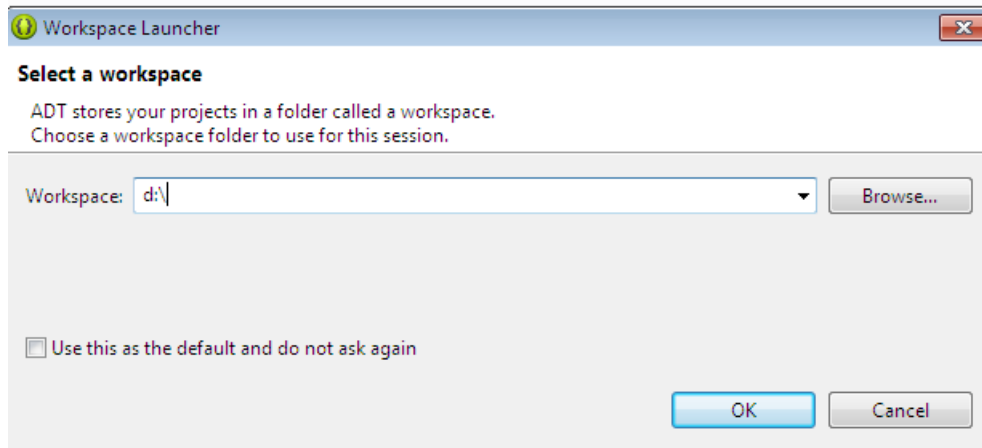


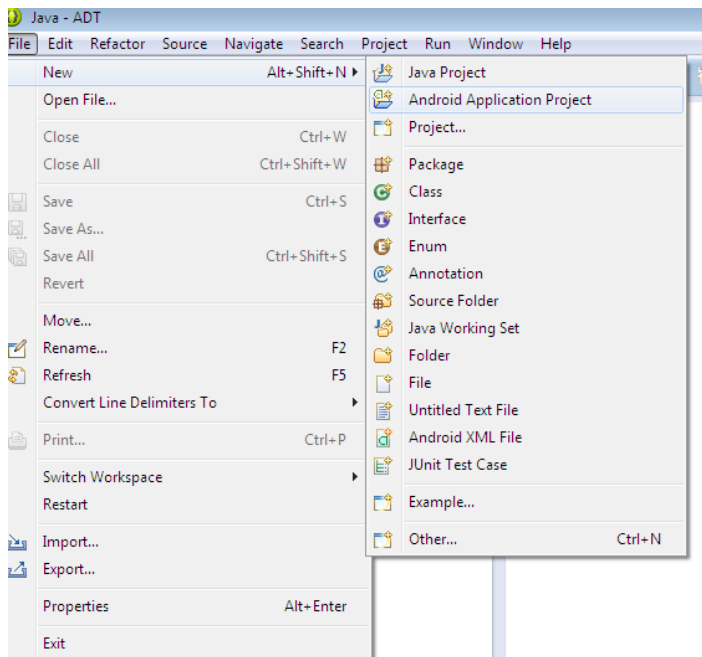
PROCEDURE TO DEVELOP AN ANDROID APP

STEPS:

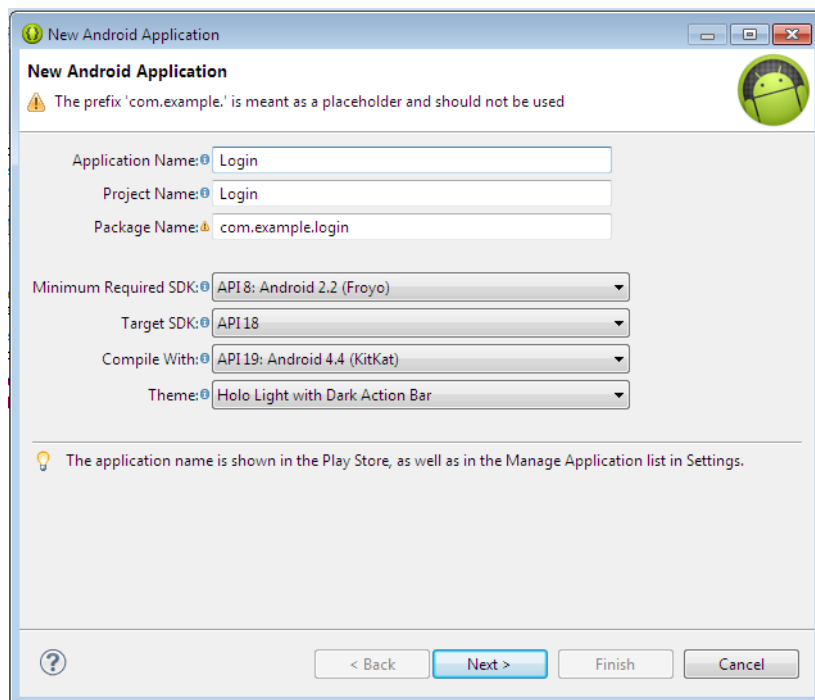
- Open eclipse and create a workspace and click OK



