Week 8: Create an application that implements Multi threading.

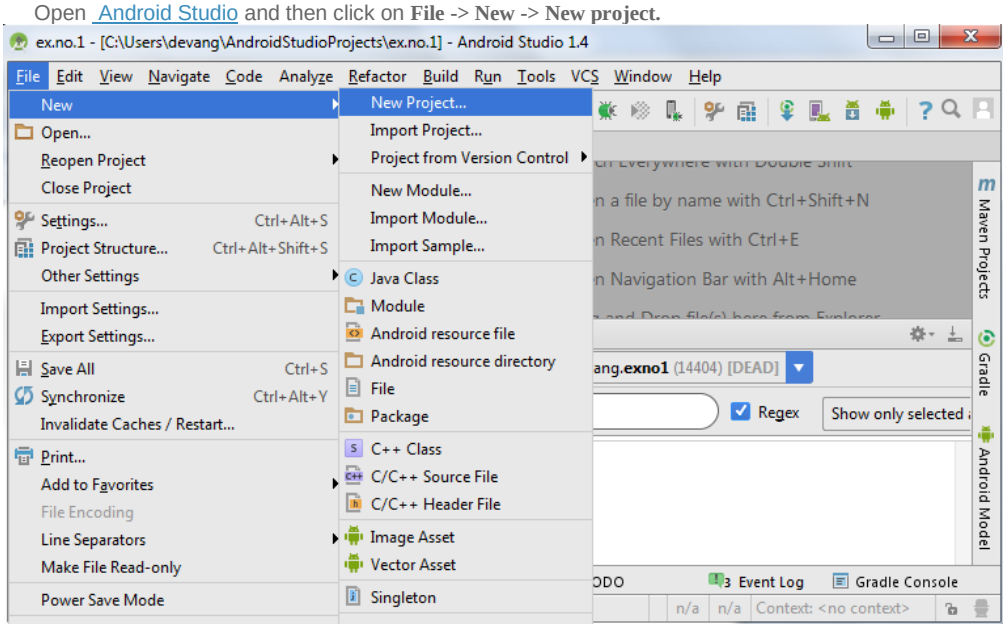
Aim:

To develop a Android Application that implements Multi threading.

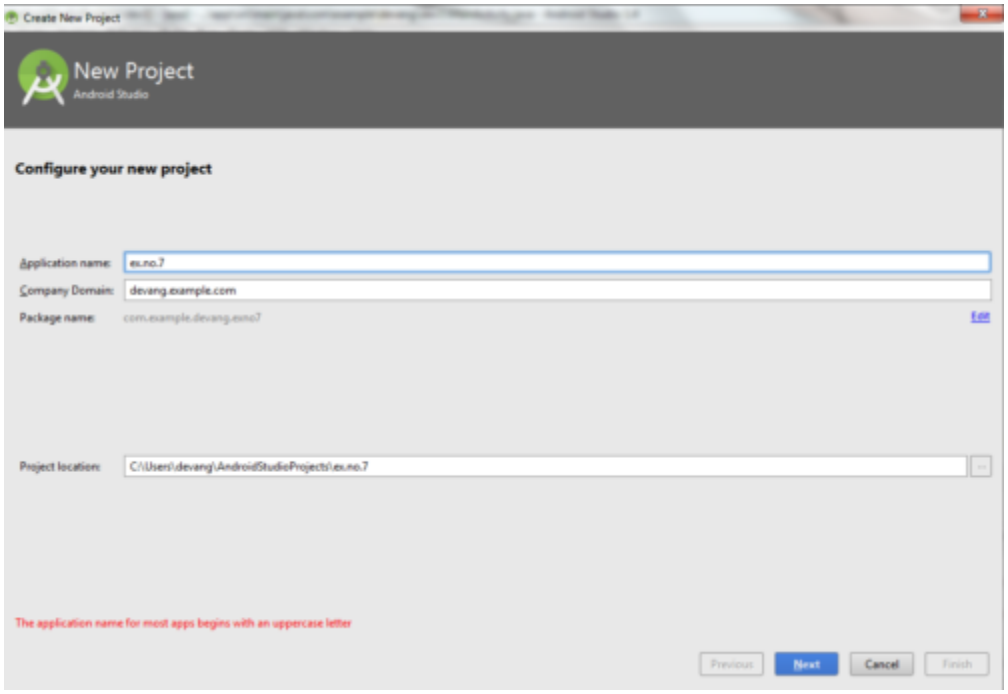
Procedure:

Creating a New project:

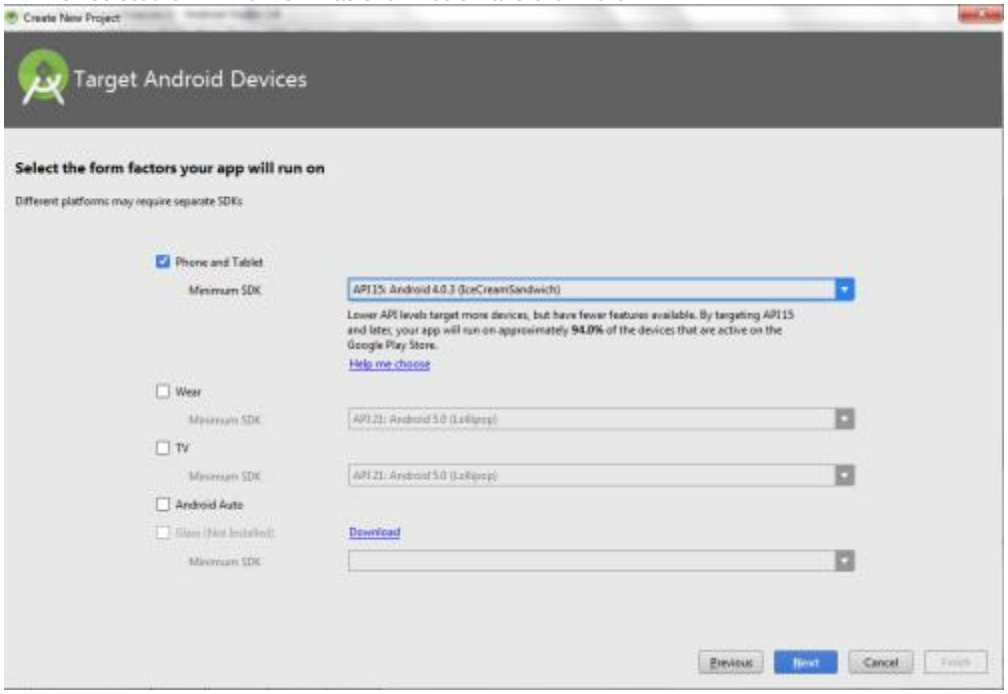
- Open Android Studio and then click on **File -> New -> New project.**



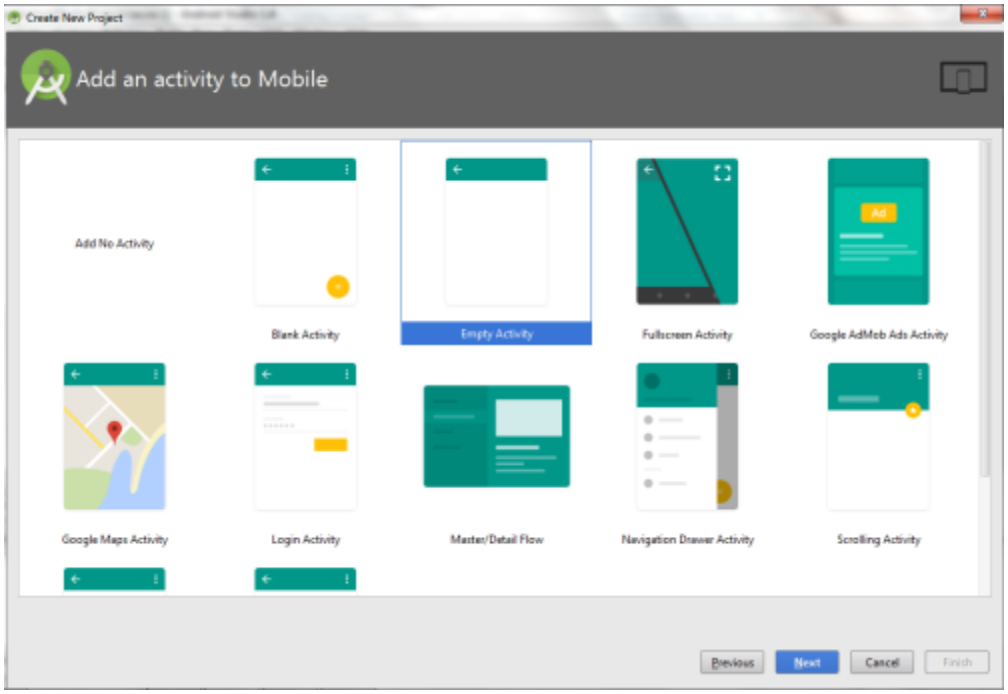
- Then type the Application name as "**ex.no.7**" and click **Next.**



