	ANDROID APPLICATION THAT USES GUI COMPONENTS, FONTS AND COLORS	

PROGRAM:

Activity_main.xml:

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

   <TextView
      android:id="@+id/textView"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="30dp"
      android:gravity="center"
      android:text="Hello World!"
      android:textSize="25sp"
      android:textStyle="bold" />

   <Button
      android:id="@+id/button1"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="20dp"
      android:gravity="center"
      android:text="Change font size"
      android:textSize="25sp" />

  <Button
      android:id="@+id/button2"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="20dp"
      android:gravity="center"
```

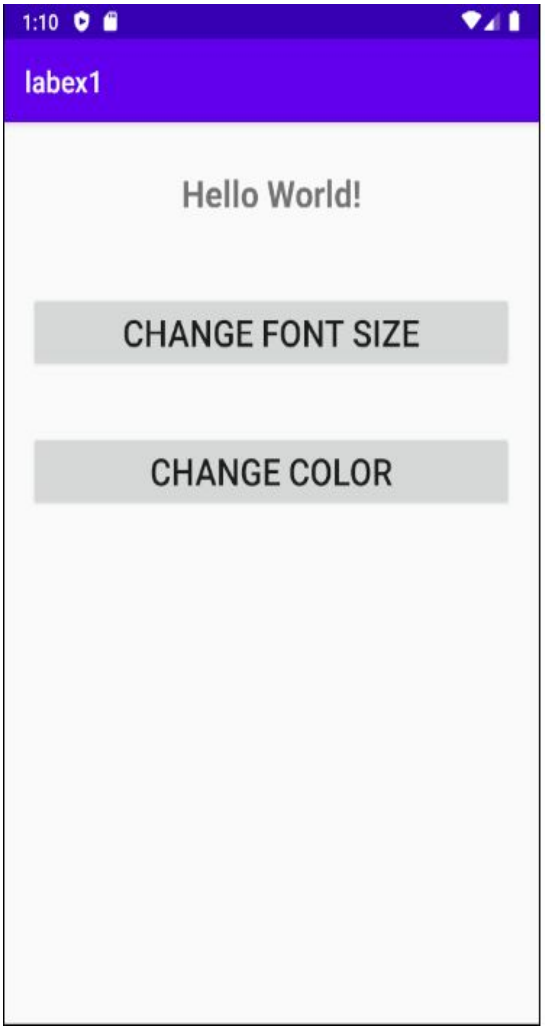
```
        android:text="Change color"
        android:textSize="25sp" />

</LinearLayout>
```

MainActivity.java:

```
package com.example.exno1;
import android.graphics.Color;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity
{
  int ch=1;
   float font=30;
   @Override
    protected void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      final TextView t= (TextView) findViewById(R.id.textView);
      Button b1= (Button) findViewById(R.id.button1);
      b1.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            t.setTextSize(font);
            font = font + 5;
            if (font == 50)
                  font = 30;
```

```
        }
    }
    Button b2= (Button) findViewById(R.id.button2);
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            switch (ch) {
                case 1:
                    t.setTextColor(Color.RED);
                    break;
                case 2:
                    t.setTextColor(Color.GREEN);
                    break;
                case 3:
                    t.setTextColor(Color.BLUE);
                    break;
                case 4:
                    t.setTextColor(Color.CYAN);
                    break;
                case 5:
                    t.setTextColor(Color.YELLOW);
                    break;
                case 6:
                    t.setTextColor(Color.MAGENTA);
                    break;
            }
            ch++;
            if (ch == 7)
                ch = 1;
        }
    }
  }
}
```

OUTPUT:



	ANDROID APPLICATION LAYOUT MANAGERS AND EVENT LISTENERS	

PROGRAM:

Activity_Main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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=".MainActivity">

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="100dp">
      <TextView
         android:id="@+id/textView"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_margin="30dp"
         android:text="Details Form"
         android:textSize="25sp"
         android:gravity="center"/>
   </LinearLayout>

   <GridLayout
      android:id="@+id/gridLayout"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:layout_marginTop="100dp"
      android:layout_marginBottom="200dp"
      android:columnCount="2"
      android:rowCount="3">
```

```
<TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="0"
        android:layout_column="0"
        android:text="Name"
        android:textSize="20sp"
        android:gravity="center"/>

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="0"
        android:layout_column="1"
        android:ems="10"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="1"
        android:layout_column="0"
        android:text="Reg.No"
        android:textSize="20sp"
        android:gravity="center"/>
```

```
<EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="1"
        android:layout_column="1"
        android:inputType="number"
        android:ems="10"/>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="2"
        android:layout_column="0"
        android:text="Dept"
        android:textSize="20sp"
        android:gravity="center"/>

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="2"
        android:layout_column="1"
        android:spinnerMode="dropdown"/>

 </GridLayout>
```

```
 <Button
      android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentBottom="true"
      android:layout_centerInParent="true"
      android:layout_marginBottom="150dp"
      android:text="Submit"/>

</RelativeLayout>
```

Activity_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"
   tools:context="com.example.devang.exno2.SecondActivity"
   android:orientation="vertical"
   android:gravity="center">

   <TextView
      android:id="@+id/textView1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_margin="20dp"
      android:text="New Text"
      android:textSize="30sp"/>
```

```
 <TextView
      android:id="@+id/textView2"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_margin="20dp"
      android:text="New Text"
      android:textSize="30sp"/>

 <TextView
      android:id="@+id/textView3"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_margin="20dp"
      android:text="New Text"
      android:textSize="30sp"/>

</LinearLayout>
```

MainActivity.java:

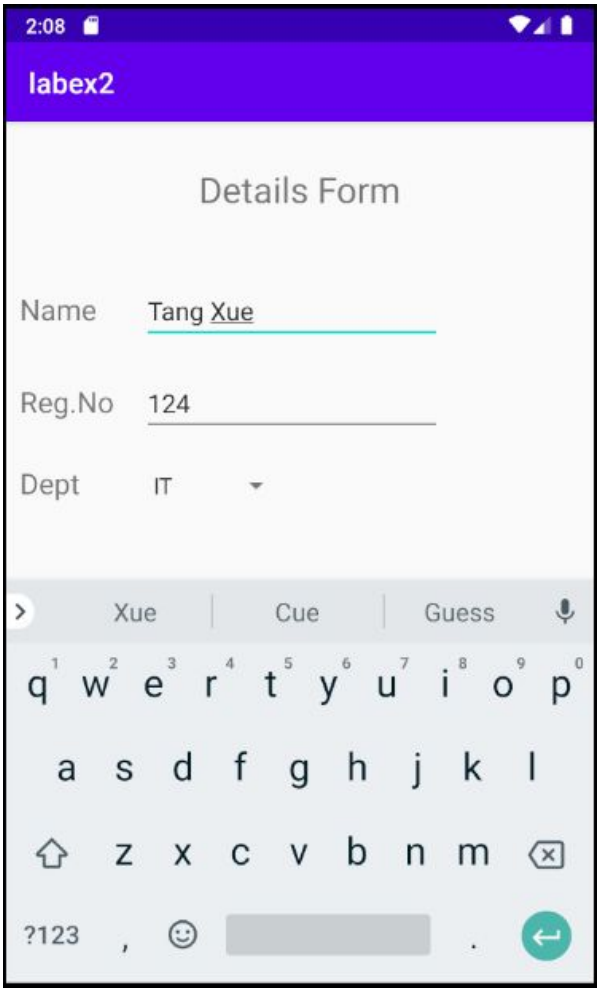
```
package com.example.exno2;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;

public class MainActivity extends AppCompatActivity {

   EditText e1,e2;
   Button bt;
   Spinner s;
```

```
  String [] dept_array={"CSE","ECE","IT","Mech","Civil"};
  String name,reg,dept;
  @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      //Referring the Views
      e1= (EditText) findViewById(R.id.editText);
      e2= (EditText) findViewById(R.id.editText2);

      bt= (Button) findViewById(R.id.button);

      s= (Spinner) findViewById(R.id.spinner);
      ArrayAdapter adapter= new
ArrayAdapter(MainActivity.this,android.R.layout.simple_spinner_item,dept_array);
      s.setAdapter(adapter);

