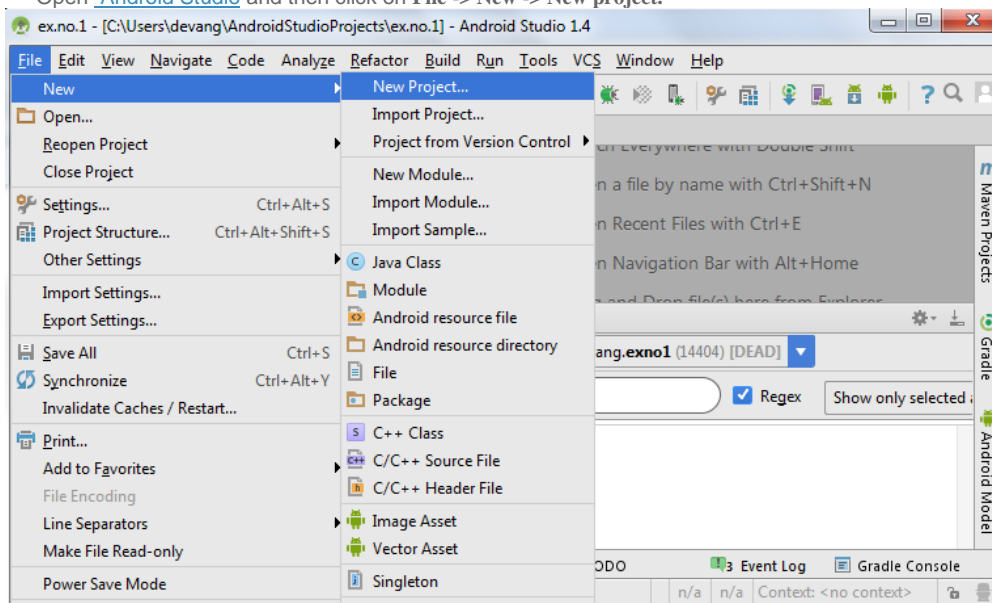
### Aim:

To develop a Android [Application](#) that implements Multi threading.

### Procedure:

#### Creating a New project:

- Open [Android Studio](#) and then click on File -> New -> New project.



- Then type the Application name as "ex.no.7" and click Next.

Create New Project

## New Project

Android Studio

### Configure your new project

Application name:

Company Domain:

Package name:

Project location:

The application name for most apps begins with an uppercase letter

Previous Next Cancel Finish

- Then select the **Minimum SDK** as shown below and click Next.

Create New Project

## Target Android Devices

### Select the form factors your app will run on

Different platforms may require separate SDKs

☒ Phone and Tablet

Minimum SDK:

Lower API levels target more devices, but have fewer features available. By targeting API 15 and later, your app will run on approximately 94.0% of the devices that are active on the Google Play Store.

[Help me choose](#)

☐ Wear

Minimum SDK:

☐ TV

Minimum SDK:

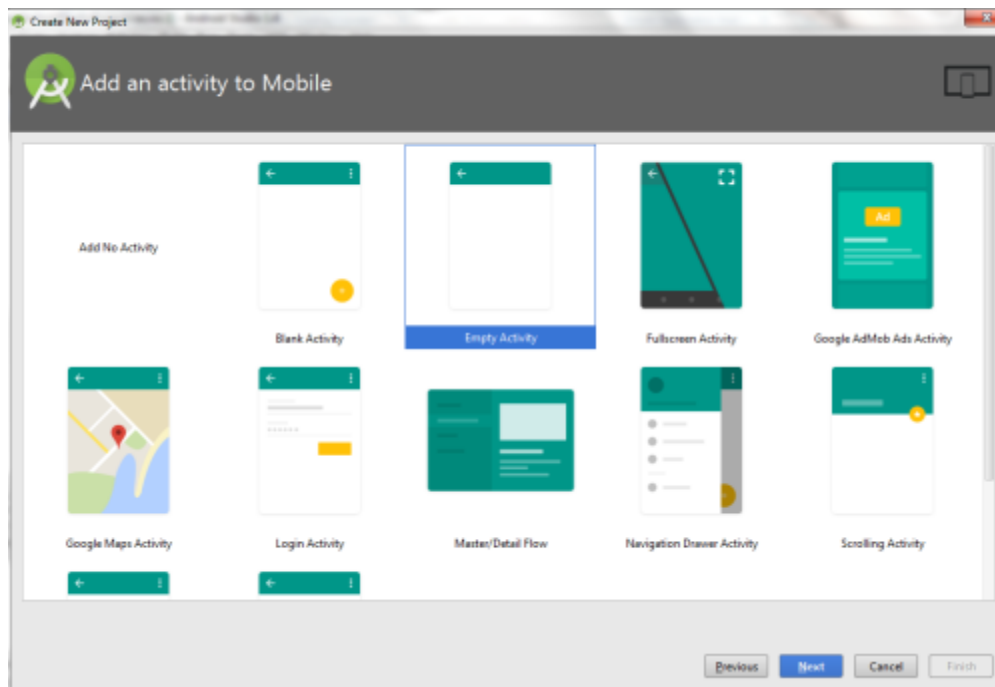
☐ Android Auto

☐ Glass (Not Installed)

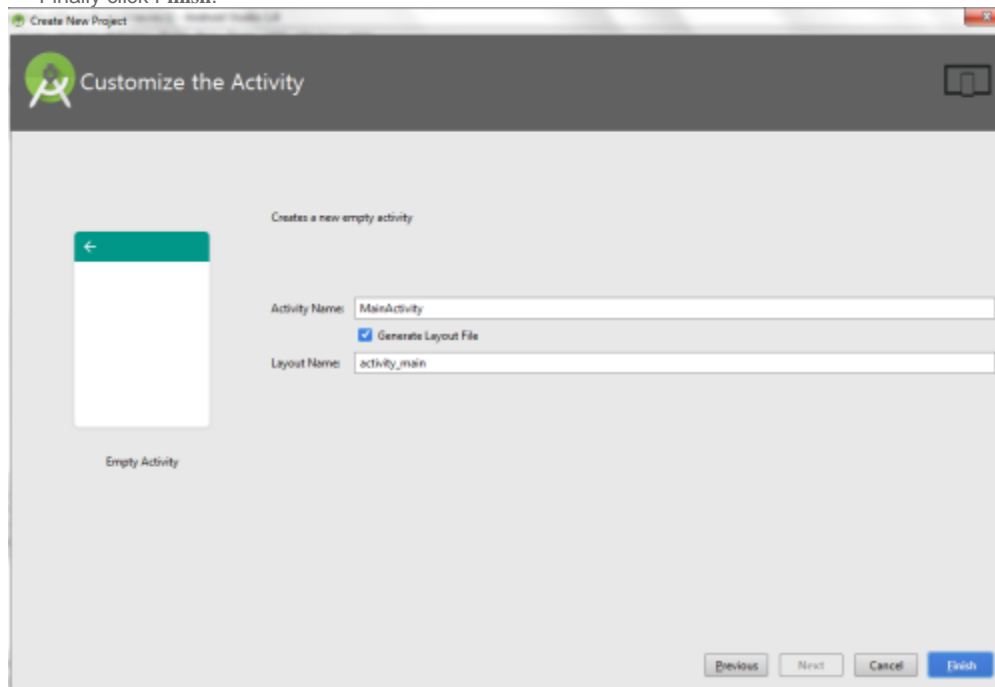
Minimum SDK:

Previous Next Cancel Finish

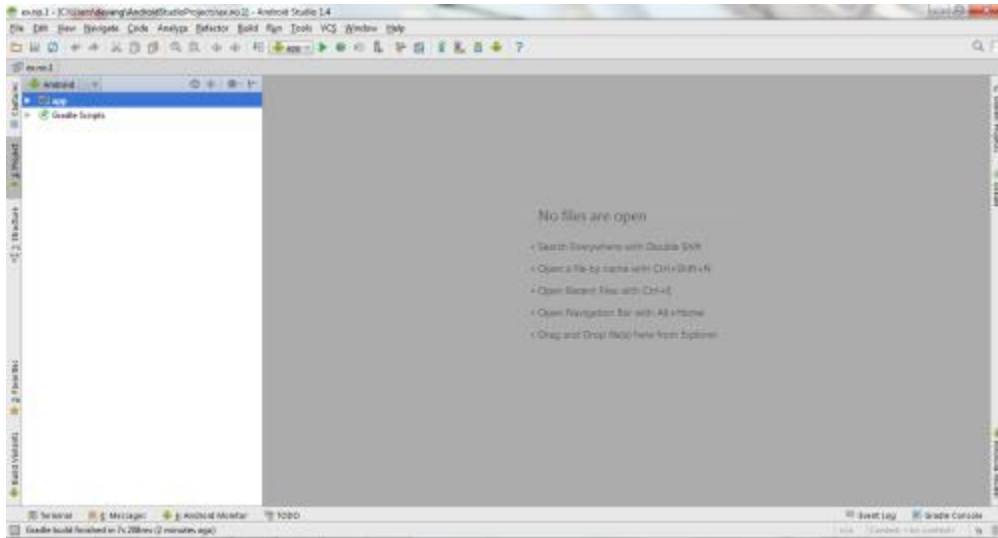
- Then select the **Empty Activity** and click Next.



- Finally click **Finish**.

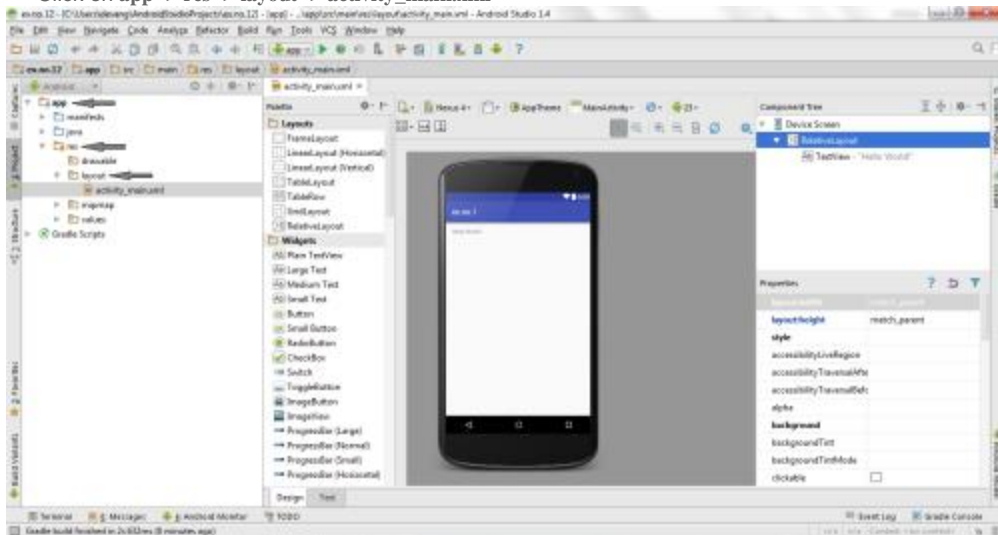


- It will take some time to build and load the project.
- After completion it will look as given below.

