EX.NO:	DEVELOP AN APPLICATION THAT USES GUI COMPONENTS, FONTS AND COLORS
DATE:	

AIM:

To develop an application that uses GUI Components, Fonts and Colors.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_1.
3. Go to package explorer in the left hand side. Select the project Ex_No_1.
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 TextView with text CSE Lab
    b. Three Buttons with labeled as Change Font Size, Change Font Color and Change Font Style
7. Again go to package explorer in the left hand side. Select the project Ex_No_1.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as, actions of buttons.
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"
    android: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_1.MainActivity" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="53dp"
        android:text="CSE DEPT"
        android:textAppearance="?android:attr/textAppearanceLarge"
        tools:ignore="HardcodedText" />
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"

        android:layout_alignParentRight="true"
        android:layout_below="@+id/textView1"
        android:layout_marginTop="64dp"
        android:text="Change Font Size"
```

```xml
                tools:ignore="HardcodedText" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentRight="true"
        android:layout_below="@+id/button1"
        android:text="Change Font Color"
        tools:ignore="HardcodedText" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentRight="true"
        android:layout_below="@+id/button2"
        android:text="Change Font Style"
        tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```java
package com.example.ex_no_1;
import android.support.v7.app.ActionBarActivity; import
android.graphics.Color;
import android.graphics.Typeface;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.TextView;
public    class    MainActivity    extends    ActionBarActivity    {
        float font = 20;
        int count = 1;
        Button b1,b2,b3;
        @Override
        protected    void    onCreate(Bundle    savedInstanceState)    {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                final    TextView    t1    =    (TextView)    findViewById(R.id.textView1);
                t1.setTextSize(15);
                b1 = (Button) findViewById(R.id.button1);
                b1.setOnClickListener(new        OnClickListener()        {
                        public void onClick(View view) {
                                t1.setTextSize(font);
                                font = font + 5;
                                if (font == 50)

                                        font = 20;
                        }
                });
                b2 = (Button) findViewById(R.id.button2);

                b2.setOnClickListener(new View.OnClickListener() {

                        public void onClick(View view) {
                                switch (count) {
                                case 1:
```

```java
                                t1.setTextColor(Color.parseColor("#7f00ff")); break;
                    case 2:
                            t1.setTextColor(Color.parseColor("#00FF00"));
                            break;


                    case 3:
                            t1.setTextColor(Color.parseColor("#FF0000"));
                            break;
                    case 4:
                            t1.setTextColor(Color.parseColor("#0000FF"));
                            break;
                    }
                    count++;
                    if (count == 5)
                            count = 1;
                }
        });
        b3 = (Button) findViewById(R.id.button3);
        b3.setOnClickListener(new        OnClickListener()       {
                @Override
                public void onClick(View view) {
                        switch (count) {
                        case 1:
                                t1.setTypeface(Typeface.DEFAULT,        Typeface.ITALIC);
                                break;
                        case 2:
                                t1.setTypeface(Typeface.MONOSPACE,
                                Typeface.NORMAL); break;
                        case 3:
                                t1.setTypeface(Typeface.SANS_SERIF,       Typeface.BOLD);
                                break;
                        case 4:
                                t1.setTypeface(Typeface.SERIF,       Typeface.BOLD_ITALIC);
                                break;
                        }
                        count++;
                        if (count == 5)
                                count = 1;
                }
        });
    }
}
```
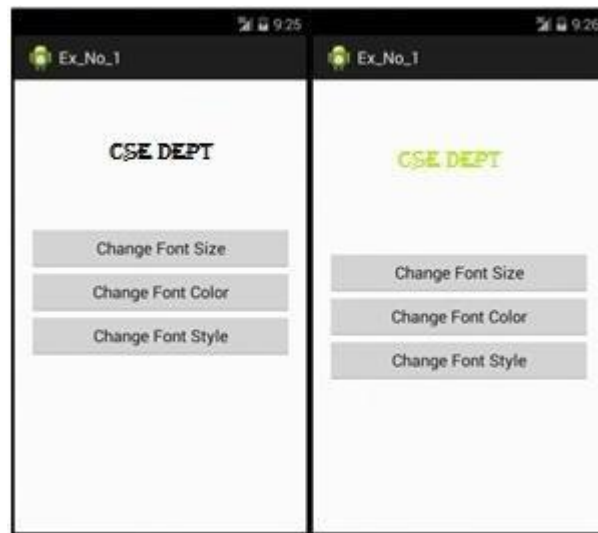
OUTPUT:

RESULT:

Thus the application that uses GUI Components, Fonts and Colors has been developed and the output was verified.

EX.NO:	**DEVELOP AN APPLICATION THAT USES LAYOUT MANAGERS AND**
DATE:	**EVENT LISTENERS**

AIM:

To develop an application that uses Layout Managers and Event Listeners.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_2.
3. Go to package explorer in the left hand side. Select the project Ex_No_2.
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. Four TextViews with texts as Name, Gender, Degree and Programming Knowledge
   b. One EditText
   c. One Spinner
   d. One RadioGroup with two RadioButtons labeled as B.E. CSE and B.Tech. IT
   e. One RatingBar
   f. One Button with labeled as SUBMIT
7. Again go to package explorer in the left hand side. Select the project Ex_No_2.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as, actions 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"
    android: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_2.MainActivity" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:text="Name"
        android:textAppearance="?android:attr/textAppearanceMedium"
        tools:ignore="HardcodedText" />
```

```xml
<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/textView1"
    android:layout_marginLeft="14dp"
    android:layout_toRightOf="@+id/textView1"
    android:ems="10"
    tools:ignore="TextFields" >

    <requestFocus />
</EditText>

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentLeft="true"
    android:layout_below="@+id/editText1"
    android:layout_marginTop="14dp"
    android:text="Gender"
    android:textAppearance="?android:attr/textAppearanceMedium"
    tools:ignore="HardcodedText" />

<Spinner
    android:id="@+id/spinner1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/editText1"
    android:layout_alignTop="@+id/textView2"
    android:entries="@array/Gender" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentLeft="true"
    android:layout_below="@+id/spinner1"
    android:text="Degree"
    android:textAppearance="?android:attr/textAppearanceMedium"
    tools:ignore="HardcodedText" />

<RadioGroup
    android:id="@+id/radioGroup1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/spinner1"
    android:layout_below="@+id/spinner1" >

    <RadioButton
        android:id="@+id/radio0"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:checked="true"
        android:text="B.E. CSE"
        tools:ignore="HardcodedText" />
```

```xml
        <RadioButton

            android:id="@+id/radio1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="B.Tech IT"
            tools:ignore="HardcodedText" />

    </RadioGroup>

    <RatingBar
        android:id="@+id/ratingBar1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView4"
        android:layout_below="@+id/textView4" />

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView3"
        android:layout_below="@+id/radioGroup1"
        android:text="Programming Knowledge"
        android:textAppearance="?android:attr/textAppearanceMedium"
        tools:ignore="HardcodedText" />

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/ratingBar1"
        android:layout_centerHorizontal="true"
        android:text="SUBMIT"
        tools:ignore="HardcodedText"  />

</RelativeLayout>
```

MainActivity.java:

```java
package com.example.ex_no_2;
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.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import        android.widget.RadioGroup.OnCheckedChangeListener;
import android.widget.RatingBar;
import         android.widget.RatingBar.OnRatingBarChangeListener;
import android.widget.Spinner;
import android.widget.Toast;
public    class    MainActivity    extends    ActionBarActivity    {
        String  name,gender,dept;
        float prog;
        @Override
        protected void onCreate(Bundle savedInstanceState) {
```

```java
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final EditText e=(EditText)findViewById(R.id.editText1);
        RadioGroup rg=(RadioGroup)findViewById(R.id.radioGroup1);
        final RadioButton r1=(RadioButton)findViewById(R.id.radio0); final
        RadioButton r2=(RadioButton)findViewById(R.id.radio1); final Spinner
        s=(Spinner)findViewById(R.id.spinner1);
        RatingBar rb=(RatingBar)findViewById(R.id.ratingBar1);
        Button b=(Button)findViewById(R.id.button1);
        rg.setOnCheckedChangeListener(
                        new    OnCheckedChangeListener()
                        {
                                @Override
                                public void onCheckedChanged(RadioGroup arg0, int    arg1) {
                                        // TODO Auto-generated method stub
                                        if(r1.isChecked()==true)
                                                dept="B.E. CSE";
                                        if(r2.isChecked()==true)
                                                dept="B.Tech IT";
                                }
                        });
        rb.setOnRatingBarChangeListener(
                        new    OnRatingBarChangeListener()
                        {
                                @Override
                                public void onRatingChanged(RatingBar arg0, float arg1,
                                        boolean arg2) {
                                        // TODO Auto-generated method stub

                                        prog=arg1;
                                }
                        });
        b.setOnClickListener(
                        new    OnClickListener()
                        {
                                @Override
                                public void onClick(View arg0) {
                                        // TODO Auto-generated   method stub
                                        name=e.getText().toString();
                                        gender=s.getSelectedItem().toString();
                                        Toast.makeText(getApplicationContext(),          "Name      :
"+name+"\n Gender : "+gender+"\n Degree     : "+dept+"\n Programming Knowledge    : "+prog,
Toast.LENGTH_LONG).show();
                                }
                        });
        }
}
```

OUTPUT:

RESULT:

      Thus the application that uses Layout Managers and Event Listener has been developed and the output was verified.