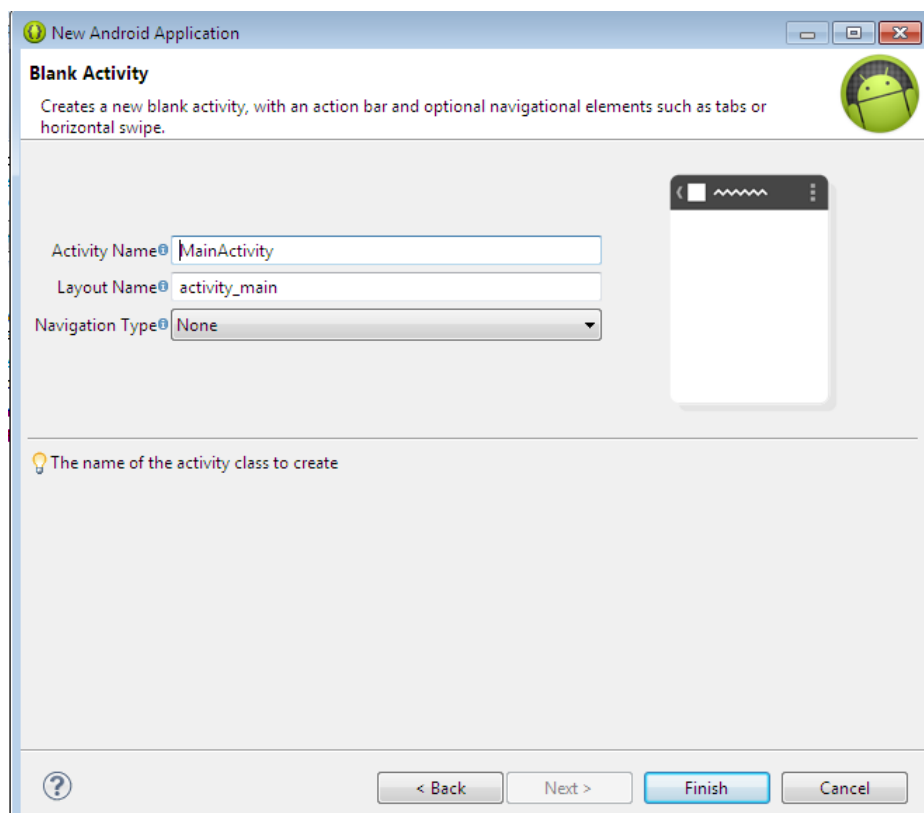
- To create a new file click FILE → New → Android Application Project



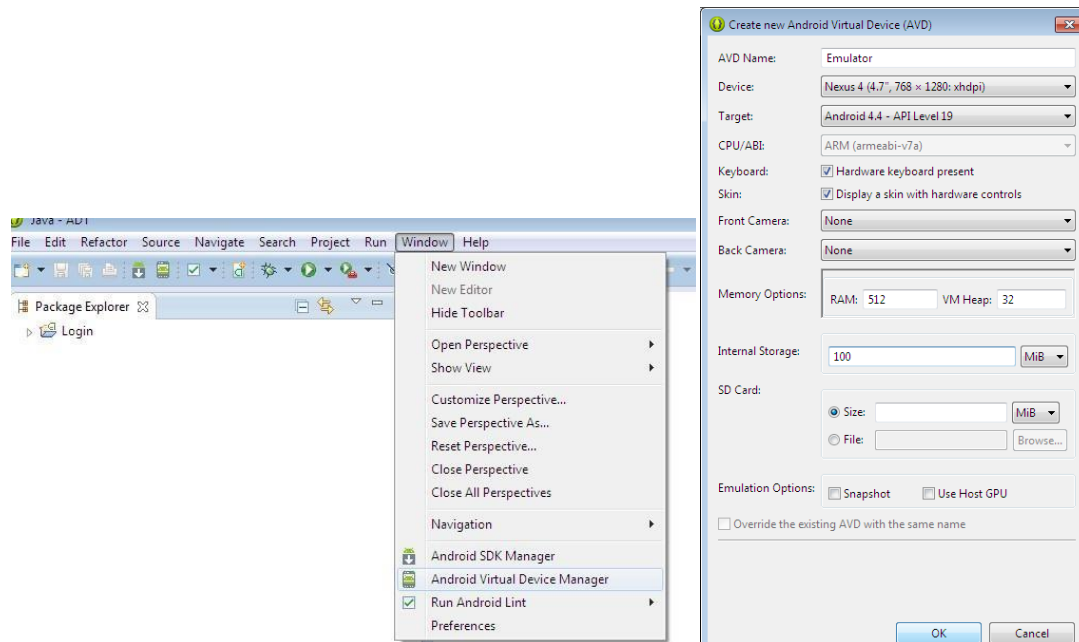
- Enter the Application name starting with a capital letter and also enter the package name
- Click NEXT → NEXT → NEXT