      //Creating Listener for Button
      bt.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {

            //Getting the Values from Views(Edittext & Spinner)
            name=e1.getText().toString();
            reg=e2.getText().toString();
            dept=s.getSelectedItem().toString();

            //Intent For Navigating to Second Activity
            Intent i = new Intent(MainActivity.this,SecondActivity.class);

            //For Passing the Values to Second Activity
            i.putExtra("name_key", name);
            i.putExtra("reg_key",reg);
            i.putExtra("dept_key", dept);

            startActivity(i);

         }
      });
   }
}
```

SecondActivity.java:

```
package com.example.exno2;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {

    TextView t1,t2,t3;

    String name,reg,dept;

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

        t1= (TextView) findViewById(R.id.textView1);
        t2= (TextView) findViewById(R.id.textView2);
        t3= (TextView) findViewById(R.id.textView3);

        Intent i = getIntent();
        name=i.getStringExtra("name_key");
        reg=i.getStringExtra("reg_key");
        dept=i.getStringExtra("dept_key");
         t1.setText(name);
        t2.setText(reg);
        t3.setText(dept);

    }
}
```

OUTPUT:


2:08
labex2
Details Form
Name
Tang Xue
Reg.No
124
Dept
IT
Xue
Cue
Guess
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
?123

	SIMPLE ANDROID APPLICATION FOR NATIVE CALCULATOR	

PROGRAM:

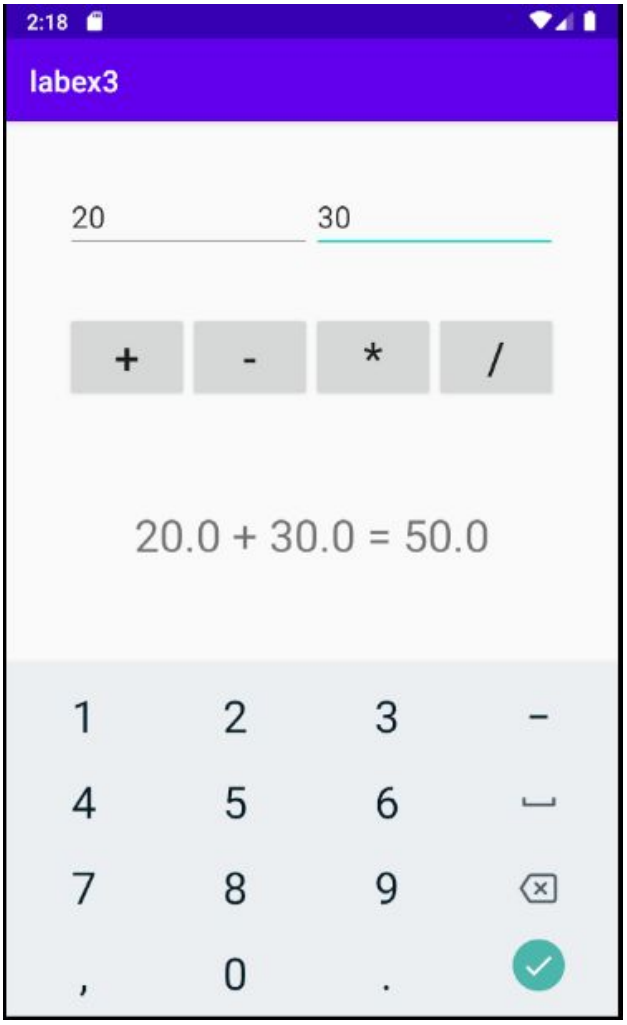
Activity_main.xml:

```
 <?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:layout_margin="20dp">

   <LinearLayout
      android:id="@+id/linearLayout1"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="20dp">

      <EditText
         android:id="@+id/editText1"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:inputType="numberDecimal"
         android:textSize="20sp" />

       <EditText
         android:id="@+id/editText2"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:inputType="numberDecimal"
         android:textSize="20sp" />

   </LinearLayout>
```

```
<LinearLayout
      android:id="@+id/linearLayout2"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="20dp">

      <Button
         android:id="@+id/Add"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:text="+"
         android:textSize="30sp"/>

      <Button
         android:id="@+id/Sub"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:text="-"
         android:textSize="30sp"/>

      <Button
         android:id="@+id/Mul"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:text="*"
         android:textSize="30sp"/>

      <Button
         android:id="@+id/Div"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:text="/"
         android:textSize="30sp"/>
```

```
</LinearLayout>

   <TextView
      android:id="@+id/textView"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_marginTop="50dp"
      android:text="Answer is"
      android:textSize="30sp"
      android:gravity="center"/>

</LinearLayout>
```

OUTPUT:



	ANDROID APPLICATION TO DRAW THE BASIC GRAPHICAL PRIMITIVES	

PROGRAM:

Activity_main.xml:

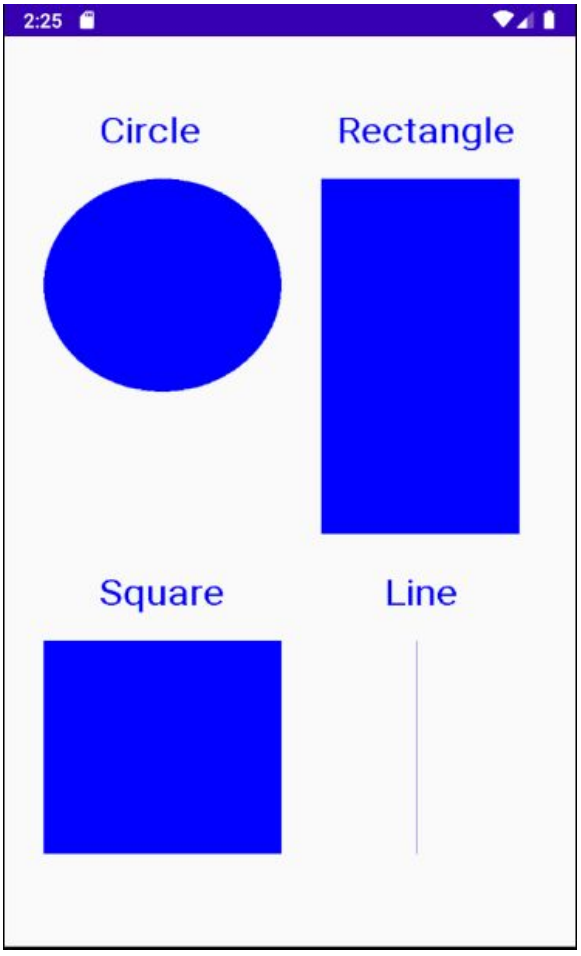
```
 <?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent">

   <ImageView
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/imageView" />
</RelativeLayout>
```

MainActivity.java:

```
package com.example.exno4;

import android.app.Activity;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.widget.ImageView;

public class MainActivity extends Activity
{
   @Override
   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
```