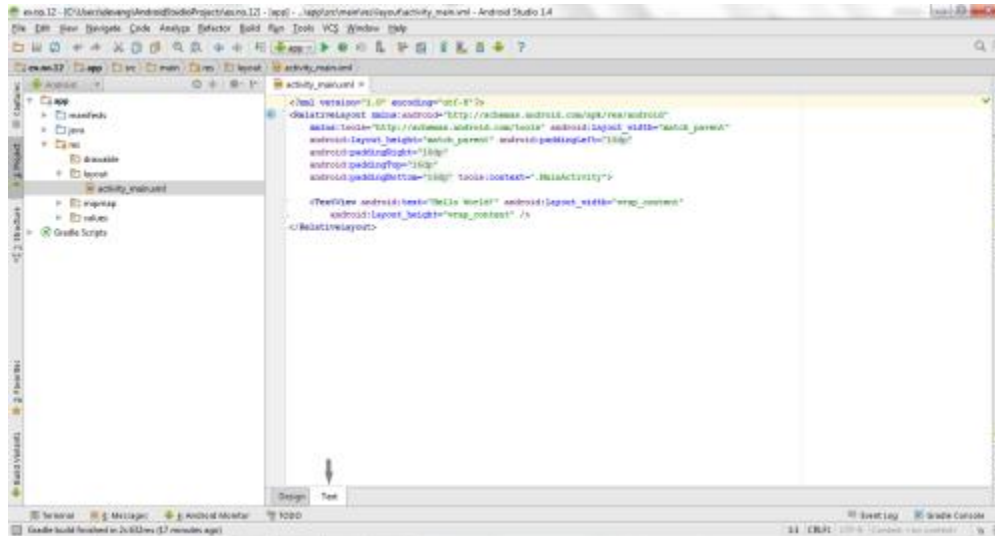


## Designing layout for the Android Application:

- Click on app -> res -> layout -> activity\_main.xml



- Now click on Text as shown below.



- Then delete the code which is there and type the code as given below.

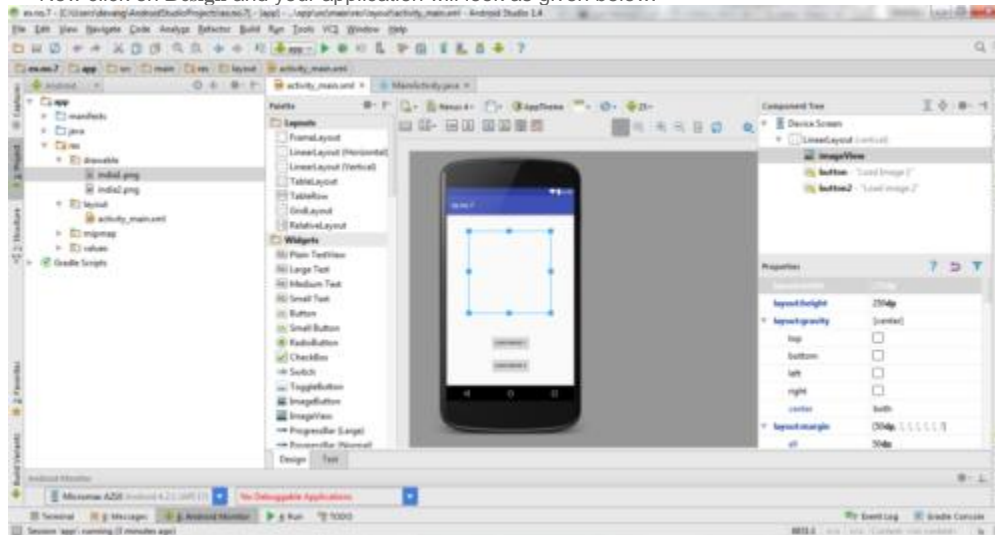
Code for Activity\_main.xml:

```

1
2
3 <?xml version="1.0" encoding="utf-8"?>
4 <LinearLayout
5     xmlns:android="http://schemas.android.com/apk/res/android"
6     android:layout_width="match_parent"
7     android:layout_height="match_parent"
8     android:orientation="vertical" >
9
10    <ImageView
11        android:id="@+id/imageView"
12        android:layout_width="250dp"
13        android:layout_height="250dp"
14        android:layout_margin="50dp"
15        android:layout_gravity="center" />
16
17    <Button
18        android:id="@+id/button"
19        android:layout_width="wrap_content"
20        android:layout_height="wrap_content"
21        android:layout_margin="10dp"
22        android:layout_gravity="center"
23        android:text="Load Image 1" />
24
25    <Button
26        android:id="@+id/button2"
27        android:layout_width="wrap_content"
28        android:layout_height="wrap_content"
29        android:layout_margin="10dp"
30        android:layout_gravity="center"
31        android:text="Load image 2" />
32
33 </LinearLayout>