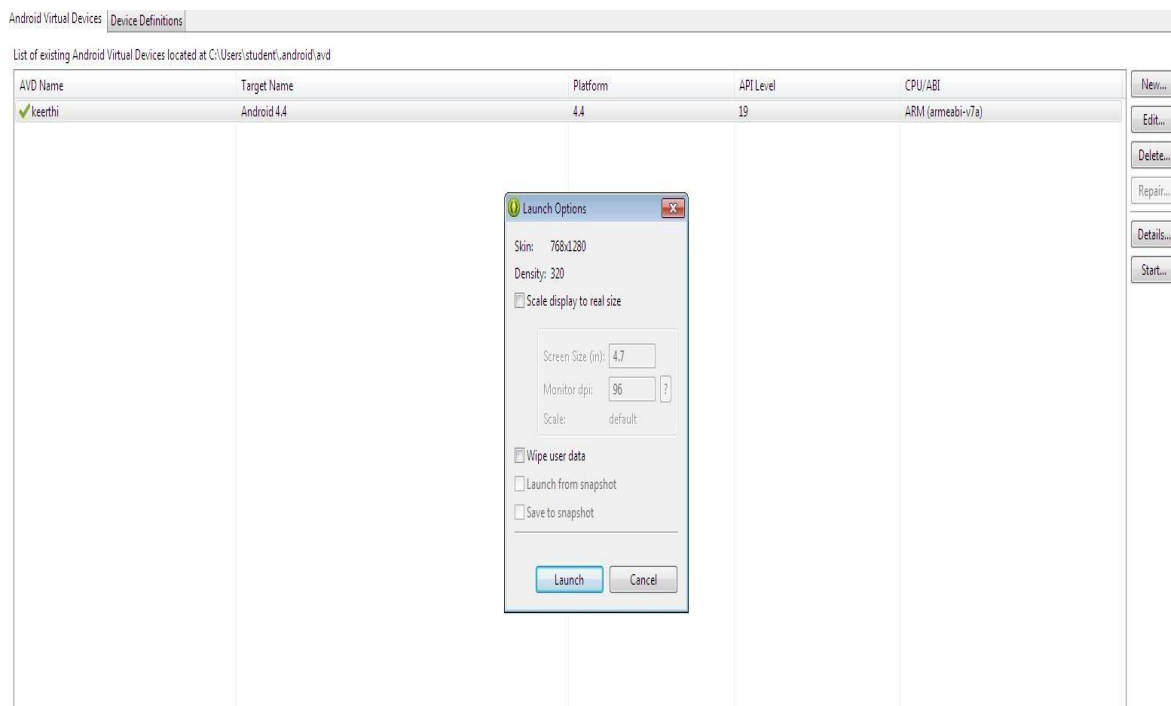
- Enter the activity name and also its layout name click FINISH



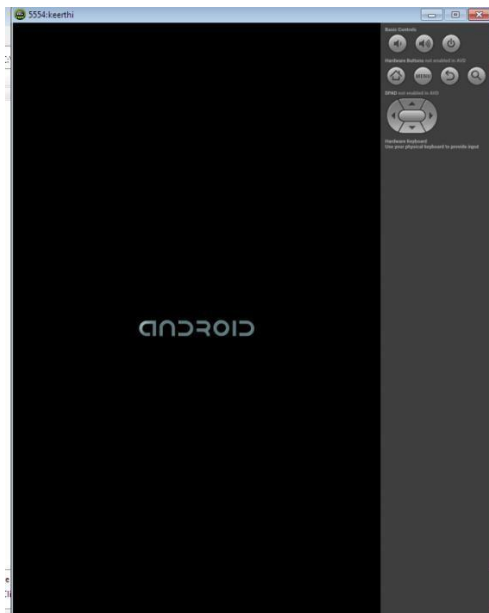
- Write the xml and java code in the workspace
- To run the application create an emulator with following specification