```
        //Creating a Bitmap
        Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);

        //Setting the Bitmap as background for the ImageView
        ImageView i = (ImageView) findViewById(R.id.imageView);
        i.setBackgroundDrawable(new BitmapDrawable(bg));

        //Creating the Canvas Object
        Canvas canvas = new Canvas(bg);

        //Creating the Paint Object and set its color & TextSize
        Paint paint = new Paint();
        paint.setColor(Color.BLUE);
        paint.setTextSize(50);

        //To draw a Rectangle
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);

        //To draw a Circle
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);

        //To draw a Square
        canvas.drawText("Square", 120, 800, paint);
        canvas.drawRect(50, 850, 350, 1150, paint);

        //To draw a Line
        canvas.drawText("Line", 480, 800, paint);
        canvas.drawLine(520, 850, 520, 1150, paint);
    }
}
```

OUTPUT:



	SIMPLE ANDROID APPLICATION THAT MAKES USE OF DATABASE	

PROGRAM:

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent">
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_x="50dp"
      android:layout_y="20dp"
      android:text="Student Details"
      android:textSize="30sp" />

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_x="20dp"
      android:layout_y="110dp"
      android:text="Enter Rollno:"
      android:textSize="20sp" />

    <EditText
      android:id="@+id/Rollno"
      android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:layout_x="175dp"
      android:layout_y="100dp"
      android:inputType="number"
      android:textSize="20sp" />
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="160dp"
    android:text="Enter Name:"
    android:textSize="20sp" />

  <EditText
    android:id="@+id/Name"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="150dp"
    android:inputType="text"
    android:textSize="20sp" />

  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="210dp"
    android:text="Enter Marks:"
    android:textSize="20sp" />

  <EditText
    android:id="@+id/Marks"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="200dp"
    android:inputType="number"
    android:textSize="20sp" />
```

```
<Button
      android:id="@+id/Insert"
      android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:layout_x="25dp"
      android:layout_y="300dp"
      android:text="Insert"
      android:textSize="30dp" />

   <Button
      android:id="@+id/Delete"
      android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:layout_x="200dp"
      android:layout_y="300dp"
      android:text="Delete"
      android:textSize="30dp" />

   <Button
      android:id="@+id/Update"
      android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:layout_x="25dp"
      android:layout_y="400dp"
      android:text="Update"
      android:textSize="30dp" />

   <Button
      android:id="@+id/View"
      android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:layout_x="200dp"
      android:layout_y="400dp"
      android:text="View"
      android:textSize="30dp" />
```

```
   <Button
      android:id="@+id/ViewAll"
      android:layout_width="200dp"
      android:layout_height="wrap_content"
      android:layout_x="100dp"
      android:layout_y="500dp"
      android:text="View All"
      android:textSize="30dp" />

</AbsoluteLayout>
```

MainActivity.java:

```
package com.example.exno5;

import android.app.Activity;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener
{
   EditText Rollno,Name,Marks;
   Button Insert,Delete,Update,View,ViewAll;
   SQLiteDatabase db;
   /** Called when the activity is first created. */
   @Override
   public void onCreate(Bundle savedInstanceState)
   {
       super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
```

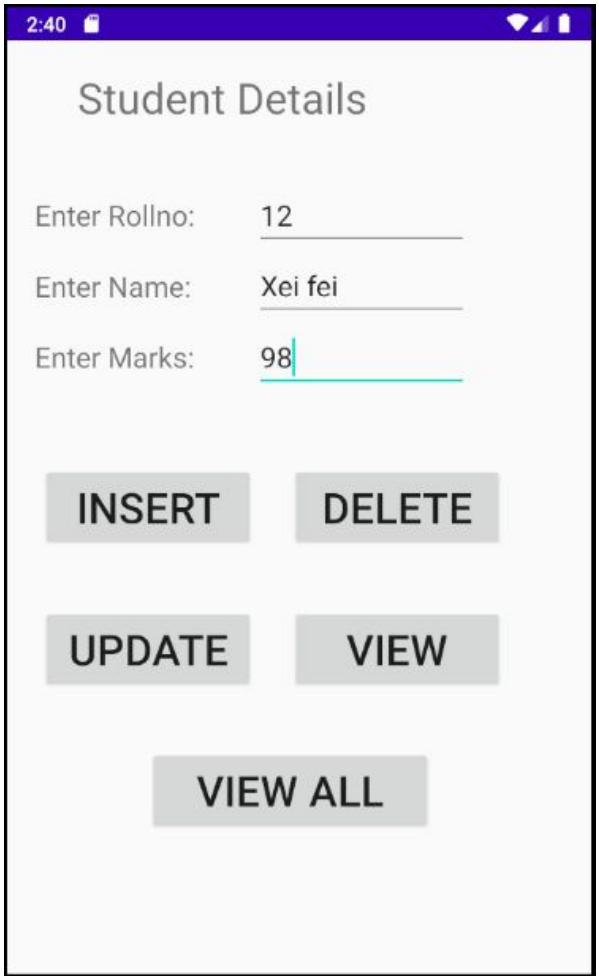
```
        Rollno=(EditText)findViewById(R.id.Rollno);
        Name=(EditText)findViewById(R.id.Name);
        Marks=(EditText)findViewById(R.id.Marks);
        Insert=(Button)findViewById(R.id.Insert);
        Delete=(Button)findViewById(R.id.Delete);
        Update=(Button)findViewById(R.id.Update);
        View=(Button)findViewById(R.id.View);
        ViewAll=(Button)findViewById(R.id.ViewAll);

        Insert.setOnClickListener(this);
        Delete.setOnClickListener(this);
        Update.setOnClickListener(this);
        View.setOnClickListener(this);
        ViewAll.setOnClickListener(this);

        // Creating database and table
        db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);
        db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno
VARCHAR,name VARCHAR,marks VARCHAR);");
    }
public void onClick(View view)
    {
        // Inserting a record to the Student table
        if(view==Insert)
        {
            // Checking for empty fields
            if(Rollno.getText().toString().trim().length()==0||
                    Name.getText().toString().trim().length()==0||
                    Marks.getText().toString().trim().length()==0)
            {
                showMessage("Error", "Please enter all values");
                return;
            }
             db.execSQL("INSERT INTO student VALUES ('"+Rollno.getText()
                        +"','"+Name.getText()+  "','"+Marks.getText()+"');");
            showMessage("Success", "Record added");
            clearText();
        }
```

