Ex.No: 9 Date :	**Implement an application that implements multi threading**

AIM:

To implement an application that implements multi threading.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_9.
3. Go to package explorer in the left hand side. Select the project Ex_No_9.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
    a. One ProgressBar (Horizontal)
    b. One Button with labeled as Start Progress
    c. One TextView without any texts
7. Again go to package explorer in the left hand side. Select the project Ex_No_9.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as action of button.
10. Finally run the android application.

PROGRAMS:

activity_main.xml:

```
<RelativeLayout                    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools" an-
                     droid:layout_width="match_parent"
                    android:layout_height="match_parent"
           android:paddingBottom="@dimen/activity_vertical_margin"
           android:paddingLeft="@dimen/activity_horizontal_margin"
          android:paddingRight="@dimen/activity_horizontal_margin"
            android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.example.ex_no_9.MainActivity" >

        <ProgressBar an-
        droid:id="@+id/progressBar1"
        style="?android:attr/progressBarStyleHorizontal"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentTop="true" />

    <TextView android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
        android:layout_below="@+id/progressBa
        r1"
        android:layout_centerHorizontal="true
        " android:text=" " an-
        droid:textAppearance="?android:attr/textAppearanceLarge"
        tools:ignore="HardcodedText" />

    <Button            android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:text="Start            Progress"
        tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```
package com.example.ex_no_9;
import
android.support.v7.app.ActionBarActivity;
import android.os.Bundle; import
android.view.View;
import
android.view.View.OnClickListener;
import   android.widget.Button;   import
android.widget.ProgressBar;       import
android.widget.TextView;
public class MainActivity extends ActionBarActivity {
      @Override
```

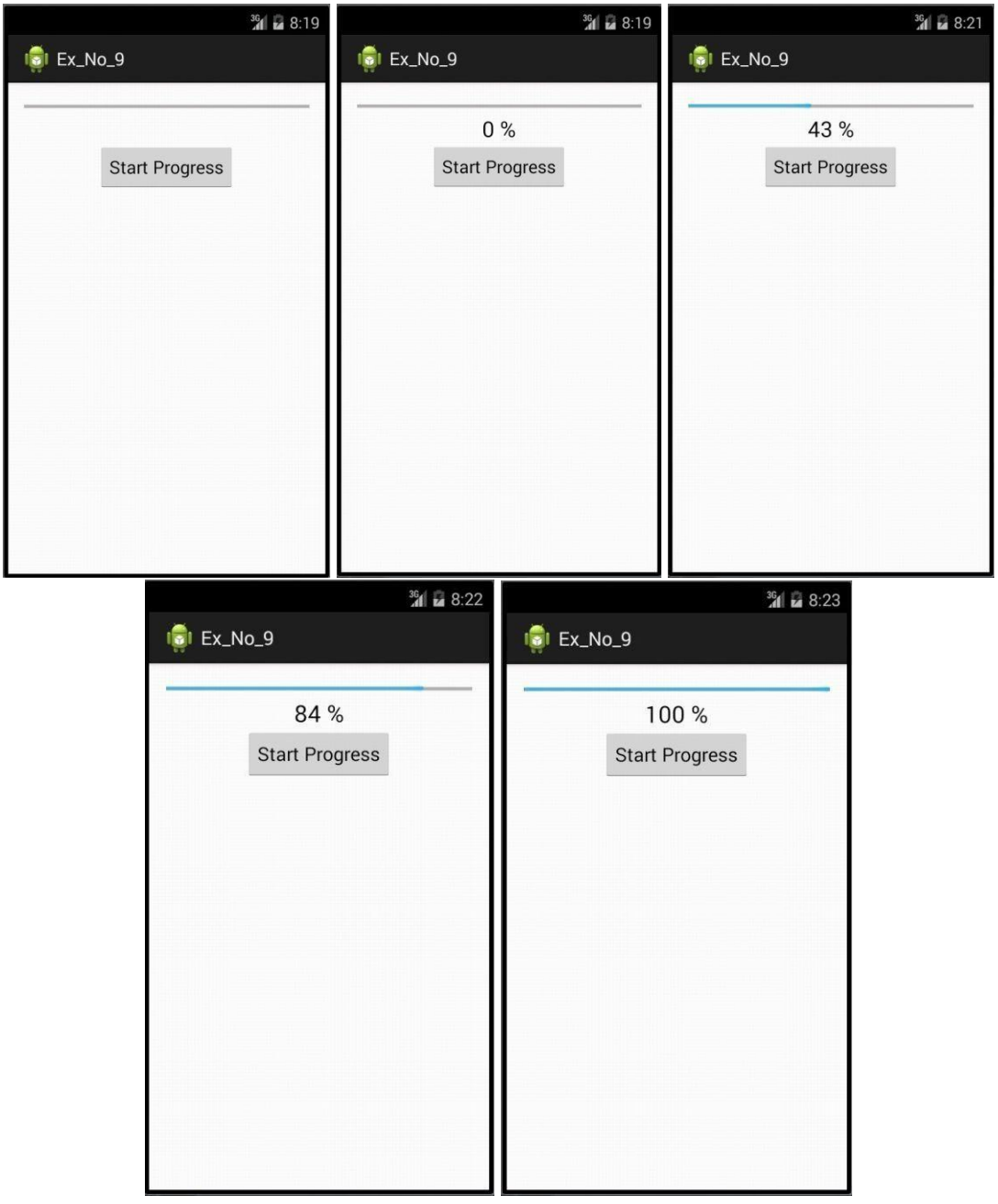
```
protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    final                                          ProgressBar
    p=(ProgressBar)findViewById(R.id.progressBar1);  final  TextView
    t=(TextView)findViewById(R.id.textView1);                Button
    b=(Button)findViewById(R.id.button1);  b.setOnClickListener(  new
    OnClickListener()
                {
                    @Override
                    public void onClick(View arg0) {
                        // TODO Auto-generated method stub

                        Runnable r=new Runnable(){
                            @Override
                            public void run() {// TODO Auto-generated
                            method stub

                                for(int i=0;i<=100;i++)
                                { final int temp=i;
                                    try {
                                        Thread.sleep(2000);
                                    } catch (InterruptedException e) {
// TODO Auto-generated catch block
                                        e.printStackTrace();
                                    }
```

```
                        });    }



method
stub









        }
}
```

```
                                                        p.post(new Runnable()
                                                        {
                                                                @Override
                                                                public void run() {
                                                                        // TODO Auto-generated

                                                                        p.setProgress(temp);
                                                                        t.setText(temp+" %");

                                                                }

                                                        });
                                                }

                                        }};
```

```
                new Thread(r).start();
```

OUTPUT:


8:19
Ex_No_9
Start Progress
8:19
Ex_No_9
0 %
Start Progress
8:21
Ex_No_9
43 %
Start Progress
8:22
Ex_No_9
84 %
Start Progress
8:23
Ex_No_9
100 %
Start Progress

RESULT:

Thus the application that implements multi threading has been developed and the output was verified.