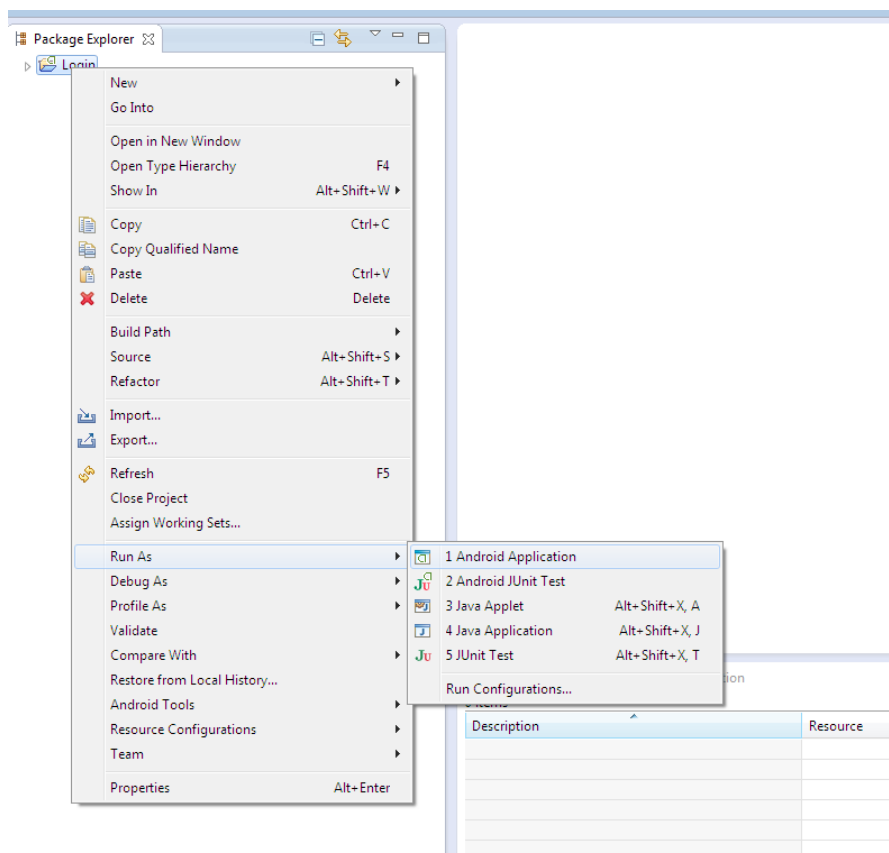
- Launch the emulator



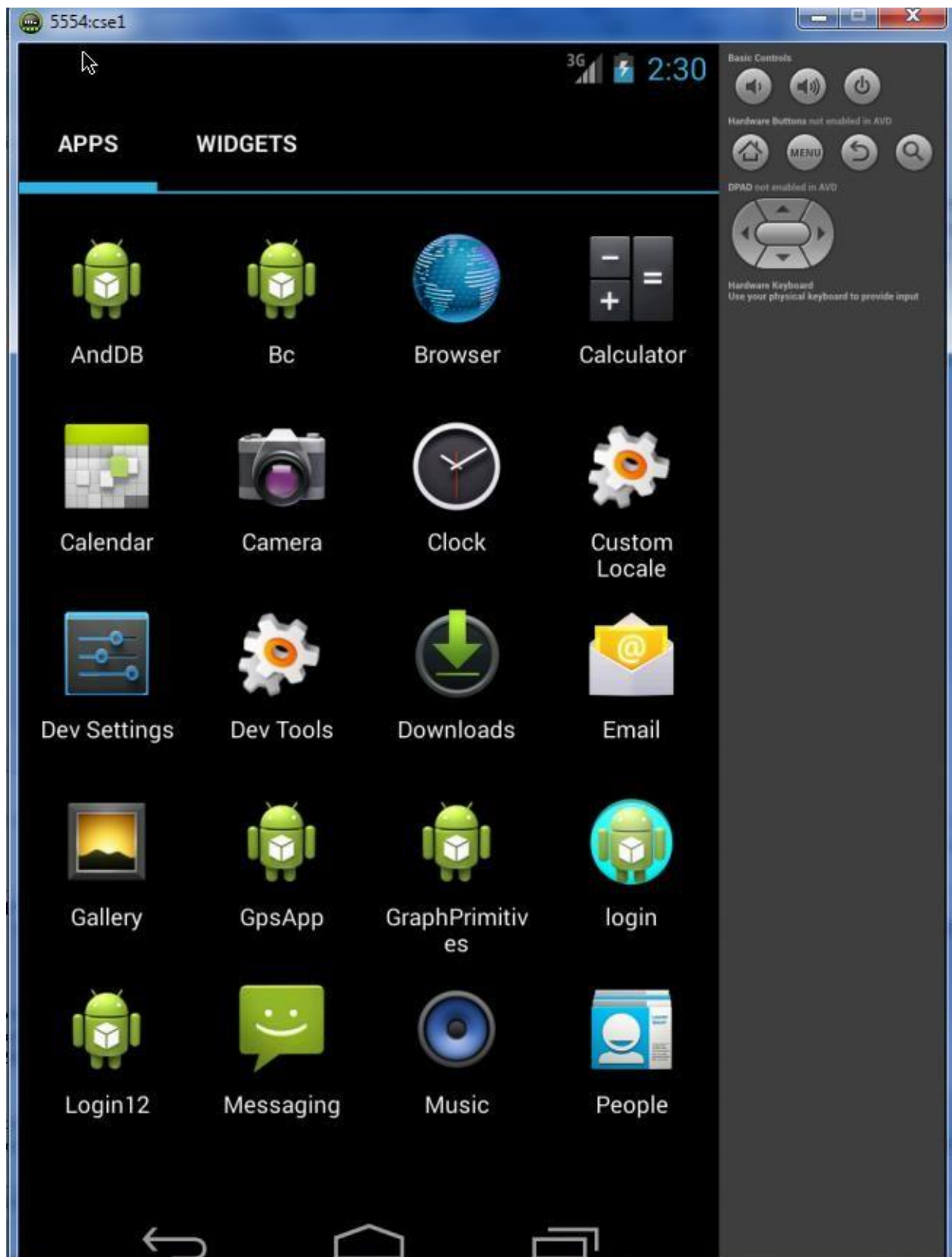
- Emulator windows pops out



- To run the application do the following



- Finally the output is viewed in the emulator



EX. NO : 1

DATE :

GUI COMPONENTS

AIM :

To develop an “Hello World” application that uses GUI components, Font and Colors.