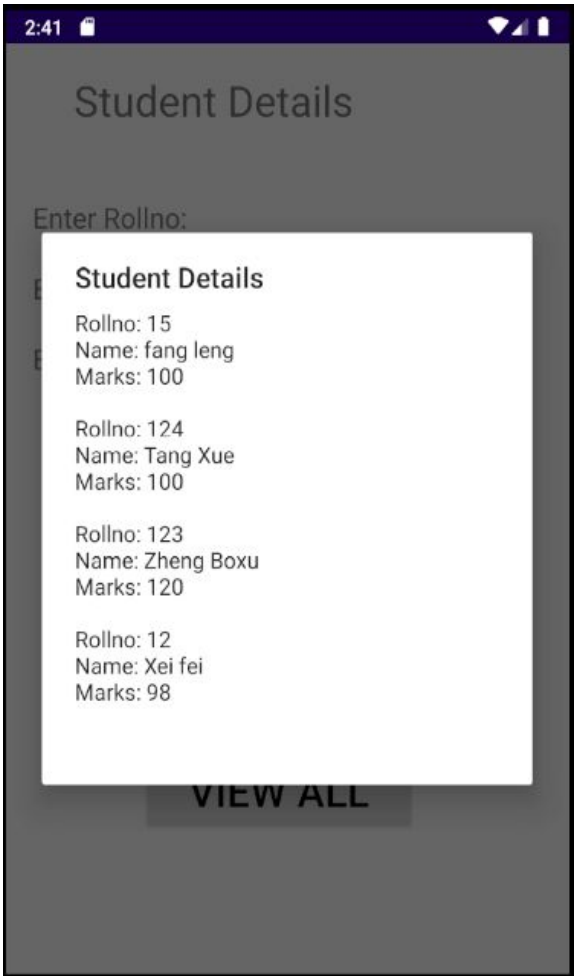
```
 if(view==Delete)
       {
          // Checking for empty roll number
          if(Rollno.getText().toString().trim().length()==0)
          {
             showMessage("Error", "Please enter Rollno");
             return;
          }
          Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
          if(c.moveToFirst())
          {
             db.execSQL("DELETE FROM student WHERE
rollno='"+Rollno.getText()+"'");
             showMessage("Success", "Record Deleted");
          }
          else
          {
             showMessage("Error", "Invalid Rollno");
          }
          clearText();
       }
  if(view==Update)
       {
          // Checking for empty roll number
          if(Rollno.getText().toString().trim().length()==0)
          {
             showMessage("Error", "Please enter Rollno");
             return;
          }
  Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
          if(c.moveToFirst()) {
             db.execSQL("UPDATE student SET name='" + Name.getText() +
"',marks='" + Marks.getText() +
                    "' WHERE rollno='"+Rollno.getText()+"'");
             showMessage("Success", "Record Modified");
          }
```

```
 else {
            showMessage("Error", "Invalid Rollno");
         }
         clearText();
      }
      // Display a record from the Student table
      if(view==View)
      {
         // Checking for empty roll number
         if(Rollno.getText().toString().trim().length()==0)
         {
            showMessage("Error", "Please enter Rollno");
            return;
         }
         Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
         if(c.moveToFirst())
         {
            Name.setText(c.getString(1));
            Marks.setText(c.getString(2));
         }
         else
         {
            showMessage("Error", "Invalid Rollno");
            clearText();
         }
      }
 if(view==ViewAll)
      {
         Cursor c=db.rawQuery("SELECT * FROM student", null);
         if(c.getCount()==0)
         {
            showMessage("Error", "No records found");
            return;
         }
         StringBuffer buffer=new StringBuffer();
         while(c.moveToNext())
         {
            buffer.append("Rollno: "+c.getString(0)+"\n");
            buffer.append("Name: "+c.getString(1)+"\n");
            buffer.append("Marks: "+c.getString(2)+"\n\n");
         }
```

```
            showMessage("Student Details", buffer.toString());
        }
    }
    public void showMessage(String title,String message)
    {
        Builder builder=new Builder(this);
        builder.setCancelable(true);
        builder.setTitle(title);
        builder.setMessage(message);
        builder.show();
    }
    public void clearText()
    {
        Rollno.setText("");
        Name.setText("");
        Marks.setText("");
        Rollno.requestFocus();
    }
}
```

OUTPUT:


2:40
Student Details
Enter Rollno: 12
Enter Name: Xei fei
Enter Marks: 98
INSERT
DELETE
UPDATE
VIEW
VIEW ALL


2:41
Student Details
Enter Rollno:
Student Details
Rollno: 15
Name: fang leng
Marks: 100
Rollno: 124
Name: Tang Xue
Marks: 100
Rollno: 123
Name: Zheng Boxu
Marks: 120
Rollno: 12
Name: Xei fei
Marks: 98

	ANDROID APPLICATION THAT MAKES USE OF RSS FEED	

PROGRAM:

Activity_main.xml:

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

   <ListView
      android:id="@+id/listView"
      android:layout_width="match_parent"
      android:layout_height="wrap_content" />

</LinearLayout>
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.example.exno6" >

   <uses-permission android:name="android.permission.INTERNET"/>

   <application
      android:allowBackup="true"
      android:icon="@mipmap/ic_launcher"
      android:label="@string/app_name"
      android:supportsRtl="true"
      android:theme="@style/AppTheme" >
      <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>
```

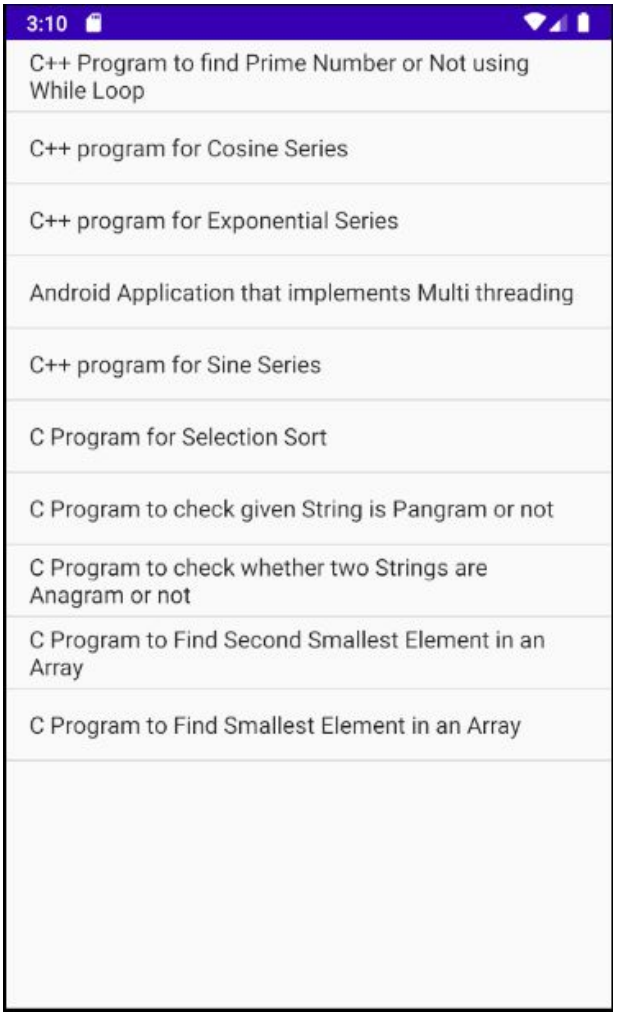
MainActivity.java:

```
package com.example.exno6;

import android.app.ListActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.AsyncTask;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import org.xmlpull.v1.XmlPullParser;
import org.xmlpull.v1.XmlPullParserException;
import org.xmlpull.v1.XmlPullParserFactory;
import java.io.IOException;
import java.io.InputStream;
import java.net.MalformedURLException;
import java.net.URL;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends ListActivity
{
   List headlines;
   List links;

   @Override
   protected void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      new MyAsyncTask().execute();
   }
  class MyAsyncTask extends AsyncTask<Object,Void,ArrayAdapter>
   {
      @Override
      protected ArrayAdapter doInBackground(Object[] params)
      {
         headlines = new ArrayList();
         links = new ArrayList();
```

```
try
{
   URL url = new URL("https://codingconnect.net/feed");
   XmlPullParserFactory factory = XmlPullParserFactory.newInstance();
   factory.setNamespaceAware(false);
   XmlPullParser xpp = factory.newPullParser();

   // We will get the XML from an input stream
   xpp.setInput(getInputStream(url), "UTF_8");
   boolean insideItem = false;