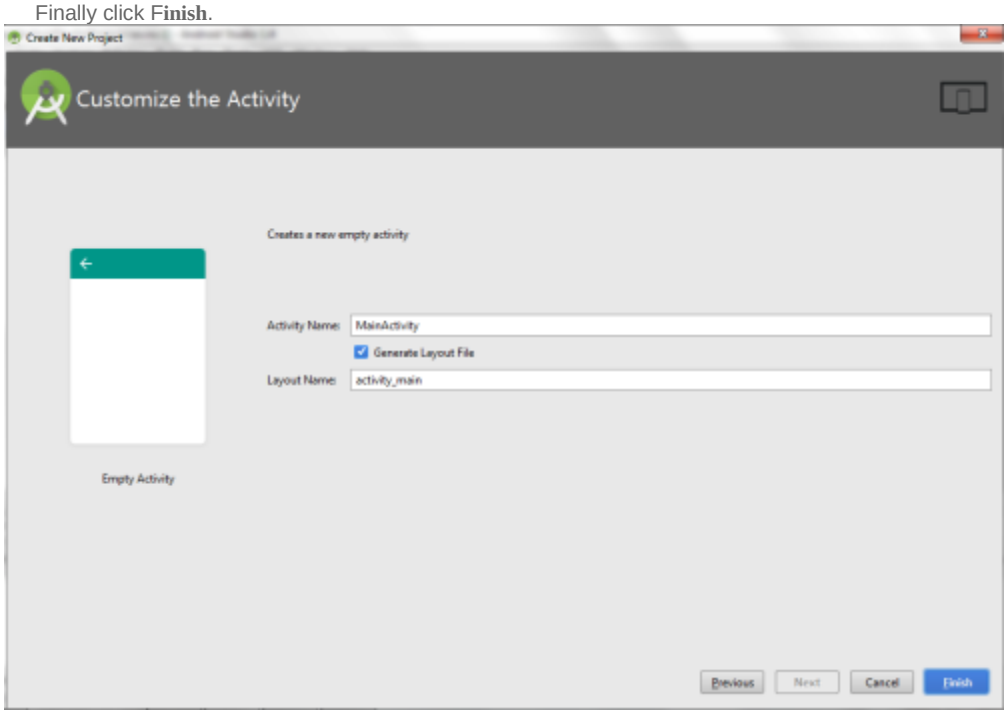
- Then select the **Minimum SDK** as shown below and click **Next**.



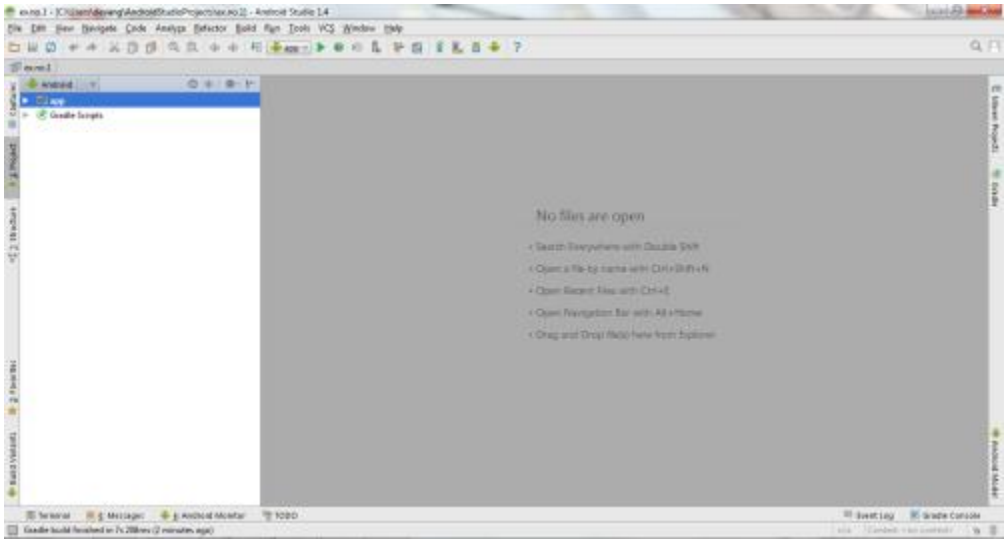
- Then select the **Empty Activity** and click **Next.**



- Finally click F**inish**.