PROCEDURE:

- 1) Open eclipse or android studio and select new android project
- 2) Go to res folder and select layout. Double click the main.xml file
- 3) Now you can see the Graphics layout window.
- 4) Click the main.xml file and type the code
- 5) Again click the graphics layout tab and screen layout is look like below
- 6) Go to project explorer and select src folder. Now select mainactivity.java file and type the following code
- 7) Now go to main.xml and right click .select run as option and select run configuration

PROGRAM :

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:id="@+id/gsat"
    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=".MainActivity" >
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_world" />
    <RadioButton
        android:id="@+id/radioButton2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/radioButton1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="49dp"
        android:onClick="click"
        android:text="Change the Background" />
    <RadioButton
        android:id="@+id/radioButton3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/radioButton2"
        android:layout_below="@+id/radioButton2"
        android:layout_marginTop="50dp"
        android:onClick="click"
        android:text="Change the text size" />
```

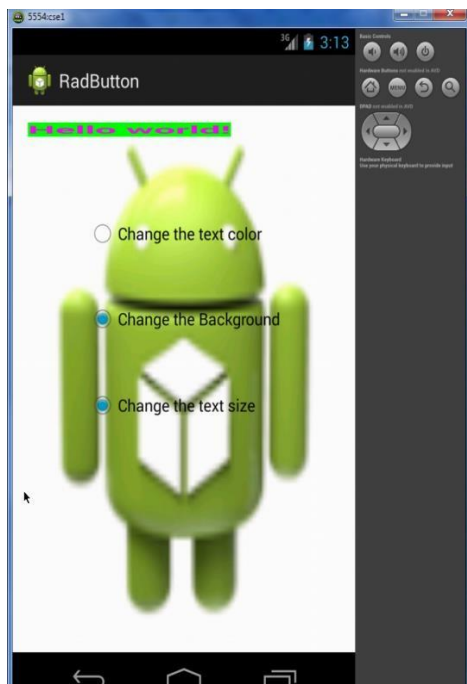


```

tv1.setTextColor(0xffff00ff);
    float x = 10f;
    tv1.setTextSize(x);
}
break;
case R.id.radioButton2:
if(on){
    rl.setBackgroundResource(R.drawable.ic_launcher);
    rb1.setChecked(false);
}
break;
case R.id.radioButton3:
    tv1.setClickable(true);
    Typeface face=Typeface.DEFAULT_BOLD;
    int typ=TypedValue.COMPLEX_UNIT_IN;
    tv1.setTextScaleX(typ);
    tv1.setTypeface(face);
    rb2.setChecked(false);
    break;
}
}
}

```

OUTPUT :



RESULT :

Thus an android application to display “Hello World” using the GUI components , Font and Colors has been developed successfully.

EX NO : 2(a)2

DATE :

LAYOUT MANAGERS AND EVENT LISTENERS

2(a) . SIMPLE CALCULATOR

AIM:

To develop a simple calculator application that uses Layout Managers and Event Listeners.

PROCEDURE:

Step 1: Create a graphical user interface with buttons for numbers and operations, text field to get the input.

Step 2: Add the listener for all buttons.

Step 3: For the number buttons, set the text field for the numbers

Step 4: Perform operations for each Button and display result.

PROGRAM:

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=".MainActivity" >
    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="46dp"
        android:layout_marginTop="40dp"
        android:ems="10" >
        <requestFocus />
    </EditText>
    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText1"
        android:layout_below="@+id/editText1"
        android:layout_marginTop="46dp"
        android:ems="10" />
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText2"
        android:layout_marginTop="53dp"
        android:text="+" />
```

```

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/button1"
    android:layout_toRightOf="@+id/button1"
    android:text="-" />
<Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/button2"
    android:layout_toRightOf="@+id/button2"
    android:text="*" />
<Button
    android:id="@+id/button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBottom="@+id/button3"
    android:layout_toRightOf="@+id/button3"
    android:text="/" />
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Basic Calculator" />
</RelativeLayout>

```

MainActivity.java

```

package com.example.bc;
import android.app.Activity;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends Activity implements OnClickListener {
    Button b1,b2,b3,b4;
    EditText et1,et2;
    TextView tv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```

```

        b1=(Button)findViewById(R.id.button1);
        b2=(Button)findViewById(R.id.button2);
        b3=(Button)findViewById(R.id.button3);
        b4=(Button)findViewById(R.id.button4);
        et1=(EditText)findViewById(R.id.editText1);
        et2=(EditText)findViewById(R.id.editText2);
        tv=(TextView)findViewById(R.id.textView1);
        b1.setOnClickListener(this);
        b2.setOnClickListener(this);
        b3.setOnClickListener(this);
        b4.setOnClickListener(this);
    }
    @Override
    public void onClick(View v) {
        String num1=et1.getText().toString();
        String num2=et2.getText().toString();
        String op="";
        if(TextUtils.isEmpty(num1)||TextUtils.isEmpty(num2)){
            tv.setError("Input values cannot be empty");
            return;
        }
        double n1=Double.parseDouble(num1);
        double n2=Double.parseDouble(num2);
        double result = 0;
        switch (v.getId()) {
            case R.id.button1:
                result = n1+n2;
                op="ADD";
                Toast.makeText(getApplicationContext(), "Performs Addition",
                    Toast.LENGTH_LONG).show();
                break;
            case R.id.button2:
                result = n1-n2;
                op="SUB";
                Toast.makeText(getApplicationContext(), "Performs Subtraction",
                    Toast.LENGTH_LONG).show();
                break;
            case R.id.button3:
                result = n1*n2;
                op="MUL";
                Toast.makeText(getApplicationContext(), "Performs Multiplication",
                    Toast.LENGTH_LONG).show();
                break;
            case R.id.button4:
                result = n1/n2;
                op="DIV";
                Toast.makeText(getApplicationContext(), "Performs Division",
                    Toast.LENGTH_LONG).show();
                break;
        }
    }