   // Returns the type of current event: START_TAG, END_TAG, etc..
   int eventType = xpp.getEventType();
   while (eventType != XmlPullParser.END_DOCUMENT)
   {
      if (eventType == XmlPullParser.START_TAG)
      {
         if (xpp.getName().equalsIgnoreCase("item"))
         {
            insideItem = true;
         }
         else if (xpp.getName().equalsIgnoreCase("title"))
         {
            if (insideItem)
               headlines.add(xpp.nextText()); //extract the headline
         }
         else if (xpp.getName().equalsIgnoreCase("link"))
         {
            if (insideItem)
               links.add(xpp.nextText()); //extract the link of article
         }
      }
      else if(eventType==XmlPullParser.END_TAG &&
xpp.getName().equalsIgnoreCase("item"))
      {
         insideItem=false;
      }
      eventType = xpp.next(); //move to next element
   }
   }
```

```
  catch (MalformedURLException e)
        {
           e.printStackTrace();
        }
        catch (XmlPullParserException e)
        {
           e.printStackTrace();
        }
        catch (IOException e)
        {
           e.printStackTrace();
        }
        return null;
     }
     protected void onPostExecute(ArrayAdapter adapter) {
        adapter = new ArrayAdapter(MainActivity.this,
android.R.layout.simple_list_item_1, headlines);
        setListAdapter(adapter);
     }
  }
  @Override
  protected void onListItemClick(ListView l, View v, int position, long id)
  {
     Uri uri = Uri.parse((links.get(position)).toString());
     Intent intent = new Intent(Intent.ACTION_VIEW, uri);
     startActivity(intent);
  }
  public InputStream getInputStream(URL url)  {
     try  {
        return url.openConnection().getInputStream();
     }
     catch (IOException e)  {
        return null;
     }
   }
}
```

OUTPUT:


3:10
C++ Program to find Prime Number or Not using While Loop
C++ program for Cosine Series
C++ program for Exponential Series
Android Application that implements Multi threading
C++ program for Sine Series
C Program for Selection Sort
C Program to check given String is Pangram or not
C Program to check whether two Strings are Anagram or not
C Program to Find Second Smallest Element in an Array
C Program to Find Smallest Element in an Array

	ANDROID APPLICATION THAT IMPLEMENTS MULTI THREADING	

PROGRAM:

Activity_main.xml:

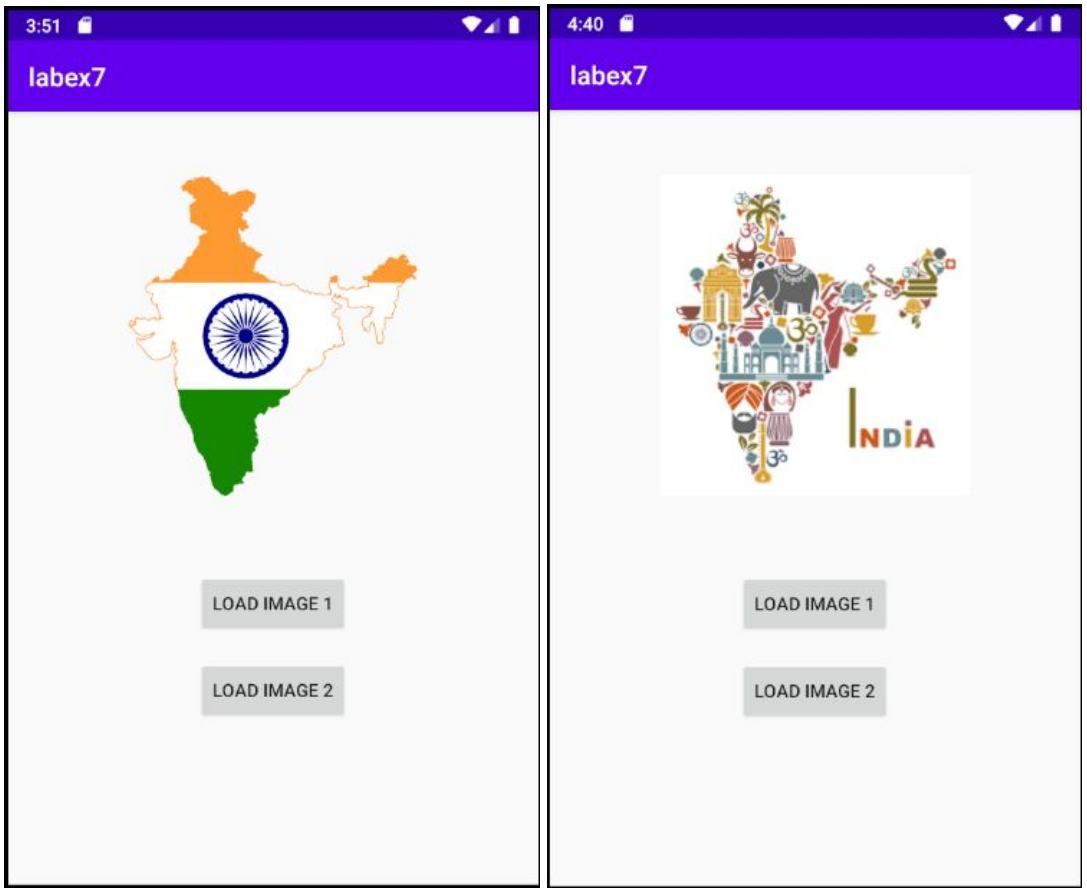
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical" >

   <ImageView
      android:id="@+id/imageView"
      android:layout_width="250dp"
      android:layout_height="250dp"
      android:layout_margin="50dp"
      android:layout_gravity="center" />

   <Button
      android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:layout_gravity="center"
      android:text="Load Image 1" />

   <Button
      android:id="@+id/button2"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:layout_gravity="center"
      android:text="Load image 2" />

</LinearLayout>
```

MainActivity.java:

```
package com.example.exno7;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
public class MainActivity extends AppCompatActivity
{
   ImageView img;
   Button bt1,bt2;
   @Override
   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();
        }
    });
  }
}
```

OUTPUT:


3:51
labex7
LOAD IMAGE 1
LOAD IMAGE 2
4:40
labex7
INDIA
LOAD IMAGE 1
LOAD IMAGE 2

	DEVELOP A NATIVE APPLICATION THAT USES GPS LOCATION INFORMATION	

PROGRAM:

activity_gpslocator.xml:

```
<RelativeLayout 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:paddingLeft="@dimen/activity_horizontal_margin"
 android:paddingRight="@dimen/activity_horizontal_margin"
 android:paddingTop="@dimen/activity_vertical_margin"
 android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".GPSLocator"
 android:background="#9B5A1A">
<Button
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="Fetch Location"
 android:id="@+id/btnFetch"
 android:layout_centerInParent="true" />
<TextView
 android:layout_width="match_parent"
 android:layout_height="match_parent"
 android:id="@+id/tvLocation"
 android:layout_above="@+id/btnFetch"
 android:gravity="center"
 android:textColor="#FFFFFF"
 android:textSize="20sp" />
</RelativeLayout>
```