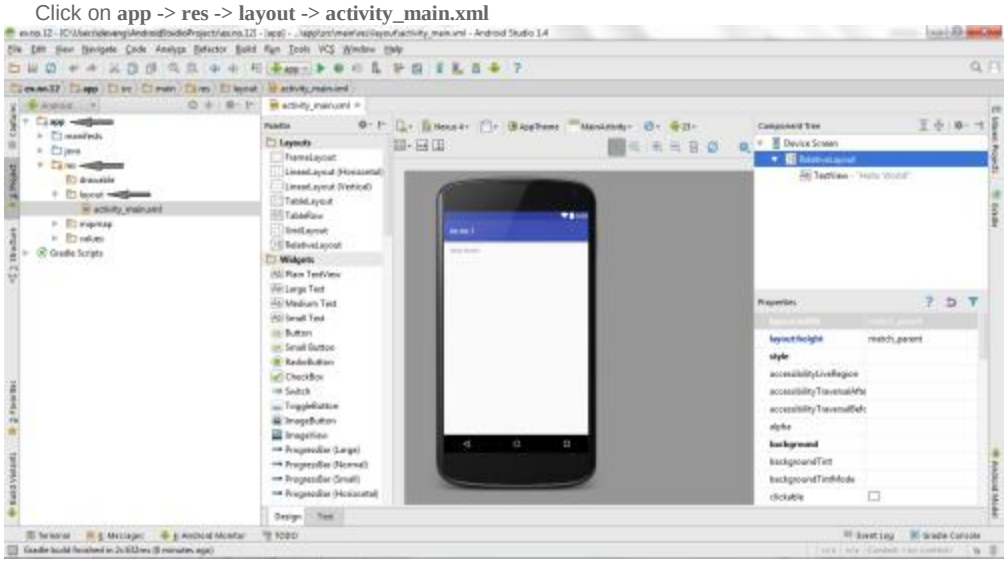


- It will take some time to build and load the project.
- After completion it will look as given below.

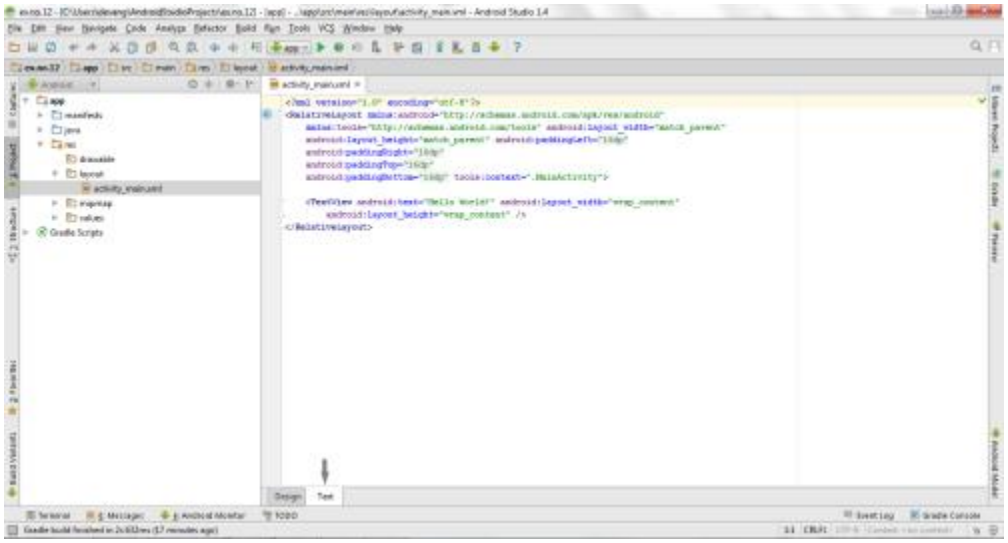


Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**



- Now click on **Text** as shown below.