```

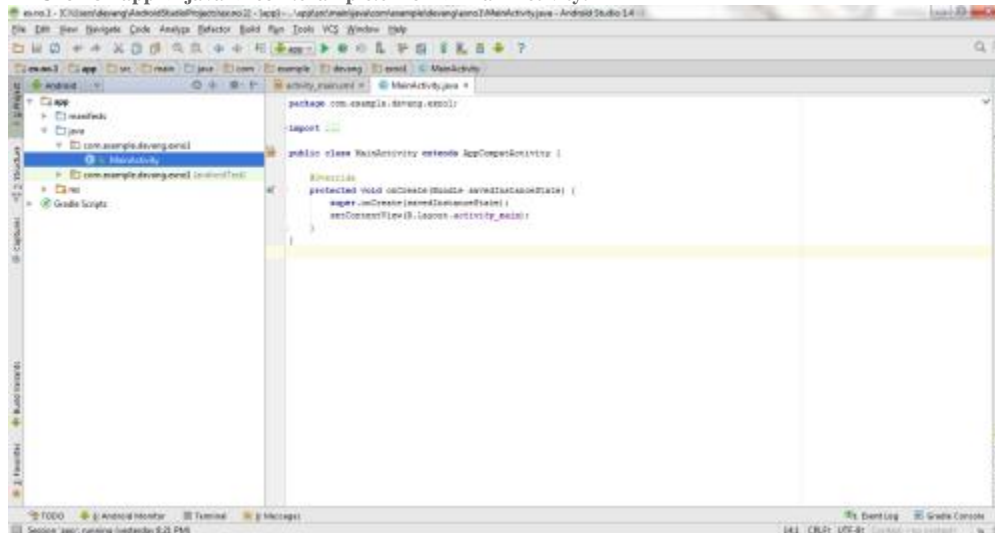
- Now click on **Design** and your application will look as given below.



- So now the designing part is completed.

## Java Coding for the Android Application:

- Click on app -> java -> com.example.exno7 -> MainActivity.



- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```

1 package com.example.week8;
2
3 import android.os.Bundle;
4 import android.support.v7.app.AppCompatActivity;
5 import android.view.View;
6 import android.widget.Button;
7 import android.widget.ImageView;
8 public class MainActivity extends AppCompatActivity
9 {
10     ImageView img;
11     Button bt1, bt2;
12     @Override
13     protected void onCreate(Bundle savedInstanceState)

```

```

12     {
13         super.onCreate(savedInstanceState);
14         setContentView(R.layout.activity_main);
15
16         bt1 = (Button) findViewById(R.id.button);
17         bt2 = (Button) findViewById(R.id.button2);
18         img = (ImageView) findViewById(R.id.imageView);
19
20         bt1.setOnClickListener(new View.OnClickListener()
21         {
22             @Override
23             public void onClick(View v)
24             {
25                 new Thread(new Runnable()
26                 {
27                     @Override
28                     public void run()
29                     {
30                         img.post(new Runnable()
31                         {
32                             @Override
33                             public void run()
34                             {
35                                 img.setImageResource(R.drawable.india1);
36                             }
37                         });
38                     }
39                 }).start();
40             }
41         });
42
43         bt2.setOnClickListener(new View.OnClickListener()
44         {
45             @Override
46             public void onClick(View v)
47             {
48                 new Thread(new Runnable()
49                 {
50                     @Override
51                     public void run()
52                     {
53                         img.post(new Runnable()
54                         {
55                             @Override
56                             public void run()
57                             {
58                                 img.setImageResource(R.drawable.india2);
59                             }
60                         });
61                     }
62                 }).start();
63             }
64         });
65     }
66 }