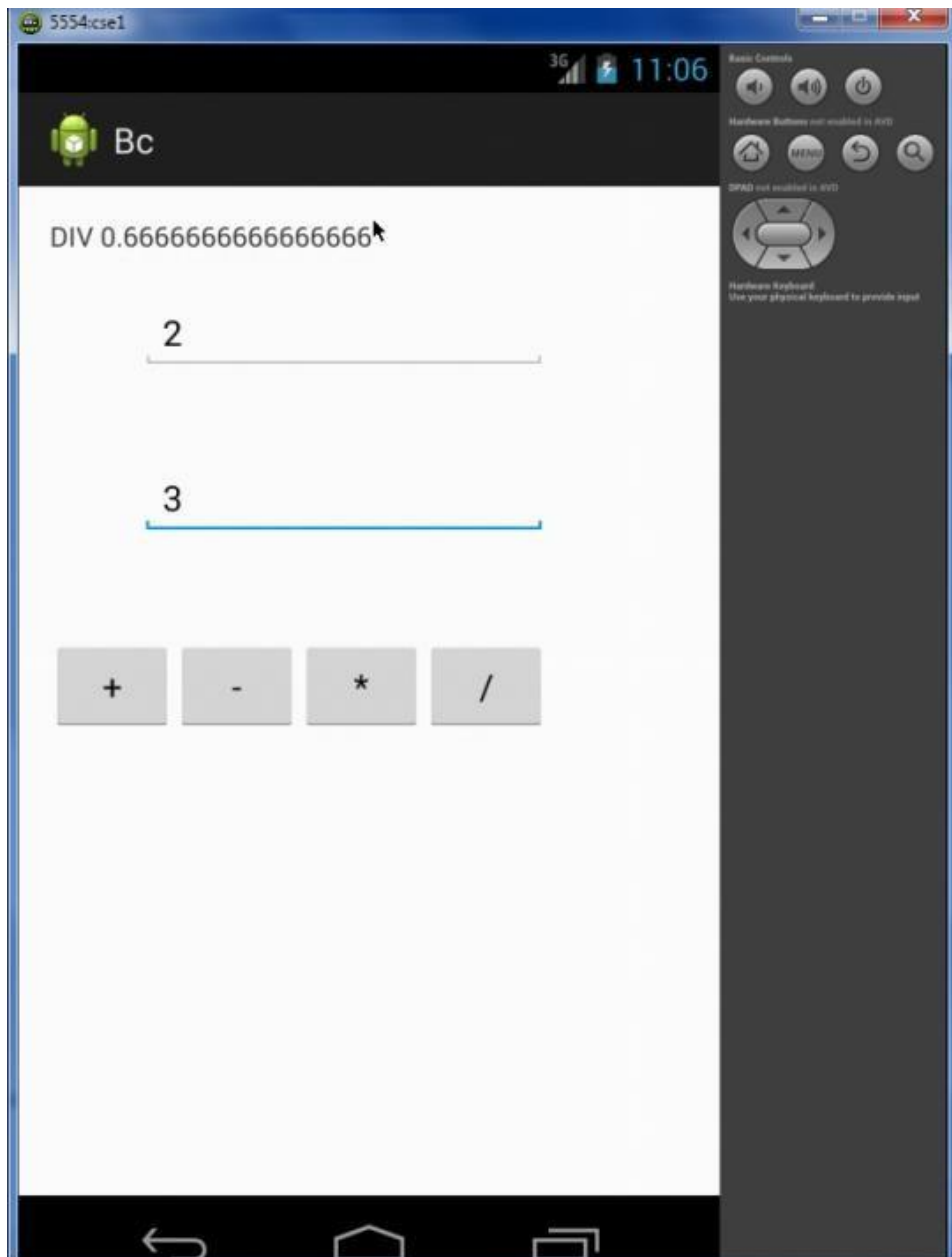
```

```

default:
    break;
}
tv.setText("'" + op + "' "+result);
}
}

```

OUTPUT:



Result:

Thus the simple calculator application in android using Layout managers and Event Listeners is executed successfully in eclipse.

EX NO: 2(b)

DATE:

2(b). USERNAME PASSWORD LOGIN APPLICATION

AIM:

To develop a login application using layout managers and event listeners android.

PROCEDURE:

Step 1: Create the interface and add the textbox for username and password field for password.

Step 2: Add the button and its listener.

Step 3: When the button is clicked, compare the username and password.

Step 4: If the fields are correct , print success in toast.

Step 5: Else print invalid login using toast.

PROGRAM:

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=".MainActivity" >
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/hello_world" />
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/textView2"
        android:layout_below="@+id/textView2"
        android:layout_marginTop="61dp"
        android:text="@string/username" />
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView1"
        android:layout_below="@+id/textView1"
        android:layout_marginTop="62dp"
        android:text="@string/password" />
    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/textView1"
```

```

        android:layout_alignBottom="@+id/textView1"
        android:layout_marginLeft="60dp"
        android:layout_toRightOf="@+id/textView1"
        android:ems="10" android:inputType="text">
        <requestFocus />
    </EditText>
    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/textView3"
        android:layout_alignBottom="@+id/textView3"
        android:layout_alignLeft="@+id/editText1"