EX.NO:	**WRITE AN APPLICATION THAT DRAWS BASIC GRAPHICAL**
	PRIMITIVES ON THE SCREEN
DATE:	

AIM:

To develop an application that draws basic graphical primitives on the screen.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_7.
3. Go to package explorer in the left hand side. Select the project Ex_No_7.
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 only one ImageView
7. Again go to package explorer in the left hand side. Select the project Ex_No_6.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as drawing the graphical primitives.
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"
    android: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_7.MainActivity" >

    <ImageView
        android:id="@+id/imageView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentTop="true"
        android:src="@drawable/ic_launcher"
        tools:ignore="ContentDescription" />

</RelativeLayout>
```

MainActivity.java:

```
package com.example.ex_no_7;
import android.support.v7.app.ActionBarActivity; import
android.annotation.SuppressLint;

import  android.graphics.Bitmap;
import  android.graphics.Canvas;
import android.graphics.Color;
```

```java
import android.graphics.Paint;
import android.os.Bundle;
import android.view.Display;
import android.view.MotionEvent;
import android.view.View;
import android.view.View.OnTouchListener;
import android.widget.ImageView;
@SuppressLint("ClickableViewAccessibility")
public   class   MainActivity   extends   ActionBarActivity   implements   OnTouchListener   {
        ImageView iv;
        Bitmap b;
        Canvas c;
        Paint p;
        float dx=0,dy=0,ux=0,uy=0;
        @SuppressWarnings("deprecation")
        @Override
        protected    void    onCreate(Bundle    savedInstanceState)    {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                iv=(ImageView)this.findViewById(R.id.imageView1);
                Display d = getWindowManager().getDefaultDisplay(); float
                dw = d.getWidth();
                float dh = d.getHeight();
                b = Bitmap.createBitmap((int) dw, (int) dh,Bitmap.Config.ARGB_8888); c = new
                Canvas(b);
                p = new Paint();
                p.setColor(Color.BLUE);
                iv.setImageBitmap(b);
                iv.setOnTouchListener(this);
        }
        @Override
        public   boolean   onTouch(View   v,   MotionEvent   event)   {
                // TODO Auto-generated method stub
                int action = event.getAction();
                switch (action)
                {
                        case MotionEvent.ACTION_DOWN:
                                        dx    =     event.getX();
                                        dy    =     event.getY();
                                        break;
                         case MotionEvent.ACTION_MOVE:
                                         break;
                        case  MotionEvent.ACTION_UP:
                                        ux    =     event.getX();
                                        uy = event.getY();
                                        c.drawLine(dx, dy, ux, uy,          p);
                                        iv.invalidate();
                                        break;
                        case MotionEvent.ACTION_CANCEL:
                                        break;
                        default:
                                        break;
                }
                return true;

        }
}
```

OUTPUT:
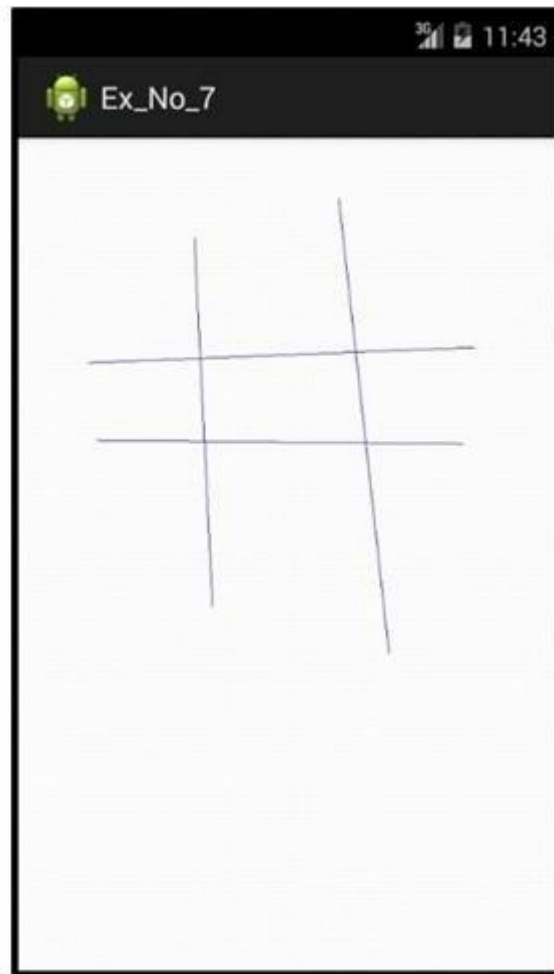
RESULT:

Thus the application that draws basic graphical primitives on the screen has been developed and the output was verified.

EX.NO:	
DATE:	**DEVELOP AN APPLICATION THAT MAKES USE OF DATABASE**

AIM:

To develop an application that makes use of database.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_4.
3. Go to package explorer in the left hand side. Select the project Ex_No_4.
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. Three TextViews with texts as Reg.No., Name and Marks
    b. Three EditTexts
    c. Five Buttons with labeled as ADD, VIEW, VIEW ALL, UPDATE and DELETE
7. Again go to package explorer in the left hand side. Select the project Ex_No_4.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as, actions 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"
    android: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_4.MainActivity" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:text="Reg.  No."
        android:textAppearance="?android:attr/textAppearanceMedium"
        tools:ignore="HardcodedText" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/textView1"
```

```xml
        android:layout_toRightOf="@+id/textView1"
        android:ems="10"
        android:inputType="number" >

        <requestFocus />
    </EditText>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView1"
        android:layout_below="@+id/editText1"
        android:layout_marginTop="20dp"
        android:text="Name"
        android:textAppearance="?android:attr/textAppearanceMedium"
        tools:ignore="HardcodedText" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView2"
        android:layout_below="@+id/editText2"
        android:layout_marginTop="26dp"
        android:text="Marks"
        android:textAppearance="?android:attr/textAppearanceMedium"
        tools:ignore="HardcodedText" />

    <EditText
        android:id="@+id/editText3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView3"
        android:layout_alignLeft="@+id/editText2"
        android:ems="10"
        android:inputType="number" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/textView2"
        android:layout_alignBottom="@+id/textView2"
        android:layout_alignLeft="@+id/editText1"
        android:ems="10"
        tools:ignore="TextFields" />

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_below="@+id/textView3"
        android:layout_marginTop="32dp"
        android:text="ADD"
        tools:ignore="HardcodedText"  />
```

```xml
<Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button2"
    android:layout_alignBottom="@+id/button2"
    android:layout_alignParentRight="true"
    android:text="VIEW ALL"
    tools:ignore="HardcodedText" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button1"
    android:layout_alignBottom="@+id/button1"
    android:layout_alignLeft="@+id/editText3"
    android:layout_marginLeft="24dp"
    android:text="VIEW"
    tools:ignore="HardcodedText" />

<Button
    android:id="@+id/button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button1"
    android:layout_below="@+id/button1"
    android:layout_marginLeft="27dp"
    android:layout_marginTop="18dp"
    android:text="UPDATE"
    tools:ignore="HardcodedText"  />

<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button4"
    android:layout_alignBottom="@+id/button4"
    android:layout_marginLeft="20dp"
    android:layout_toRightOf="@+id/button4"
    android:text="DELETE"
    tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```java
package com.example.ex_no_4;
import android.support.v7.app.ActionBarActivity; 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;
```

```java
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends ActionBarActivity {
        EditText name,regno,mark;
        Button        btnAdd,btnDelete,btnUpdate,btnView,btnViewAll;
        SQLiteDatabase db;
        @Override
        protected void onCreate(Bundle savedInstanceState) {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                regno= (EditText)findViewById(R.id.editText1);
            name= (EditText)findViewById(R.id.editText2);
            mark=(EditText)findViewById(R.id.editText3);
            btnAdd=(Button)findViewById(R.id.button1);
            btnView=(Button)findViewById(R.id.button2);
            btnViewAll=(Button)findViewById(R.id.button3);
            btnUpdate=(Button)findViewById(R.id.button4);
            btnDelete=(Button)findViewById(R.id.button5);
            db=openOrCreateDatabase("Students", Context.MODE_PRIVATE, null);
            db.execSQL("CREATE TABLE IF NOT EXISTS student(regno VARCHAR,name
VARCHR,mark VARCHAR);");
            btnAdd.setOnClickListener(new          OnClickListener()
            {
                    @Override
                    public void onClick(View arg0) {
                            // TODO Auto-generated method stub

if(regno.getText().toString().trim().length()==0||name.getText().toString().trim().length()==0|
|mark.getText().toString().trim().length()==0)
                            {
                                    showMessage("Error", "Please enter all values"); return;
                            }
                            db.execSQL("INSERT INTO student
VALUES('"+regno.getText()+"','"+name.getText()+"','"+mark.getText()+"');");
                            showMessage("Success",     "Record     added");
                            clearText();
                    }
            });
            btnDelete.setOnClickListener(new          OnClickListener()
            {
                    @Override
                    public void onClick(View v) {
                            // TODO Auto-generated method stub
                            if(regno.getText().toString().trim().length()==0)
                            {
                                    showMessage("Error", "Please enter Reg. No.");
                                    return;                    }
                            Cursor c=db.rawQuery("SELECT * FROM student WHERE
regno='"+regno.getText()+"'", null);
                            if(c.moveToFirst())
                            {
                                    db.execSQL("DELETE FROM student WHERE regno='"+regno.getText()+"'");
                                    showMessage("Success", "Record Deleted");
                            }
                            else
                            {
```

```java
                              showMessage("Error", "Invalid Reg. No.");
                        }
                        clearText();
                  }
            });
            btnUpdate.setOnClickListener(new              OnClickListener()
            {
                        @Override
                        public void onClick(View v) {
                              // TODO Auto-generated method stub
                        if(regno.getText().toString().trim().length()==0)
                        {
                              showMessage("Error", "Please enter Reg. No.");
            return;
                        }
                        Cursor c=db.rawQuery("SELECT * FROM student WHERE
regno='"+regno.getText()+"'", null);
                        if(c.moveToFirst())
                        {
                              db.execSQL("UPDATE student SET
name='"+name.getText()+"',mark='"+mark.getText()+"' WHERE regno='"+regno.getText()+"'");
                              showMessage("Success", "Record Modified");
                        }              else
                        {
                              showMessage("Error", "Invalid Reg. No.");
                        }              clearText();
                  }
            });
            btnView.setOnClickListener(new              OnClickListener()
            {
                        @Override
                        public void onClick(View v) {
                              // TODO Auto-generated method stub
                        if(regno.getText().toString().trim().length()==0)
                        {
                              showMessage("Error", "Please enter Reg. No."); return;
                        }
                        Cursor c=db.rawQuery("SELECT * FROM student WHERE
regno='"+regno.getText()+"'", null);
                        if(c.moveToFirst())
                        {
                              name.setText(c.getString(1));
                              mark.setText(c.getString(2));
                                          else
                        {
                              showMessage("Error",      "Invalid    Reg.    No.");
                              clearText();
                        }
                  }
            });
            btnViewAll.setOnClickListener(new              OnClickListener()
            {
                        @Override
                        public void onClick(View v) {
                              // TODO Auto-generated method stub
                        Cursor c=db.rawQuery("SELECT * FROM student", null);
```

```java
                            if(c.getCount()==0)
                            {
                                showMessage("Error", "No records found"); return;
                            }
                            StringBuffer    buffer=new    StringBuffer();
                            while(c.moveToNext())
                            {
                                buffer.append("Reg. No : "+c.getString(0)+"\n");
                                buffer.append("Name : "+c.getString(1)+"\n");
                                buffer.append("Mark : "+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()
        {
            regno.setText("");
            name.setText("");
            mark.setText("");
            regno.requestFocus();
        }
}
```
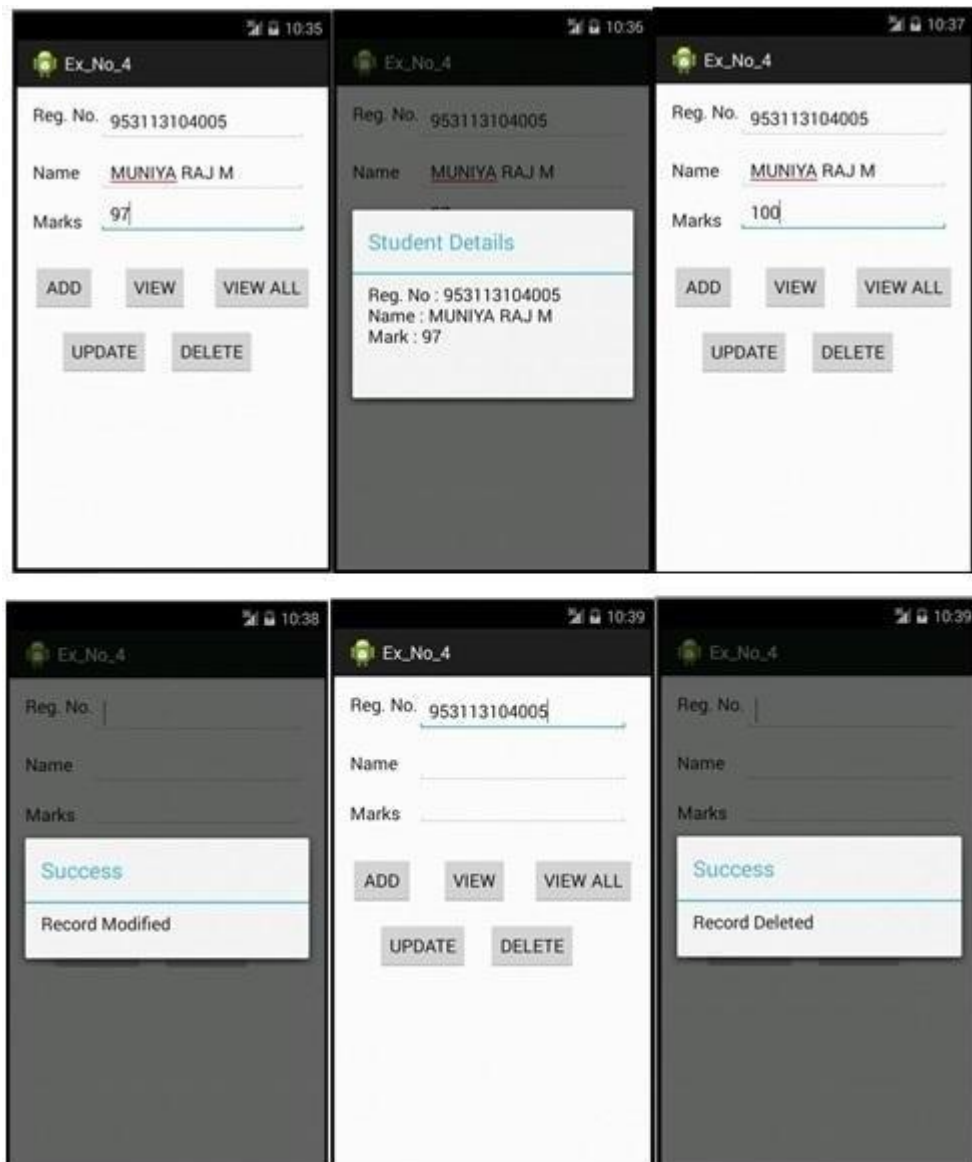
OUTPUT:

RESULT:

Thus the application that makes use of database has been developed and the output was verified.

EX.NO:	**WRITE A MOBILE APPLICATION THAT MAKES USE OF**
DATE:	**NOTIFICATION MANAGER**

AIM:

To implement an application that creates alarm clock.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_11.
3. Go to package explorer in the left hand side. Select the project Ex_No_11.
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. DatePicker
   b. TimePicker
   c. Button with labeled as SET ALARM
7. Again go to package explorer in the left hand side. Select the project Ex_No_11.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as notify the alarm.
10. Get the following permission in AndroidManifest.xml file:
    <uses-permission android:name="android.permission.WAKE_LOCK"/>
11. Add Alarm class as a receiver in AndroidManifest.xml file.
12. 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"
    android: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_11.MainActivity" >

    <DatePicker
        android:id="@+id/datePicker1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentTop="true" />

    <TimePicker
        android:id="@+id/timePicker1"
        android:layout_width="wrap_content"
```

```xml
                android:layout_height="wrap_content"
                android:layout_alignLeft="@+id/datePicker1"
                android:layout_alignParentBottom="true"
                android:layout_alignParentRight="true"
                android:layout_marginBottom="71dp" />

        <Button
                android:id="@+id/button1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_alignLeft="@+id/timePicker1"
                android:layout_alignParentBottom="true"
                android:layout_alignParentRight="true"
                android:layout_marginBottom="14dp"
                android:text="SET ALARM"
                tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```java
package com.example.ex_no_11;
import java.util.Calendar;
import android.support.v7.app.ActionBarActivity; import
android.app.AlarmManager;
import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.TimePicker;
import android.widget.Toast;
public class MainActivity extends ActionBarActivity          {
        private static MainActivity inst;
        public static MainActivity instance() {
                // TODO Auto-generated method stub
                return inst;
        }
        public void onStart()
        {
                super.onStart();
                inst=this;
        }
        NotificationManager nm;
        Notification n;
        @SuppressWarnings("deprecation")
        @Override
        protected void onCreate(Bundle savedInstanceState)          {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                final TimePicker tp=(TimePicker)findViewById(R.id.timePicker1);
```

```java
            final DatePicker dp=(DatePicker)findViewById(R.id.datePicker1);
            Button b=(Button)findViewById(R.id.button1);
            nm=(NotificationManager)getSystemService(Context.NOTIFICATION_SERVICE);
            n=new Notification(R.drawable.ic_launcher,"ALARM",System.currentTimeMillis());

            tp.setIs24HourView(false);
            Calendar now=Calendar.getInstance();
            dp.init(now.get(Calendar.YEAR), now.get(Calendar.MONTH),
now.get(Calendar.DAY_OF_MONTH),null);
            tp.setCurrentHour(now.get(Calendar.HOUR_OF_DAY));
            tp.setCurrentMinute(now.get(Calendar.MINUTE));
            b.setOnClickListener(
                            new       OnClickListener()
                            {
                                    @Override
                                    public void onClick(View arg0) {
                                            // TODO Auto-generated method stub

                                            Calendar           current=Calendar.getInstance();
                                            Calendar           alarm=Calendar.getInstance();
                                            alarm.set(dp.getYear(), dp.getMonth(),
dp.getDayOfMonth(), tp.getCurrentHour(), tp.getCurrentMinute(), 00);
                                            if(alarm.compareTo(current)<=0)
                                                    Toast.makeText(getApplicationContext(), "Invalid
Date and Time !!!", Toast.LENGTH_LONG).show();
                                            else
                                            {
                                                    Intent i=new
Intent(MainActivity.this,Alarm.class);
                                                    PendingIntent
pi=PendingIntent.getBroadcast(MainActivity.this, 123, i, 0);
                                                    AlarmManager
am=(AlarmManager)getSystemService(ALARM_SERVICE);
                                                    am.set(AlarmManager.RTC_WAKEUP,
alarm.getTimeInMillis(), pi);
                                                    Toast.makeText(getApplicationContext(),        "Alarm is
Set ON !!!", Toast.LENGTH_LONG).show();
                                            }
                                    }
                            });
      }
      @SuppressWarnings("deprecation")
      public    void    update_notification(String    no,    String    msg)    {
            // TODO Auto-generated method stub
            n.setLatestEventInfo(getBaseContext(),        no,      msg,      null);
            nm.notify(1337, n);
      }
}
```

Alarm.java:

```java
package com.example.ex_no_11;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
public class Alarm extends BroadcastReceiver{
```

```java
        @Override
        public void onReceive(Context arg0, Intent arg1) {
                // TODO Auto-generated method stub
                MainActivity inst=MainActivity.instance();
                inst.update_notification("Alarm","Wake up ! Wake up !!");
        }
}
```
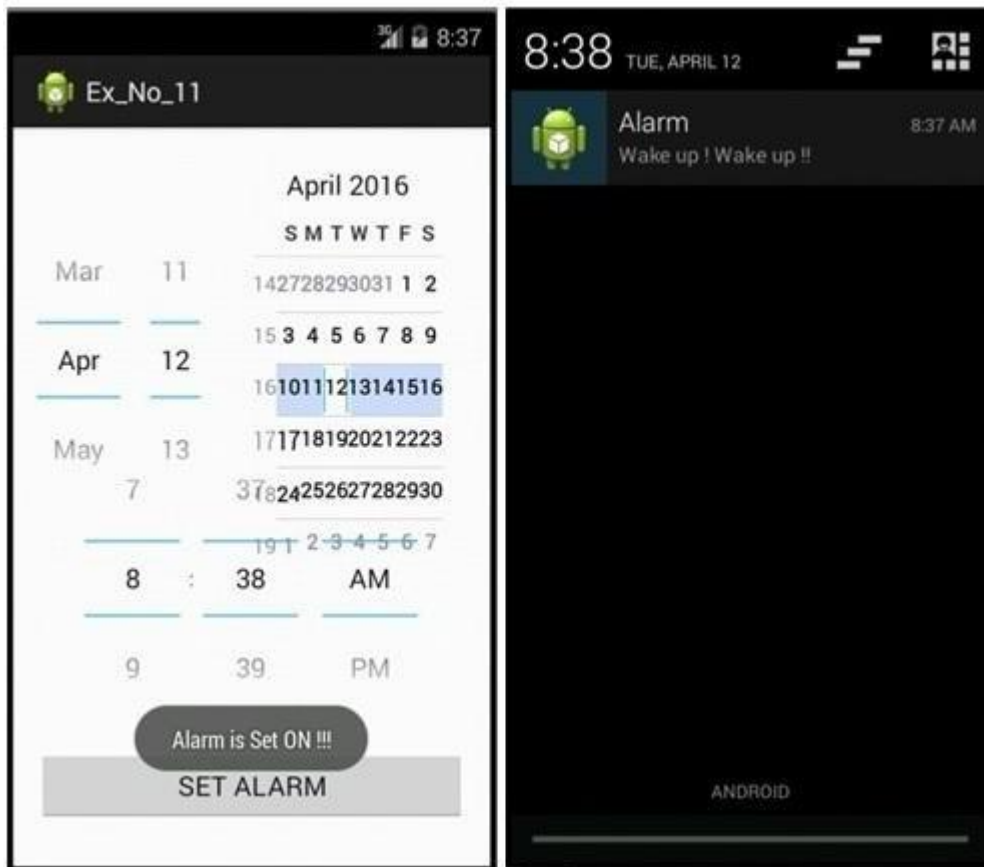
AndroidManifest.xml:
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest            xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.ex_no_11"
    android:versionCode="1"
    android:versionName="1.0" >
    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="21" />
    <uses-permission    android:name="android.permission.WAKE_LOCK"/>
    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name=".MainActivity"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category  android:name="android.intent.category.LAUNCHER"    />
            </intent-filter>
        </activity>
        <receiver android:name=".Alarm" />
    </application>
</manifest>
```

OUTPUT:

RESULT:

     Thus the application that creates an alert upon receiving a message has been developed and the output was verified.

EX.NO:	IMPLEMENT AN APPLICATION THAT USES MULTI THREADING
DATE:	

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"
    android: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
        android: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/progressBar1"
        android:layout_centerHorizontal="true"
```

```xml
        android:text=" "
        android: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:

```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();
                                                                                }
```

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

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

                                        }

                                    });
                                }

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

                    }
                });
        }
}
```
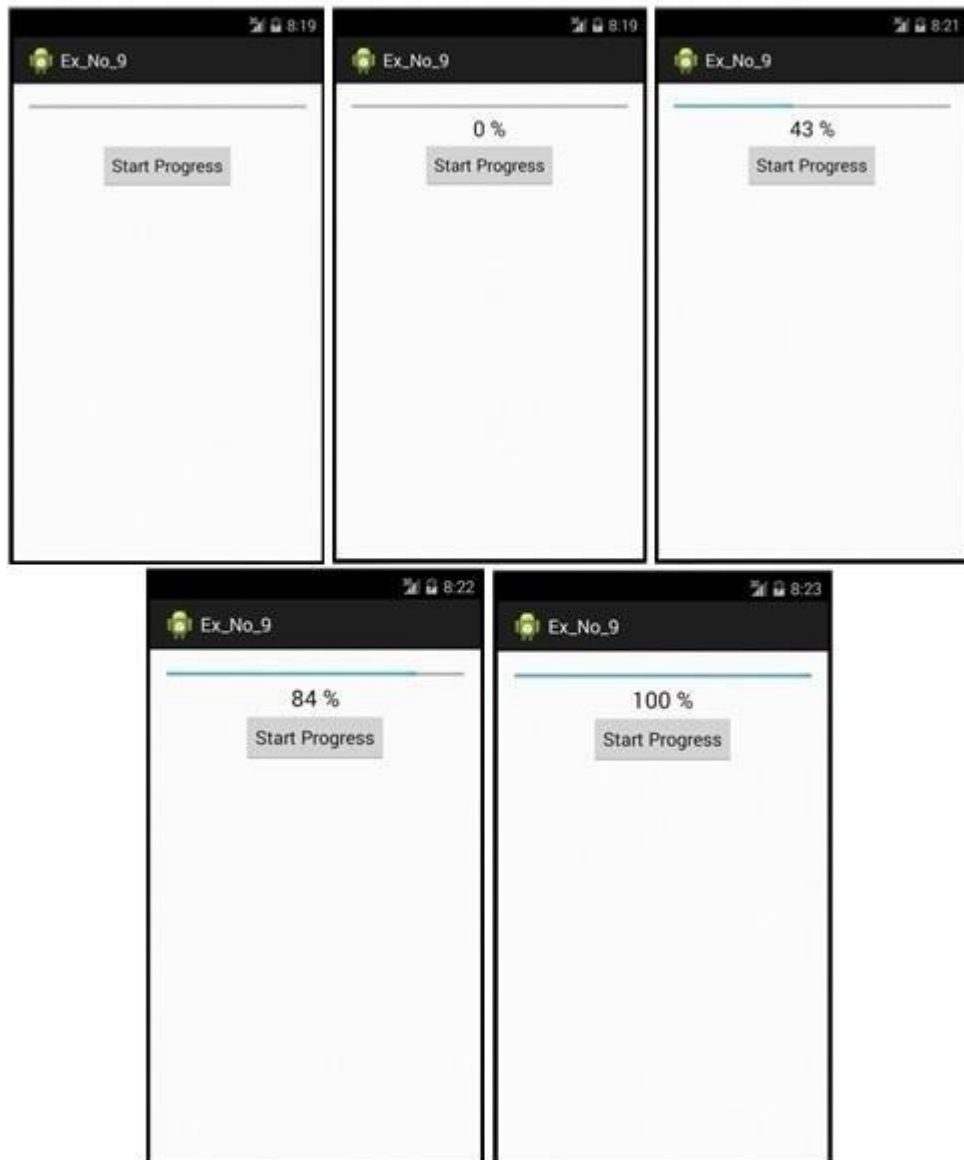
OUTPUT:

RESULT:

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

EX.NO:	**DEVELOP A NATIVE APPLICATION THAT USES GPS LOCATION**
DATE:	**INFORMATION**

AIM:

To develop a native application that uses GPS location information.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_5.
3. Go to package explorer in the left hand side. Select the project Ex_No_5.
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 TextView with text as Current Location
    b. Two TextViews without any texts.
7. Again go to package explorer in the left hand side. Select the project Ex_No_5.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as finding current location and print them.
10. Get the following permission in AndroidManifest.xml file:

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

11. 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"
    android: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_5.MainActivity" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentTop="true"
        android:layout_marginTop="114dp"
        android:text=""
        android:textAppearance="?android:attr/textAppearanceMedium"
```

```
            tools:ignore="HardcodedText" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView1"
        android:layout_alignParentRight="true"
        android:layout_below="@+id/textView1"
        android:layout_marginTop="51dp"
        android:text=""
        android:textAppearance="?android:attr/textAppearanceMedium"
        tools:ignore="HardcodedText" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="47dp"
        android:text="Current Location"
        android:textAppearance="?android:attr/textAppearanceLarge"
        tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```java
package com.example.ex_no_5;
import android.support.v7.app.ActionBarActivity; import
android.content.Context;
import android.location.Criteria;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;
public    class    MainActivity    extends    ActionBarActivity    implements    LocationListener{
        @Override
        protected    void    onCreate(Bundle    savedInstanceState)    {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                LocationManager
                lm=(LocationManager)getSystemService(Context.LOCATION_SERVICE);  Criteria    c=new
                Criteria();
                String s=lm.getBestProvider(c, false); if(s!=null
                && !s.equals(""))
                {
                        Location l=lm.getLastKnownLocation(s);
                        lm.requestLocationUpdates(s, 20000, 1, this); if(l!=null)
                                onLocationChanged(l);
                        else
                                Toast.makeText(getApplicationContext(), "Location can't be
retrieved !!!", Toast.LENGTH_LONG).show();
                }
```

```java
                else
                        Toast.makeText(getApplicationContext(), "Provider not found !!!",
Toast.LENGTH_LONG).show();
        }
        @Override
        public    void    onLocationChanged(Location    arg0)    {
                // TODO Auto-generated method stub
                TextView t1=(TextView)findViewById(R.id.textView1);
                t1.setText("Latitude : \n"+arg0.getLatitude());
                TextView t2=(TextView)findViewById(R.id.textView2);
                t2.setText("Longitude : \n"+arg0.getLongitude());
        }
        @Override
        public void onProviderDisabled(String arg0) {
                // TODO Auto-generated method stub
        }
        @Override
        public void onProviderEnabled(String arg0) {
                // TODO Auto-generated method stub
        }
        @Override
        public    void    onStatusChanged(String    arg0,    int    arg1,    Bundle    arg2)    {
                // TODO Auto-generated method stub
        }
}
```