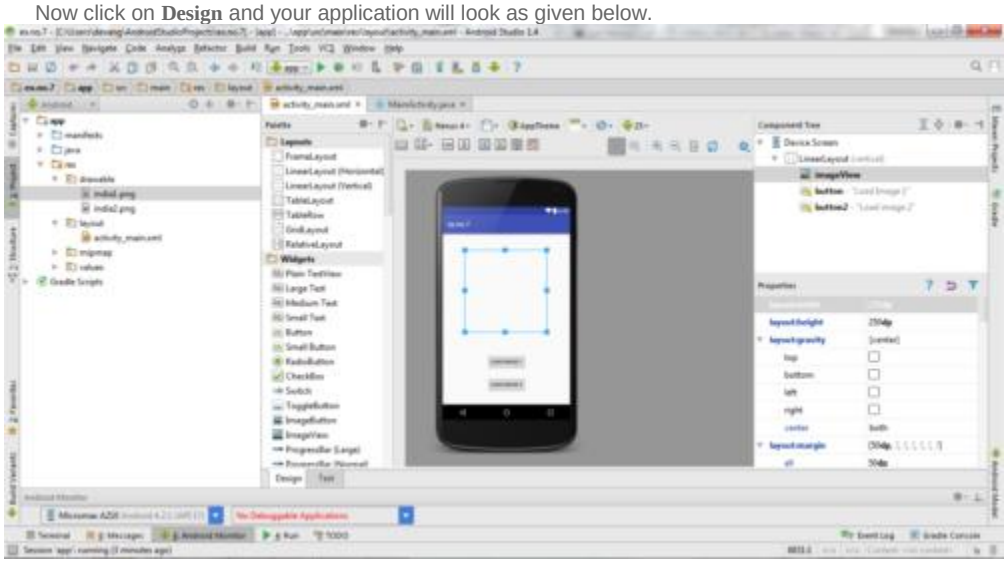
- Then delete the code which is there and type the code as given below.

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>
34
35
```

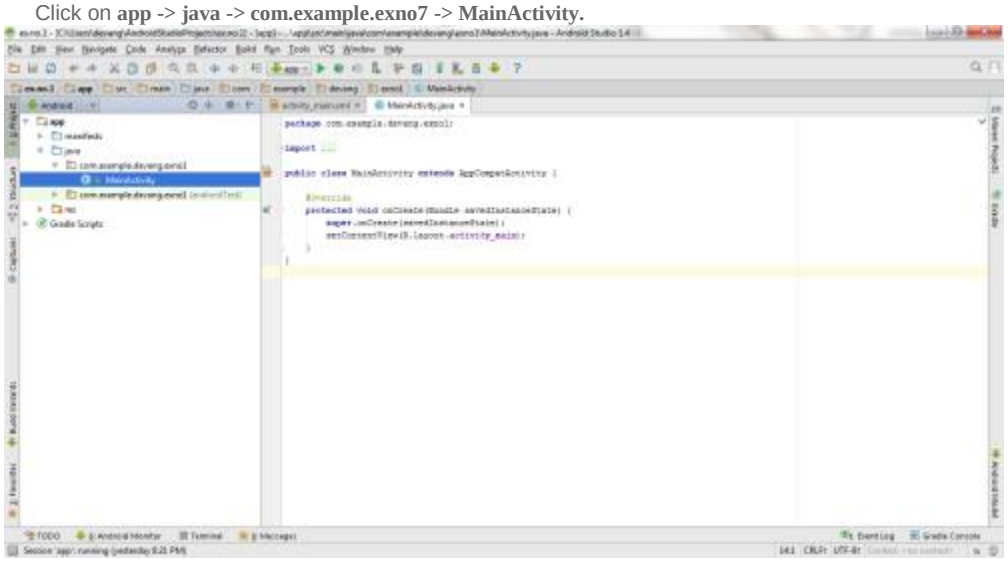
- Now click on **Design** and your application will look as given below.



- 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)
```

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

    bt1 = (Button)findViewById(R.id.button);
    bt2= (Button) findViewById(R.id.button2);
    img = (ImageView)findViewById(R.id.imageView);

    bt1.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View v)
        {
            new Thread(new Runnable()
            {
                @Override
                public void run()
                {
                    img.post(new Runnable()
                    {
                        @Override
                        public void run()
                        {
                            img.setImageResource(R.drawable.india1);
                        }
                    });
                }
            }).start();
        }
    });

    bt2.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View v)
        {
            new Thread(new Runnable()
            {
                @Override
                public void run()
                {
                    img.post(new Runnable()
                    {
                        @Override
                        public void run()
                        {
                            img.setImageResource(R.drawable.india2);
                        }
                    });
                }
            }).start();
        }
    });
}
}
```

- 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.