GPSLocator.java:

```
package com.android.gpslocator;
import android.app.ProgressDialog;
import android.location.Location;
import android.os.Handler;
import android.os.SystemClock;
```

```
import android.support.v7.app.ActionBarActivity;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class GPSLocator extends AppCompatActivity {
 private ProgressDialog mProgressDialog;
 private Button mBtnFetch;
 private TextView mTvLocation;
 GPSTracker mGPSTracker;
 Handler mHandler;

 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_gpslocator);
 mBtnFetch = (Button) findViewById(R.id.btnFetch);
 mTvLocation = (TextView) findViewById(R.id.tvLocation);
 mHandler = new Handler();
 mProgressDialog = new ProgressDialog(this);
 mProgressDialog.setMessage("Fetching the latest location");
 mGPSTracker = new GPSTracker(this);
 }
 @Override
 protected void onStart() {
 super.onStart();
 mGPSTracker.onStart();
 mBtnFetch.setOnClickListener(new View.OnClickListener() {
 @Override
 public void onClick(View v) {
 mProgressDialog.show();
 new Thread(new Runnable() {
 @Override
```

```
public void run() {
 Location location = null;
 int counter = 0;
 while(location == null && counter < 5){
 location = mGPSTracker.getLocation();
 counter ++;
 SystemClock.sleep(500);
 }
 if(location != null){
 displayLocation(location);
 }
 }
 }).start(); } }); }
 private void displayLocation(final Location location) {
 mHandler.post(new Runnable() {
 @Override
 public void run() {
 mProgressDialog.dismiss();
 mTvLocation.setText("Current Location is lat: "+location.getLatitude()+" long:
"+location.getLongitude());
 } }); }
 @Override
 protected void onStop() {
 super.onStop();
 mGPSTracker.onStop();
 }}
```

GPSTracker.java:

```
package com.android.gpslocator;
import android.app.Activity;
import android.content.Context;
import android.location.Location;
import android.os.Bundle;
import android.util.Log;
import android.widget.Toast;
import com.google.android.gms.common.ConnectionResult;
import com.google.android.gms.common.GooglePlayServicesUtil;
import com.google.android.gms.common.api.GoogleApiClient;
import com.google.android.gms.location.LocationServices;
```

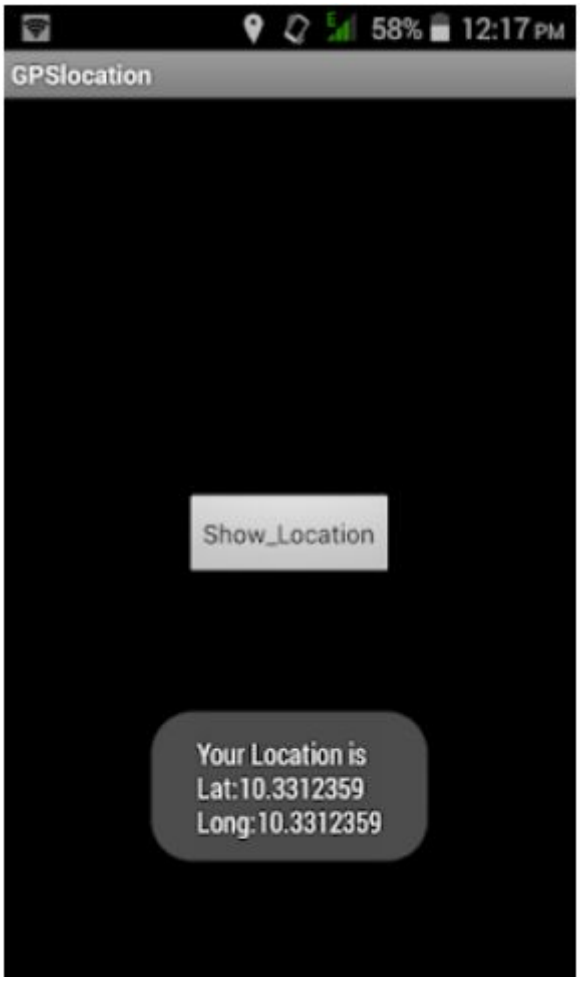
```
public class GPSTracker implements GoogleApiClient.ConnectionCallbacks,
 GoogleApiClient.OnConnectionFailedListener {
 private static final int PLAY_SERVICES_RESOLUTION_REQUEST = 9000;
 private static final String TAG = "GPSTracker";
 private Context mContext;
 private Location mLastLocation;
 private GoogleApiClient mGoogleApiClient;
 public GPSTracker(Activity activity){
 mContext = activity;
 if (checkPlayServices(activity)) {
 // Building the GoogleApi client
 buildGoogleApiClient();
 } }

 private void updateLocation() {
 Location location = LocationServices.FusedLocationApi
 .getLastLocation(mGoogleApiClient);
 if (location != null) {
 Log.e(TAG,"updateLocation: "+location);
 mLastLocation = location;
 } else{
 Toast.makeText(mContext,"Couldn't get the location. Make sure location is enabled
on the
device",Toast.LENGTH_SHORT).show();
 } }
 /**
 * Creating google api client object
 * */
 protected synchronized void buildGoogleApiClient() {
 mGoogleApiClient = new GoogleApiClient.Builder(mContext)
 .addConnectionCallbacks(this)
 .addOnConnectionFailedListener(this)
 .addApi(LocationServices.API).build();
 }
 private boolean checkPlayServices(Activity activity) {
 int resultCode = GooglePlayServicesUtil
 .isGooglePlayServicesAvailable(activity);
 if (resultCode != ConnectionResult.SUCCESS) {
 if (GooglePlayServicesUtil.isUserRecoverableError(resultCode)) {
 GooglePlayServicesUtil.getErrorDialog(resultCode,
activity,PLAY_SERVICES_RESOLUTION_REQUEST).show();
 } else {
```

```
Toast.makeText(mContext,"This device is not
supported",Toast.LENGTH_SHORT).show();
 }
 return false;
 }
 return true;
 }
 public void onStart() {
 if (mGoogleApiClient != null) {
 mGoogleApiClient.connect();
 } }
 public void onStop() {
 // If the client is connected
 if (mGoogleApiClient != null) {
 mGoogleApiClient.disconnect();
 } }
 /**
 * Google api callback methods
 */
 @Override
 public void onConnectionFailed(ConnectionResult result) {
 Log.i(TAG, "Connection failed: ConnectionResult.getErrorCode() = "
 + result.getErrorCode());
 }
 @Override
 public void onConnected(Bundle arg0) {
 updateLocation();
 }
 public Location getLocation(){
 updateLocation();
 return mLastLocation;
 }
@Override
 public void onConnectionSuspended(int arg0) {
 mGoogleApiClient.disconnect();
 }}
```

AndroidMainfest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
 package="com.android.gpslocator" >
<uses-permission android:name="android.permission.INTERNET"/>
<uses-permission
android:name="android.permission.ACCESS_COARSE_LOCATION"/>
<uses-permission android:name="android.permission.LOCATION_HARDWARE"/>
<uses-permission
android:name="android.permission.ACCESS_FINE_LOCATION"/>
<application
 android:allowBackup="true"
 android:icon="@drawable/ic_launcher"
 android:label="@string/app_name"
 android:theme="@style/AppTheme" >
<activity
 android:name=".GPSLocator"
 android:label="@string/app_name" >
<intent-filter>
<action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
</activity>
</application>
</manifest>
```

OUTPUT:


58% 12:17 PM
GPSlocation
Show_Location
Your Location is
Lat:10.3312359
Long:10.3312359

ANDROID APPLICATION THAT WRITES DATA TO THE SD CARD

PROGRAM:

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:layout_margin="20dp"
   android:orientation="vertical">
   <EditText
      android:id="@+id/editText"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:singleLine="true"
      android:textSize="30dp" />
   <Button
      android:id="@+id/button"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:text="Write Data"
      android:textSize="30dp" />
   <Button
      android:id="@+id/button2"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:text="Read data"
      android:textSize="30dp" />
   <Button
      android:id="@+id/button3"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:text="Clear"
      android:textSize="30dp" />

</LinearLayout>
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.exno9" >

    <uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE"></uses-per
mission>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/AppTheme" >
        <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>
```