OUTPUT:
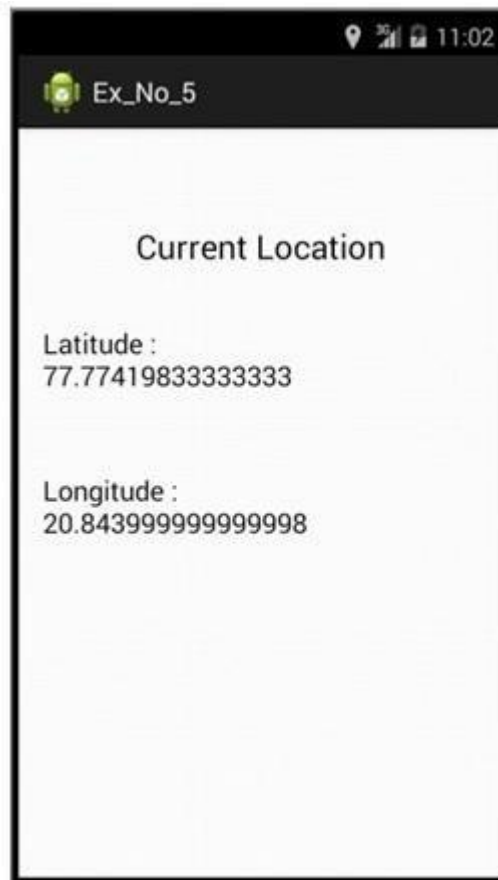
RESULT:

      Thus the application that uses GPS location information has been developed and the output was verified.

EX.NO:	IMPLEMENT AN APPLICATION THAT WRITES DATA TO THE SD
DATE:	CARD

AIM:

To implement an application that writes data to the SD card.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_6.
3. Go to package explorer in the left hand side. Select the project Ex_No_6.
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. Two EditTexts
    b. Two Buttons with labeled as READ and SAVE
7. Again go to package explorer in the left hand side. Select the project Ex_No_6.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as actions of buttons.
10. Get the following permission in AndroidManifest.xml file:
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
11. 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"
    android: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_6.MainActivity" >

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:ems="10"
        android:hint="Path"
        tools:ignore="TextFields,HardcodedText" >

        <requestFocus />
    </EditText>
```

```xml
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignTop="@+id/editText1"
        android:layout_toRightOf="@+id/editText1"
        android:text="READ"
        tools:ignore="HardcodedText" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText1"
        android:layout_centerVertical="true"
        android:ems="10"
        android:hint="Contents of File"
        android:inputType="textMultiLine"
        tools:ignore="HardcodedText" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentRight="true"
        android:layout_centerVertical="true"
        android:text="SAVE"
        tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```java
package com.example.ex_no_6;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import android.support.v7.app.ActionBarActivity; import
android.annotation.SuppressLint;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends ActionBarActivity             {
        @SuppressLint("SdCardPath")
        @Override
        protected void onCreate(Bundle savedInstanceState)          {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                final     EditText     e1=(EditText)findViewById(R.id.editText1);
                final EditText e2=(EditText)findViewById(R.id.editText2);
```

```java
Button        b1=(Button)findViewById(R.id.button1);
Button  b2=(Button)findViewById(R.id.button2);
String        path=getPreferences(MODE_PRIVATE).getString("fpath",        "/sdcard/file1");
e1.setText(path);
b1.setOnClickListener(
                new      OnClickListener()
                {
                        @Override
                        public void onClick(View arg0) {
                                // TODO Auto-generated method stub

                                File    f=new    File(e1.getText().toString()); String
                                s="";
                                StringBuilder      sb=new       StringBuilder();
                                FileReader fr =null;
                                try {
                                        fr = new FileReader(f);
                                } catch (FileNotFoundException e) {
                                        // TODO Auto-generated catch block
                                        e.printStackTrace();
                                }
                                BufferedReader br=new BufferedReader(fr); try {
                                        while((s=br.readLine())!=null)
                                        {
                                                sb.append(s+"\n");
                                        }
                                } catch (IOException e) {
                                        // TODO Auto-generated catch block
                                        e.printStackTrace();
                                }
                                Toast.makeText(getApplicationContext(), "File Read
Successfully !!!", Toast.LENGTH_LONG).show();
                                e2.setText(sb);
                        }
                });
        b2.setOnClickListener(
                new      OnClickListener()
                {
                        @Override
                        public void onClick(View arg0) {
                                // TODO Auto-generated method stub

                                File f=new File(e1.getText().toString()); FileWriter
                                fw = null;
                                try {
                                        fw = new FileWriter(f);
                                } catch (IOException e3) {
                                        //   TODO  Auto-generated   catch   block
                                        e3.printStackTrace();
                                }
                                try {
                                        fw.write(e2.getText().toString()); } catch
                                (IOException e2) {
                                        // TODO Auto-generated catch block
                                        e2.printStackTrace();
                                }
```

```java
                        try {
                                fw.close();
                        } catch (IOException e2) {
                                // TODO Auto-generated catch block
                                e2.printStackTrace();
                        }
                        SharedPreferences.Editor
e=getPreferences(MODE_PRIVATE).edit();
                        e.putString("fpath", f.getPath());
                        e.commit();
                        Toast.makeText(getApplicationContext(), "Saved
 Successfully !!!", Toast.LENGTH_LONG).show();
                        }
                });
        }
}
```
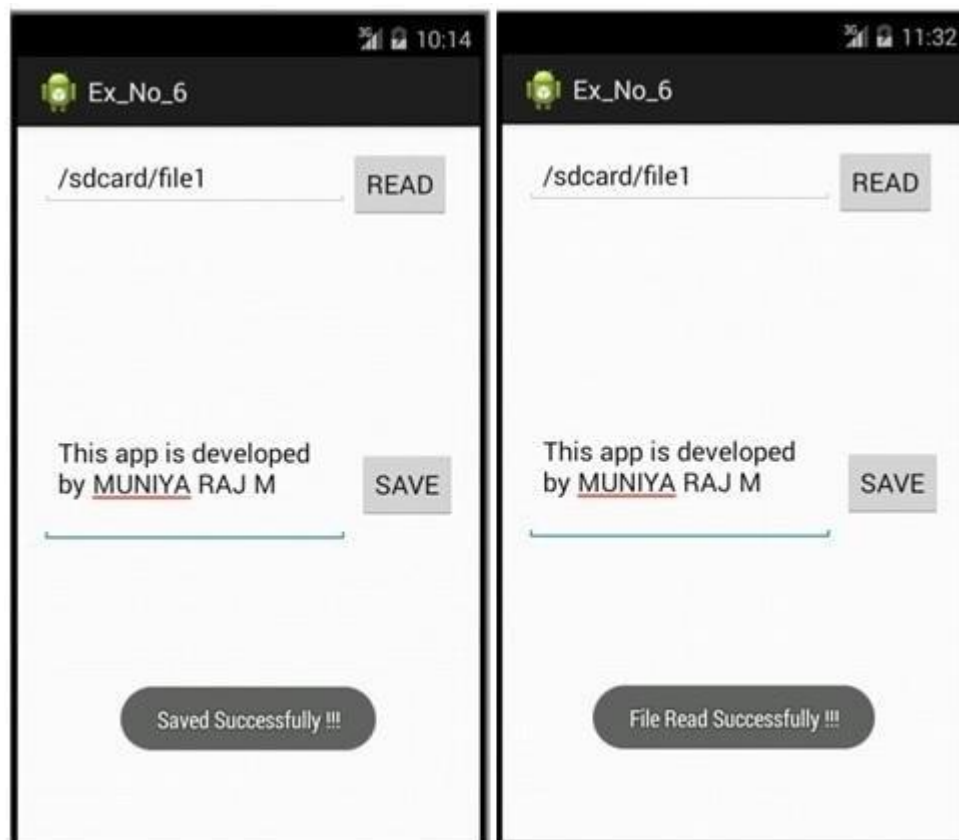
OUTPUT:

RESULT:

Thus the application that writes data to the SD card has been implemented and the output was verified.

EX.NO:	**IMPLEMENT AN APPLICATION THAT CREATES AN ALERT UPON**
DATE:	**RECEIVING A MESSAGE**

AIM:

To implement an application that creates an alert upon receiving a message.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_10.
3. Go to package explorer in the left hand side. Select the project Ex_No_10.
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. This application has no components, because this just generates a notification alone.
7. Again go to package explorer in the left hand side. Select the project Ex_No_10.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as receiving a message and notify it.
10. Get the following permissions in AndroidManifest.xml file:
    <uses-permission   android:name="android.permission.RECEIVE_SMS"/>
    <uses-permission android:name="android.permission.READ_SMS"/>
11. Add Receiver class as receiver in AndroidManifest.xml file.
12. 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"
    android: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_10.MainActivity" >

</RelativeLayout>
```