        android:ems="10" android:inputType="textPassword"/>
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText2"
        android:layout_marginTop="45dp"
        android:layout_toRightOf="@+id/textView1"
        android:text="@string/login" />
</RelativeLayout>
MainActivity.java
package com.example.login12;
import android.app.Activity;
import android.os.Bundle;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends Activity {
    EditText t1,t2;
    TextView t3,t4;
    Button b;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=(EditText)findViewById(R.id.editText1);
        t2=(EditText)findViewById(R.id.editText2);
        t3=(TextView)findViewById(R.id.textView1);
        t4=(TextView)findViewById(R.id.textView3);
        b=(Button)findViewById(R.id.button1);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                if(t1.getText().toString().equals("vec")&&t2.getText().toString().equals("cse"))

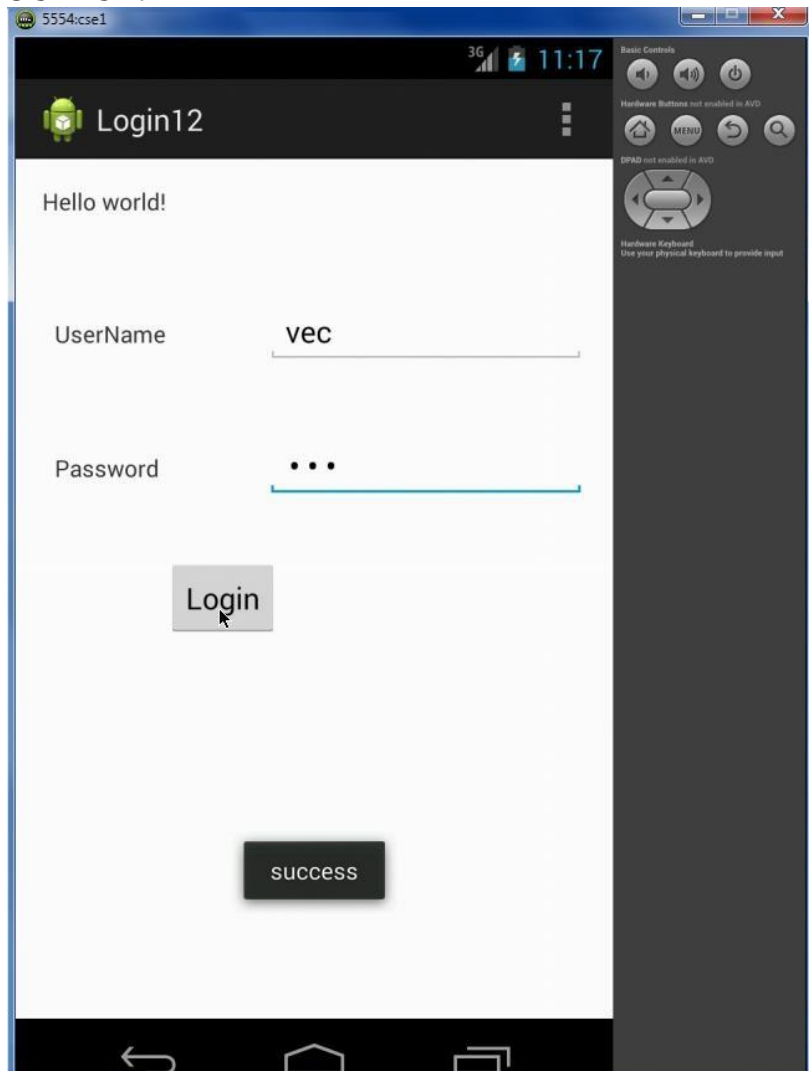
```

```

{
    Toast.makeText(getApplicationContext(), "success",Toast.LENGTH_LONG).show();
}
else
{
    Toast.makeText(getApplicationContext(), "Invalid Login",Toast.LENGTH_LONG).show();
}
// TODO Auto-generated method stub
}
});
}
@Override
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is present.
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
}
}

```

OUTPUT:



RESULT:

Thus the login application in android is executed successfully in eclipse.

EXP NO: 2 (C)

DATE:

2 (C). NATIVE CALCULATOR APPLICATION

AIM:

To develop a native calculator application using Layout Managers and Event Listeners.

PROCEDURE:

Step 1: Create a graphical user interface with buttons for numbers and operations , text field to get the input.