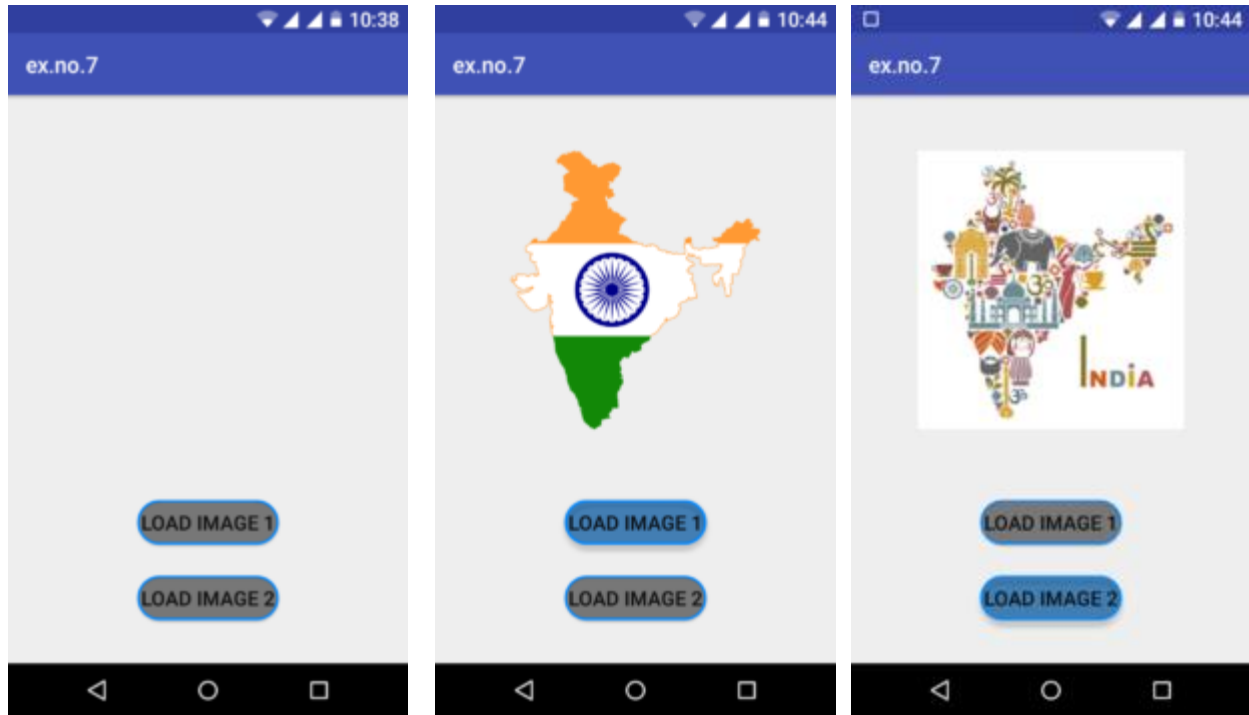
```

- So now the Coding part is also completed.
- Now run the application to see the output.

**Note:** Before Running the Application, Copy the Images given below and Paste it in “*app -> res -> drawable*” by pressing “right click mouse button on *drawable*” and selecting the “*Paste*” option.

TO DOWNLOAD THE IMAGES : [CLICK HERE](#)

## Output:



## Result:

Thus Android Application that implements Multi threading is developed and executed successfully.