MainActivity.java:

```
package com.example.ex_no_10;
import android.support.v7.app.ActionBarActivity; import
android.app.Notification;
import android.app.NotificationManager;
import android.content.Context;
import android.os.Bundle;
public    class    MainActivity    extends    ActionBarActivity    {
        private static MainActivity inst;
        public static MainActivity instance() {
```

```java
                    // TODO Auto-generated method stub
                    return inst;
        }
        public void onStart()
        {
                    super.onStart();
                    inst=this;
        }
        NotificationManager nm;
        Notification n;
        @SuppressWarnings("deprecation")
        @Override
        protected void onCreate(Bundle savedInstanceState) {
                    super.onCreate(savedInstanceState);
                    setContentView(R.layout.activity_main);
                    nm=(NotificationManager)getSystemService(Context.NOTIFICATION_SERVICE);
                    n=new Notification(R.drawable.ic_launcher,"SMS Alert",System.currentTimeMillis());

        }
        @SuppressWarnings("deprecation")
        public void update_notification(String no, String msg) {
                    // TODO Auto-generated method stub
                    n.setLatestEventInfo(getBaseContext(), no, msg, null);
                    nm.notify(1337, n);
        }
}
```

Receiver.java:

```java
package com.example.ex_no_10;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.telephony.SmsMessage;
public class Receiver extends BroadcastReceiver {
        public static final String SMS_BUNDLE="pdus";
        @Override
        public void onReceive(Context arg0, Intent arg1) {
                    // TODO Auto-generated method stub
                    String no = null,msg = null;
                    Bundle b=arg1.getExtras();
                    if(b!=null)
                    {
                            Object[] sms=(Object[])b.get(SMS_BUNDLE);
                            for(int i=0;i<sms.length;++i)
                            {
                                    SmsMessage sm=SmsMessage.createFromPdu((byte[])sms[i]);
                                    no=sm.getOriginatingAddress();
                                    msg=sm.getMessageBody().toString();
                            }
                            MainActivity inst=MainActivity.instance();
                            inst.update_notification(no,msg);
                    }
        }
}
```

OUTPUT:
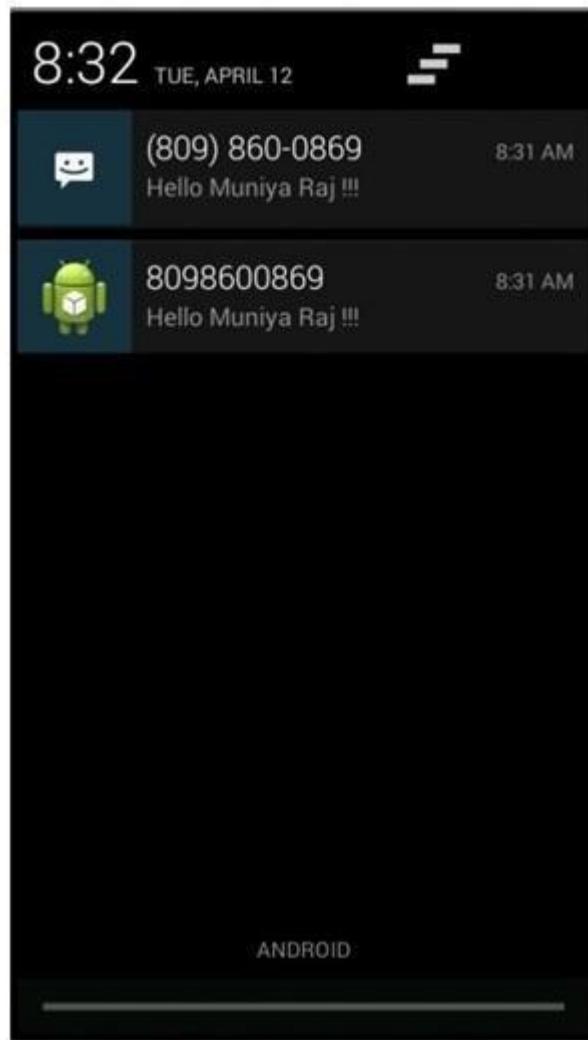
RESULT:

Thus the application that creates an alert upon receiving a message has been developed and the output was verified.

EX.NO:	
DATE:	**DEVELOP AN APPLICATION THAT MAKES USE OF RSS FEED**

AIM:

To develop an application that makes use of RSS Feed.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_8.
3. Go to package explorer in the left hand side. Select the project Ex_No_8.
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. Create the FrameLayout.
7. Create a new layout named as fragment_layout.xml which has following components:
   a. ListView
   b. ProgressBar
8. Create another one layout named as rss_item.xml which has only one TextView.
9. Again go to package explorer in the left hand side. Select the project Ex_No_7.
10. Go to src folder. Double click the MainActivity.java file.
11. In java file write the activities done by the application.
12. Create the following additional classes for this application:
    a. Constants.java
    b. PcWorldRssParser.java
    c. RssAdapter.java
    d. RssFragement.java
    e. RssItem.java
    f. RssService.java
13. Write appropriate actions for the created additional classes.
14. Get the following permission in AndroidManifest.xml file:
    <uses-permission android:name="android.permission.INTERNET" />
15. Finally run the android application.

PROGRAMS:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout        xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:id="@+id/fragment_container"
    android:layout_height="fill_parent" />
```


fragement_layout.xml:

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

```xml
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical" >

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

    <ProgressBar
        android:id="@+id/progressBar"
        style="?android:attr/progressBarStyleLarge"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true" />

</RelativeLayout>
```

rss_item.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<TextView          xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/itemTitle"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="18dp"
    tools:ignore="SpUsage" />
```

MainActivity.java:

```java
package com.example.ex_no_8;
import  android.os.Bundle;
import android.support.v4.app.FragmentActivity;
import android.support.v4.app.FragmentManager;
import android.support.v4.app.FragmentTransaction;
public   class   MainActivity   extends   FragmentActivity   {
        @Override
        public    void    onCreate(Bundle   savedInstanceState)    {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main); if
                (savedInstanceState == null){
                        addRssFragment();
                }
        }
        private void addRssFragment() {
                FragmentManager manager = getSupportFragmentManager();
                FragmentTransaction    transaction    =    manager.beginTransaction();
                RssFragment fragment = new RssFragment();
                transaction.add(R.id.fragment_container,            fragment);
                transaction.commit();
        }
        @Override
        protected   void   onSaveInstanceState(Bundle   outState)   {
                super.onSaveInstanceState(outState);
                outState.putBoolean("fragment_added", true);
```

```
            }
}
```

Constants.java

```java
package com.example.ex_no_8;
public class Constants {
        public static final String TAG = "RssApp";
}
```

PcWorldRssParser.java

```java
package      com.example.ex_no_8;
import         java.io.IOException;
import          java.io.InputStream;
import           java.util.ArrayList;
import java.util.List;
import org.xmlpull.v1.XmlPullParser;
import org.xmlpull.v1.XmlPullParserException;
import android.util.Xml;
public class PcWorldRssParser {
        // We don't use namespaces
        private final String ns = null;
        public    List<RssItem>    parse(InputStream    inputStream)    throws    XmlPullParserException,
IOException {
                try {
                        XmlPullParser parser = Xml.newPullParser();
                        parser.setFeature(XmlPullParser.FEATURE_PROCESS_NAMESPACES,
                        false); parser.setInput(inputStream,  null);
                        parser.nextTag();
                        return readFeed(parser);
                } finally {
                        inputStream.close();
                }
        }
        private    List<RssItem>    readFeed(XmlPullParser    parser)    throws    XmlPullParserException,
IOException {
                parser.require(XmlPullParser.START_TAG, null,  "rss"); String
                title = null;
                String link = null;
                List<RssItem> items = new ArrayList<RssItem>();
                while (parser.next() != XmlPullParser.END_DOCUMENT) {
                        if (parser.getEventType() != XmlPullParser.START_TAG) {
                                continue;
                        }
                        String name = parser.getName();
                        if (name.equals("title")) {
                                title = readTitle(parser);
                        } else if (name.equals("link")) {
                                link = readLink(parser);
                        }
                        if (title != null && link != null) {
                                RssItem    item    =    new    RssItem(title,    link);
                                items.add(item);
                                title = null;
                                link = null;
                        }
```

```java
                }
                return items;
        }
        private String readLink(XmlPullParser parser) throws XmlPullParserException, IOException
{
                parser.require(XmlPullParser.START_TAG, ns,  "link"); String
                link = readText(parser);
                parser.require(XmlPullParser.END_TAG, ns,  "link"); return
                link;
        }
        private String readTitle(XmlPullParser parser) throws XmlPullParserException, IOException
{
                parser.require(XmlPullParser.START_TAG, ns,  "title"); String
                title = readText(parser);
                parser.require(XmlPullParser.END_TAG,   ns,   "title"); return
                title;
        }
        // For the tags title and link, extract their text values.
        private String readText(XmlPullParser parser) throws IOException,                      XmlPullParserException
{
                String result = "";
                if (parser.next() == XmlPullParser.TEXT) {
                        result = parser.getText();
                        parser.nextTag();
                }
                return result;
        }
}
```