MainActivity.java:

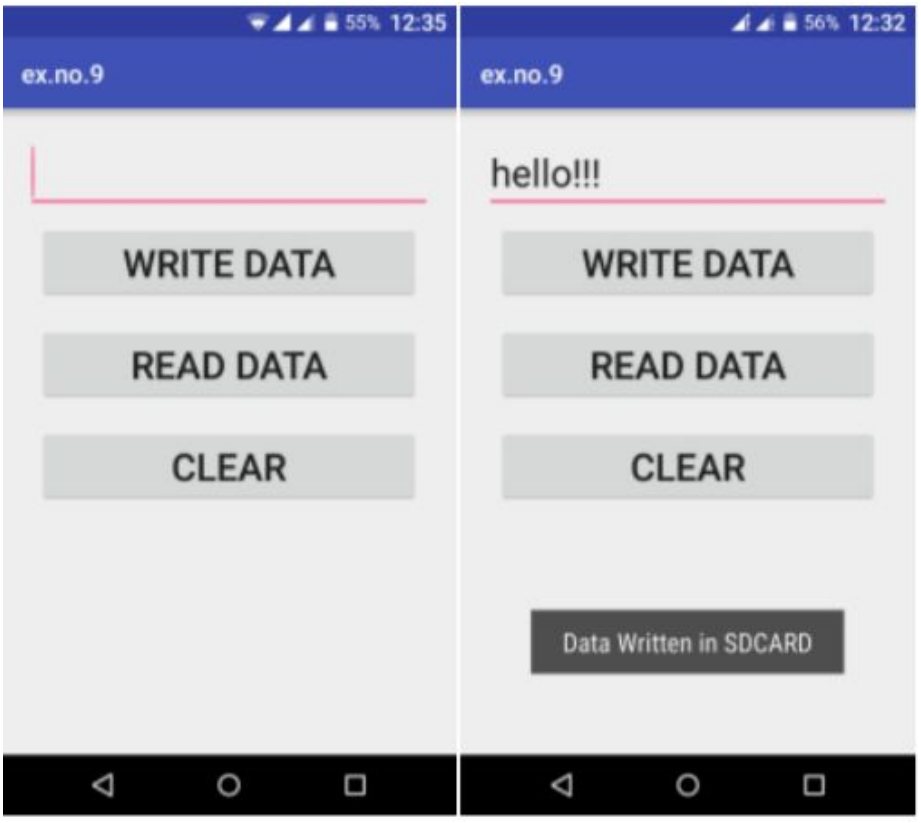
```
package com.example.exno9;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
```

```
import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.InputStreamReader;
public class MainActivity extends AppCompatActivity
{
   EditText e1;
   Button write,read,clear;
   @Override
   protected void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      e1= (EditText) findViewById(R.id.editText);
      write= (Button) findViewById(R.id.button);
      read= (Button) findViewById(R.id.button2);
      clear= (Button) findViewById(R.id.button3);

      write.setOnClickListener(new View.OnClickListener()
      {
         @Override
         public void onClick(View v)
         {
            String message=e1.getText().toString();
            try
            {
               File f=new File("/sdcard/myfile.txt");
               f.createNewFile();
               FileOutputStream fout=new FileOutputStream(f);
               fout.write(message.getBytes());
               fout.close();
               Toast.makeText(getBaseContext(),"Data Written in
SDCARD",Toast.LENGTH_LONG).show();
            }
```

```
            catch (Exception e)
            {

Toast.makeText(getBaseContext(),e.getMessage(),Toast.LENGTH_LONG).show();
            }
         }
      });
read.setOnClickListener(new View.OnClickListener()
      {
         @Override
         public void onClick(View v)
         {
            String message;
            String buf = "";
            try
            {
               File f = new File("/sdcard/myfile.txt");
               FileInputStream fin = new FileInputStream(f);
               BufferedReader br = new BufferedReader(new InputStreamReader(fin));
               while ((message = br.readLine()) != null)
               {
                  buf += message;
               }
               e1.setText(buf);
               br.close();
               fin.close();
               Toast.makeText(getBaseContext(),"Data Recived from
SDCARD",Toast.LENGTH_LONG).show();
            }
            catch (Exception e)
            {
               Toast.makeText(getBaseContext(), e.getMessage(),
Toast.LENGTH_LONG).show();
            }
         }
      });
```

```
 clear.setOnClickListener(new View.OnClickListener()
        {
           @Override
           public void onClick(View v)
           {
              e1.setText("");
           }
        });
    }
}
```

OUTPUT:


55% 12:35
ex.no.9
WRITE DATA
READ DATA
CLEAR
56% 12:32
ex.no.9
hello!!!
WRITE DATA
READ DATA
CLEAR
Data Written in SDCARD

ANDROID APPLICATION THAT CREATES AN ALERT UPON RECEIVING A MESSAGE

PROGRAM:

Activity_main.xml:

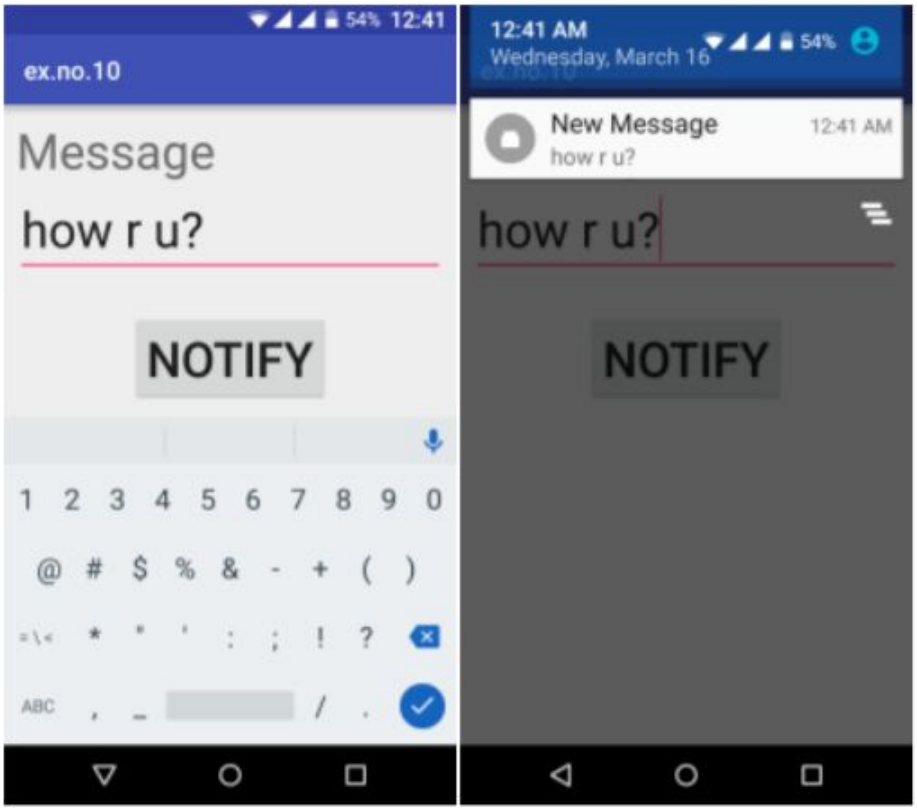
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:layout_margin="10dp"
   android:orientation="vertical">

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Message"
      android:textSize="30sp" />

   <EditText
      android:id="@+id/editText"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:singleLine="true"
      android:textSize="30sp" />

   <Button
      android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_margin="30dp"
      android:layout_gravity="center"
      android:text="Notify"
      android:textSize="30sp"/>

</LinearLayout>
```

MainActivity.java:

```
package com.example.exno10;

import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Intent;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity
{
   Button notify;
   EditText e;
   @Override
   protected void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      notify= (Button) findViewById(R.id.button);
      e= (EditText) findViewById(R.id.editText);

      notify.setOnClickListener(new View.OnClickListener()
      {
         @Override
         public void onClick(View v)
         {
            Intent intent = new Intent(MainActivity.this, SecondActivity.class);
            PendingIntent pending = PendingIntent.getActivity(MainActivity.this, 0,
intent, 0);
```

```
    Notification noti = new
Notification.Builder(MainActivity.this).setContentTitle("New
Message").setContentText(e.getText().toString()).setSmallIcon(R.mipmap.ic_launch
er).setContentIntent(pending).build();
            NotificationManager manager = (NotificationManager)
getSystemService(NOTIFICATION_SERVICE);
            noti.flags |= Notification.FLAG_AUTO_CANCEL;
            manager.notify(0, noti);
        }
    });
  }
}
```

OUTPUT:


54% 12:41
ex.no.10
Message
how r u?
NOTIFY
12:41 AM
Wednesday, March 16
54%
New Message
12:41 AM
how r u?
how r u?
NOTIFY

	ANDROID APPLICATION THAT CREATES ALARM CLOCK	

PROGRAM:

Activity_main.xml:

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

   <TimePicker
      android:id="@+id/timePicker"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_gravity="center" />

   <ToggleButton
      android:id="@+id/toggleButton"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_gravity="center"
      android:layout_margin="20dp"
      android:checked="false"
      android:onClick="OnToggleClicked" />

</LinearLayout>
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.example.exno11" >

   <application
      android:allowBackup="true"
      android:icon="@mipmap/ic_launcher"
      android:label="@string/app_name"
      android:supportsRtl="true"
      android:theme="@style/AppTheme" >
```

```
        <activity android:name=".MainActivity" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <receiver android:name=".AlarmReceiver" >
        </receiver>
    </application>

</manifest>
```

MainActivity.java:

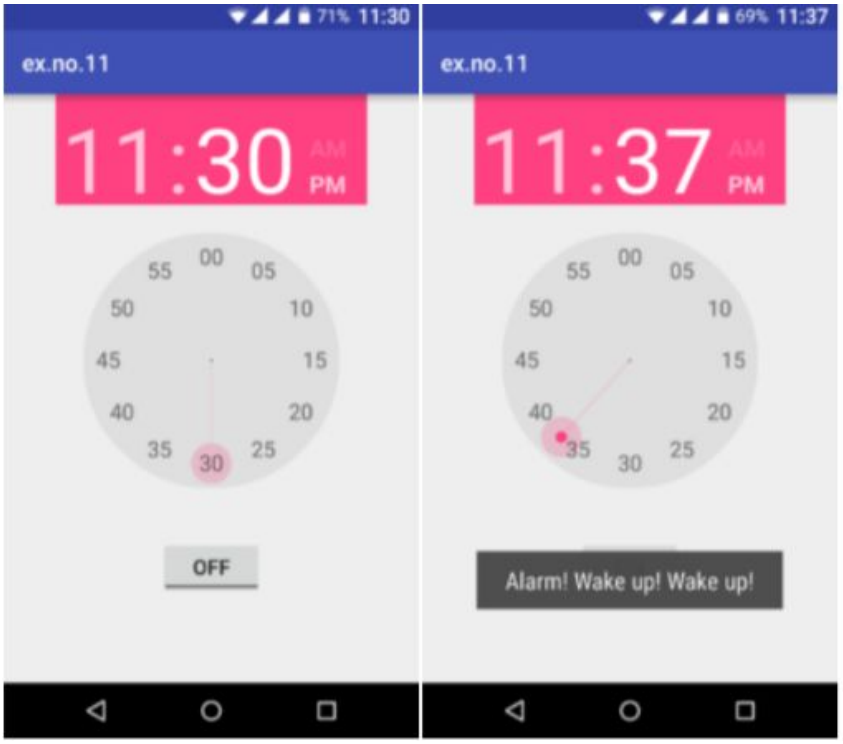
```
package com.example.exno11;

import android.app.AlarmManager;
import android.app.PendingIntent;
import android.content.Intent;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.TimePicker;
import android.widget.Toast;
import android.widget.ToggleButton;

import java.util.Calendar;

public class MainActivity extends AppCompatActivity
{
    TimePicker alarmTimePicker;
    PendingIntent pendingIntent;
    AlarmManager alarmManager;
```

```
 @Override
   protected void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      alarmTimePicker = (TimePicker) findViewById(R.id.timePicker);
      alarmManager = (AlarmManager) getSystemService(ALARM_SERVICE);
   }
   public void OnToggleClicked(View view)
   {
      long time;
      if (((ToggleButton) view).isChecked())
      {
         Toast.makeText(MainActivity.this, "ALARM ON",
Toast.LENGTH_SHORT).show();
         Calendar calendar = Calendar.getInstance();
         calendar.set(Calendar.HOUR_OF_DAY,
alarmTimePicker.getCurrentHour());
         calendar.set(Calendar.MINUTE, alarmTimePicker.getCurrentMinute());
         Intent intent = new Intent(this, AlarmReceiver.class);
         pendingIntent = PendingIntent.getBroadcast(this, 0, intent, 0);

         time=(calendar.getTimeInMillis()-(calendar.getTimeInMillis()%60000));
         if(System.currentTimeMillis()>time)
         {
            if (calendar.AM_PM == 0)
               time = time + (1000*60*60*12);
            else
               time = time + (1000*60*60*24);
         }
         alarmManager.setRepeating(AlarmManager.RTC_WAKEUP, time, 10000,
pendingIntent);
      }
      else
      {
         alarmManager.cancel(pendingIntent);
         Toast.makeText(MainActivity.this, "ALARM OFF",
Toast.LENGTH_SHORT).show();
      }
   }
}
```

AlarmReceiver.java:

```
 package com.example.exno11;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.media.Ringtone;
import android.media.RingtoneManager;
import android.net.Uri;
import android.widget.Toast;

public class AlarmReceiver extends BroadcastReceiver
{
   @Override
   public void onReceive(Context context, Intent intent)
   {
      Toast.makeText(context, "Alarm! Wake up! Wake up!",
Toast.LENGTH_LONG).show();
      Uri alarmUri =
RingtoneManager.getDefaultUri(RingtoneManager.TYPE_ALARM);
      if (alarmUri == null)
      {
         alarmUri =
RingtoneManager.getDefaultUri(RingtoneManager.TYPE_NOTIFICATION);
      }
      Ringtone ringtone = RingtoneManager.getRingtone(context, alarmUri);
      ringtone.play();
   }
}
```

OUTPUT:


71% 11:30
ex.no.11
11:30
AM
PM
00
05
10
15
20
25
30
35
40
45
50
55
OFF
69% 11:37
ex.no.11
11:37
AM
PM
Alarm! Wake up! Wake up!