RssAdapter.java

```java
package com.example.ex_no_8;
import java.util.List;
import android.content.Context;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.TextView;
public class RssAdapter extends BaseAdapter {
        private final List<RssItem> items;
        private final Context context;
        public RssAdapter(Context context, List<RssItem> items) {
                this.items = items;
                this.context = context;
        }
        @Override
        public int getCount() {
                return items.size();
        }
        @Override
        public Object getItem(int position) {
                return items.get(position);
        }
        @Override
        public long getItemId(int id) {
                return id;
        }
```

```java
        @Override
        public View getView(int position, View convertView, ViewGroup parent) {
                ViewHolder holder;
                if (convertView == null) {
                        convertView = View.inflate(context, R.layout.rss_item, null); holder = new
                        ViewHolder();
                        holder.itemTitle     =     (TextView)    convertView.findViewById(R.id.itemTitle);
                        convertView.setTag(holder);
                } else {
                        holder = (ViewHolder) convertView.getTag();
                }
                holder.itemTitle.setText(items.get(position).getTitle());
                return convertView;
        }
        static class ViewHolder {
                TextView itemTitle;
        }
}
```

RssFragement.java

```java
package com.example.ex_no_8;
import java.util.List;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.os.Handler;
import android.os.ResultReceiver;
import android.support.v4.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener; import
android.widget.ListView;
import android.widget.ProgressBar;
import android.widget.Toast;
public class RssFragment extends Fragment implements OnItemClickListener         {
        private ProgressBar progressBar;
        private ListView listView;
        private View view;
        @Override
        public    void    onCreate(Bundle    savedInstanceState)     {
                super.onCreate(savedInstanceState);
                setRetainInstance(true);
        }
        @Override
        public    View    onCreateView(LayoutInflater    inflater,    ViewGroup    container,    Bundle
savedInstanceState) {
                if (view == null) {
                        view = inflater.inflate(R.layout.fragment_layout, container, false); progressBar =
                        (ProgressBar) view.findViewById(R.id.progressBar);
                        listView = (ListView) view.findViewById(R.id.listView);
                        listView.setOnItemClickListener(this);
                        startService();
                } else {
                        ViewGroup parent = (ViewGroup) view.getParent();
```

```java
                        parent.removeView(view);
                }
                return view;
        }
        private void startService() {
                Intent intent = new Intent(getActivity(), RssService.class);
                intent.putExtra(RssService.RECEIVER, resultReceiver);
                getActivity().startService(intent);
        }
        private final ResultReceiver resultReceiver = new ResultReceiver(new Handler()) {
                @SuppressWarnings("unchecked")
                @Override
                protected void onReceiveResult(int resultCode, Bundle resultData) {
                        progressBar.setVisibility(View.GONE);
                        List<RssItem> items = (List<RssItem>)
resultData.getSerializable(RssService.ITEMS);
                        if (items != null) {
                                RssAdapter adapter = new RssAdapter(getActivity(), items);
                                listView.setAdapter(adapter);
                        } else {
                                Toast.makeText(getActivity(), "An error occured while downloading
the rss feed.",
                                                Toast.LENGTH_LONG).show();
                        }
                };
        };
        @Override
        public void onItemClick(AdapterView<?> parent, View view, int position,          long id)  {
                RssAdapter adapter = (RssAdapter) parent.getAdapter();
                RssItem item = (RssItem) adapter.getItem(position); Uri uri =
                Uri.parse(item.getLink());
                Intent intent = new Intent(Intent.ACTION_VIEW, uri);
                startActivity(intent);
        }
}
```

RssItem.java

```java
package com.example.ex_no_8;
public class RssItem {
        private final String title;
        private final String link;
        public RssItem(String title, String link) {
                this.title = title;
                this.link = link;
        }
        public String getTitle() {
                return title;
        }
        public String getLink() {
                return link;
        }
}
```

**RssService.java**

```java
package com.example.ex_no_8;
```

```java
import  java.io.IOException;
import   java.io.InputStream;
import java.io.Serializable;
import java.net.URL;
import java.util.List;
import org.xmlpull.v1.XmlPullParserException;
import  android.app.IntentService;
import  android.content.Intent;
import  android.os.Bundle;
import android.os.ResultReceiver;
import  android.util.Log;
public class RssService extends IntentService {
        private static final String RSS_LINK = "http://www.pcworld.com/index.rss"; public static
        final String ITEMS = "items";
        public static final String RECEIVER = "receiver"; public
        RssService() {
                super("RssService");
        }
        @Override
        protected void onHandleIntent(Intent intent) {
                Log.d(Constants.TAG, "Service started");
                List<RssItem> rssItems = null;
                try {
                        PcWorldRssParser parser = new PcWorldRssParser();
                        rssItems = parser.parse(getInputStream(RSS_LINK));
                 } catch (XmlPullParserException e) {
                        Log.w(e.getMessage(), e);
                } catch (IOException e) {
                        Log.w(e.getMessage(), e);
                }
                Bundle bundle = new Bundle();
                bundle.putSerializable(ITEMS, (Serializable) rssItems);
                ResultReceiver    receiver    =    intent.getParcelableExtra(RECEIVER);
                receiver.send(0, bundle);
        }
        public    InputStream    getInputStream(String    link)    {
                try {
                        URL url = new URL(link);
                        return  url.openConnection().getInputStream(); } catch
                (IOException e) {
                        Log.w(Constants.TAG, "Exception while retrieving the input stream", e); return null;
                }
        }
}
```

OUTPUT:
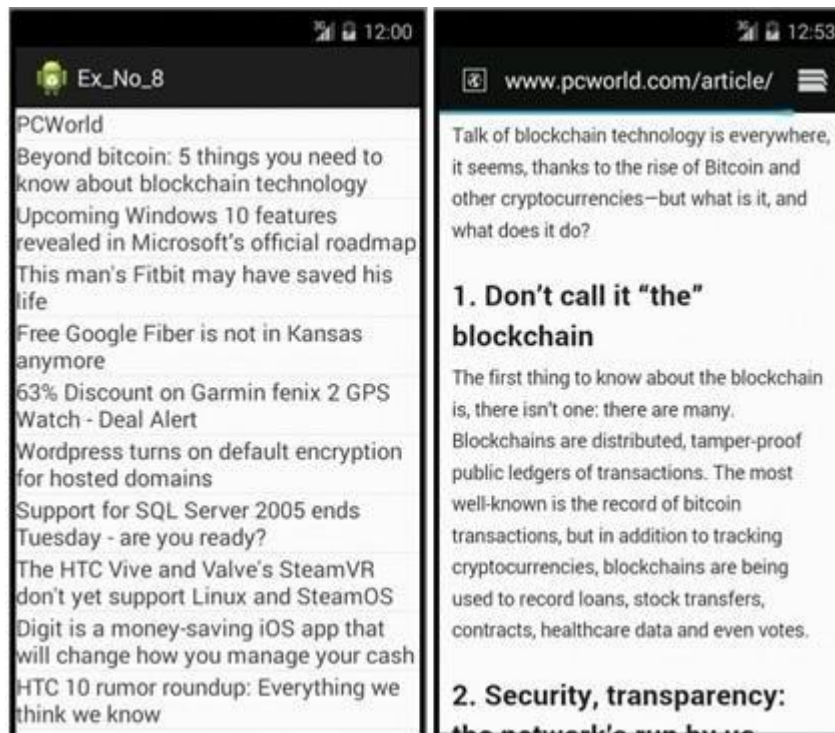
RESULT:

Thus the application that makes use of RSS Feed has been developed and the output was verified.

EX.NO:	**DEVELOP A MOBILE APPLICATION TO SEND AN**
DATE:	**E-MAIL**

AIM:

To develop an application that makes use to send an E-mail from one to another.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_11.
3. Go to package explorer in the left hand side. Select the project Ex_No_11.
4. Go to e-mail folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Create the LinearLayout.
7. Create a new layout named as fragment_layout.xml which has following components:
   a. Edit Text
   b. Button
8. Create another one layout named as rss_item.xml which has only one TextView.
9. Again go to package explorer in the left hand side. Select the project Ex_No_7.
10. Go to src folder. Double click the MainActivity.java file.
11. In java file write the activities done by the application.
12. Write appropriate actions for the created additional classes.
13. Get the permission in AndroidManifest.xml file:
14. Finally run the android application.

PROGRAMS:

activity_main.xml:

```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:paddingLeft="20dp"
    android:paddingRight="20dp"
    android:orientation="vertical" >
    <EditText
        android:id="@+id/txtTo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="To"/>
    <EditText
        android:id="@+id/txtSub"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Subject"/>
```

```xml
<EditText
    android:id="@+id/txtMsg"
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="1"
    android:gravity="top"
    android:hint="Message"/>
  <Button
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:layout_gravity="right"
    android:text="Send"
    android:id="@+id/btnSend"/>
</LinearLayout>
```

MainActivity.java

```java
package com.tutlane.sendmailexample;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    private EditText eTo;
    private EditText eSubject;
    private EditText eMsg;
    private Button btn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        eTo = (EditText)findViewById(R.id.txtTo);
        eSubject = (EditText)findViewById(R.id.txtSub);
        eMsg = (EditText)findViewById(R.id.txtMsg);
        btn = (Button)findViewById(R.id.btnSend);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent it = new Intent(Intent.ACTION_SEND);
                it.putExtra(Intent.EXTRA_EMAIL, new String[]{eTo.getText().toString()});
                it.putExtra(Intent.EXTRA_SUBJECT,eSubject.getText().toString());
                it.putExtra(Intent.EXTRA_TEXT,eMsg.getText());
                it.setType("message/rfc822");
                startActivity(Intent.createChooser(it,"Choose Mail App"));
            }
        });
    }
}
```

AndroidManifest.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android" package="com.tutlane.sendmailexample"
>
    <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/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
                <action android:name="android.intent.action.SEND"/>
                <category android:name="android.intent.category.DEFAULT"/>
                <data android:mimeType="message/rfc822"/>
            </intent-filter>
        </activity>
    </application>
</manifest>
```

OUTPUT:
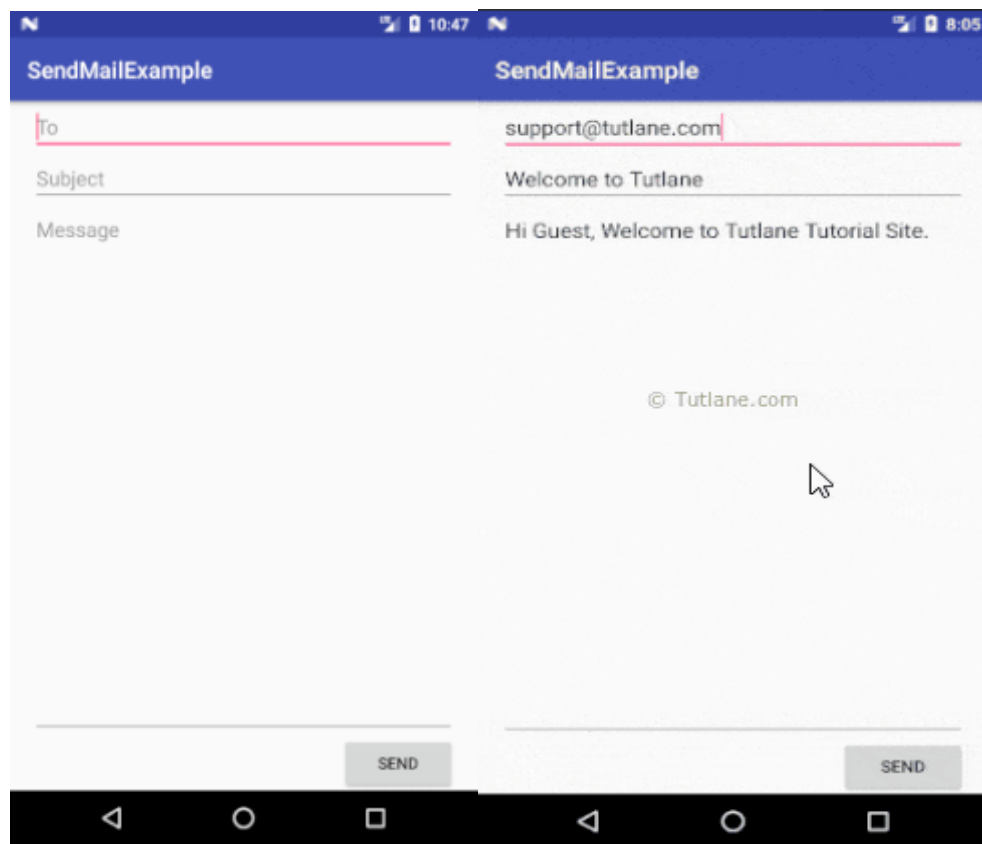
RESULT:

     Thus the application that makes use to send an E-mail has been developed and the output was verified.

EX.NO:	
DATE:	**DEVELOP AN MINIPROJECT - GAME APPLICATION**

AIM:

    To implement an application that creates simple game

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_12.
3. Go to package explorer in the left hand side. Select the project Ex_No_12
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. add ImageView and button component
7. Again go to package explorer in the left hand side. Select the project Ex_No_12
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as rotate image in different angles using RotateAnimation inbuild function.
10. Finally run the android application.

PROGRAMS:

Activity_main.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="com.example.sangeethasampath.spin.BottleActivity">

    <Button

        android:id="@+id/button2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Button"

        tools:layout_editor_absoluteX="157dp"
```

```
            tools:layout_editor_absoluteY="409dp" />

    <ImageView

        android:id="@+id/imageView"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        app:srcCompat="@drawable/bo"

        android:scaleType="centerInside"

        tools:layout_editor_absoluteX="106dp"

        tools:layout_editor_absoluteY="42dp" />

</android.support.constraint.ConstraintLayout>
```

Style.xml:

```xml
<resources>

    <!-- Base application theme. -->

    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">

        <!-- Customize your theme here. -->

        <item name="colorPrimary">@color/colorPrimary</item>

        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>

        <item name="colorAccent">@color/colorAccent</item>

    </style>

</resources>
```

Mainactivity.java

```java
package com.example.sangeethasampath.spin;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.view.animation.AccelerateDecelerateInterpolator;

import android.view.animation.RotateAnimation;

import android.widget.Button;
```

```java
import android.widget.ImageView;

import java.util.Random;

public class BottleActivity extends AppCompatActivity {

ImageView iv;

    Button B;

    Random r;

    int angle;

    boolean restart=false;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_bottle);

        iv=(ImageView)findViewById(R.id.imageView);

        B=(Button)findViewById(R.id.button2);

        r=new Random();

        B.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                if(restart)

                {

RotateAnimation rotate = new RotateAnimation(0, angle, RotateAnimation.RELATIVE_TO_SELF, 0.5f,
RotateAnimation.RELATIVE_TO_SELF, 0.5f);

                    rotate.setFillAfter(true);

                    rotate.setDuration(1000);

                    rotate.setInterpolator(new AccelerateDecelerateInterpolator());

                    iv.startAnimation(rotate);

                    restart = false;

                }

 else {

        angle = r.nextInt() + 360;

            RotateAnimation rotate = new RotateAnimation(0, angle,
```

```
        RotateAnimation.RELATIVE_TO_SELF,0.5f,RotateAnimation.RELATIVE_TO_SELF,        0.5f);
rotate.setFillAfter(true);

            rotate.setDuration(1000);

            rotate.setInterpolator(new AccelerateDeclerateInterpolator());

            iv.startAnimation(rotate);

            restart = true;

          }

        }

      });

    }

}
```

build.gradle:

```
buildscript {

  repositories {

    jcenter()

  }

  dependencies {

    classpath 'com.android.tools.build:gradle:2.3.0'

    // NOTE: Do not place your application dependencies here; they belong

    // in the individual module build.gradle files

  }

}

allprojects {

  repositories {

    jcenter()

  }

}

task clean(type: Delete) {

  delete rootProject.buildDir

}
```
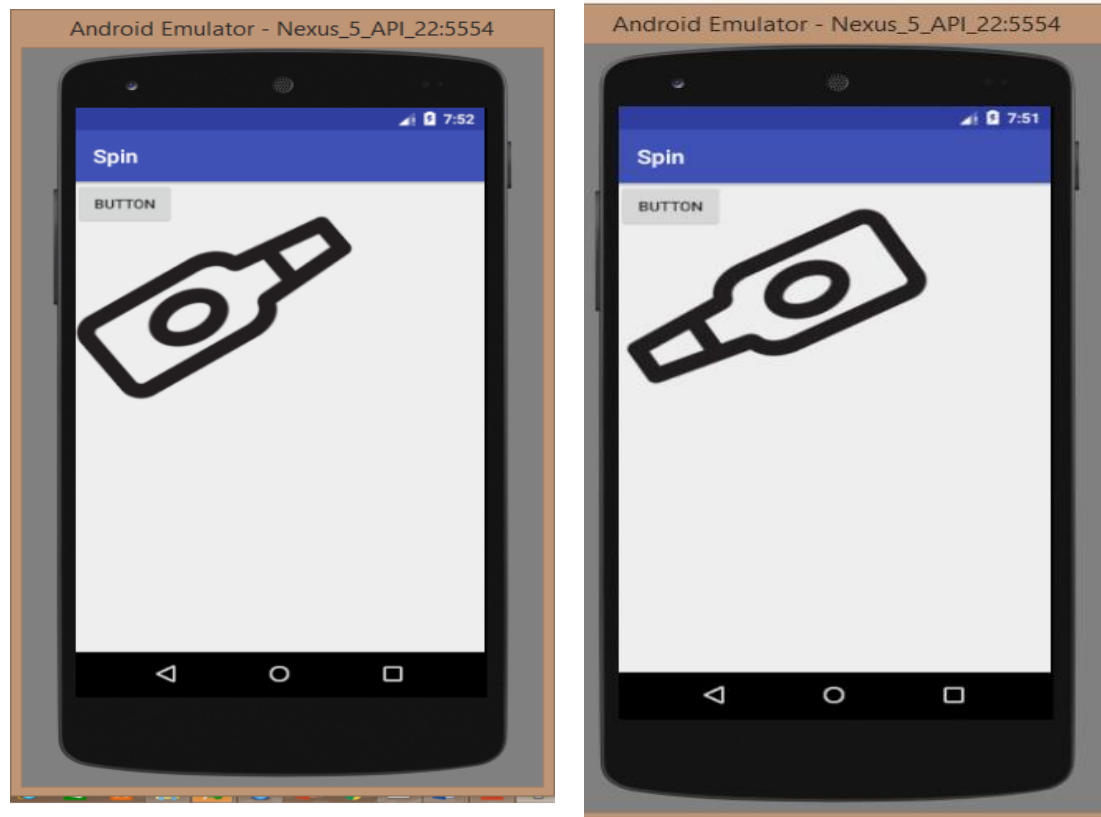
OUTPUT:

RESULT:

Thus the simple game application has been created successfully and the output was verified.