Step 2: Add the listener for all buttons.

Step 3: For the number buttons, set the text field for the numbers.

Step 4: When = is clicked , compare the operator and perform the appropriate operation. Step 5: Print the output using toast

PROGRAM:

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=".MainActivity" >
    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView1"
        android:layout_below="@+id/textView1"
        android:ems="10" />
    <EditText
        android:id="@+id/editText3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentRight="true"
        android:layout_below="@+id/editText1"
        android:layout_marginRight="20dp"
        android:ems="10" >
        <requestFocus />
    </EditText>
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText1"
        android:layout_below="@+id/editText3"
        android:text="Second Number" />
    <Button
```



```

        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText2"
        android:layout_below="@+id/editText2"
        android:layout_marginTop="14dp"
        android:text="1" />
<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_toRightOf="@+id/textView1"
    android:text="2" />
<Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBottom="@+id/button2"
    android:layout_alignRight="@+id/editText3"
    android:layout_marginRight="15dp"
    android:text="3" />
<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBottom="@+id/button4"
    android:layout_alignRight="@+id/button2"
    android:text="5" />
<Button
    android:id="@+id/button6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button5"
    android:layout_alignBottom="@+id/button5"
    android:layout_alignRight="@+id/button3"
    android:text="6" />
<Button
    android:id="@+id/button11"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button10"
    android:layout_alignBottom="@+id/button10"
    android:layout_alignRight="@+id/button8"
    android:text="0" />
<Button
    android:id="@+id/button8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button7"
    android:layout_alignBottom="@+id/button7"

```

```

        android:layout_alignLeft="@+id/button5"
        android:text="8" />
<Button
    android:id="@+id/button9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button8"
    android:layout_alignBottom="@+id/button8"
    android:layout_alignLeft="@+id/button6"
    android:text="9" />
<Button
    android:id="@+id/button12"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button11"
    android:layout_alignBottom="@+id/button11"
    android:layout_alignRight="@+id/button9"
    android:text="" />
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/editText2"
    android:layout_alignParentTop="true"
    android:text="FirstNumber" />
<Button
    android:id="@+id/button10"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button7"
    android:layout_below="@+id/button7"
    android:text="+" />
<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignRight="@+id/button3"
    android:layout_below="@+id/textView2"
    android:layout_marginRight="18dp"
    android:ems="10" />
<Button
    android:id="@+id/button13"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button10"
    android:layout_toLeftOf="@+id/editText3"
    android:text="-" />
<Button
    android:id="@+id/button14"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignRight="@+id/textView2"

```

```

        android:layout_below="@+id/button11"
        android:text="*" />
<Button
    android:id="@+id/button15"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button11"
    android:layout_toLeftOf="@+id/button12"
    android:text="/" />
<Button
    android:id="@+id/button16"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBottom="@+id/button15"
    android:layout_alignRight="@+id/editText3"
    android:text="Reset" />
<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:text="4" />
<Button
    android:id="@+id/button7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button4"
    android:layout_below="@+id/button4"
    android:text="7" />
</RelativeLayout>
MainActivity.Java
package com.example.calculator;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends Activity {
    EditText t1,t2,t3;
    TextView t4,t5;
    Button b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11,b12,b13,b14,b15,b16;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=(EditText)findViewById(R.id.editText1);
        t2=(EditText)findViewById(R.id.editText2);
        t3=(EditText)findViewById(R.id.editText3);
        t4=(TextView)findViewById(R.id.textView1);

```

```

t5=(TextView)findViewById(R.id.textView2);
b1=(Button)findViewById(R.id.button1);
b2=(Button)findViewById(R.id.button2);
b3=(Button)findViewById(R.id.button3);
b4=(Button)findViewById(R.id.button4);
b5=(Button)findViewById(R.id.button5);
b6=(Button)findViewById(R.id.button6);
b7=(Button)findViewById(R.id.button7);
b8=(Button)findViewById(R.id.button8);
b9=(Button)findViewById(R.id.button9);
b10=(Button)findViewById(R.id.button10);
b11=(Button)findViewById(R.id.button11);
b12=(Button)findViewById(R.id.button12);
b13=(Button)findViewById(R.id.button13);
b14=(Button)findViewById(R.id.button14);
b15=(Button)findViewById(R.id.button15);
b16=(Button)findViewById(R.id.button16);
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"1");
    }
});
b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"2");
    }
});
b3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"3");
    }
});
b4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"4");
    }
});
b5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"5");
    }
});

```

```

b6.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"6");
    }
});
b7.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"7");
    }
});
b8.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"8");
    }
});
b9.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"9");
    }
});
b10.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        t3.setText("+");
    }
});
b11.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        EditText e=(EditText)getCurrentFocus();
        e.setText(e.getText().toString()+"0");
    }
});
b12.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        if(t3.getText().toString().equals("+"))
        {
            int a=Integer.parseInt(t1.getText().toString());
            int b=Integer.parseInt(t2.getText().toString());
            int c=a+b;
            Toast.makeText(getApplicationContext(),"addition:"+Integer.toString(c),Toast.LENGTH_L
ONG).show();
        }
    }
});

```

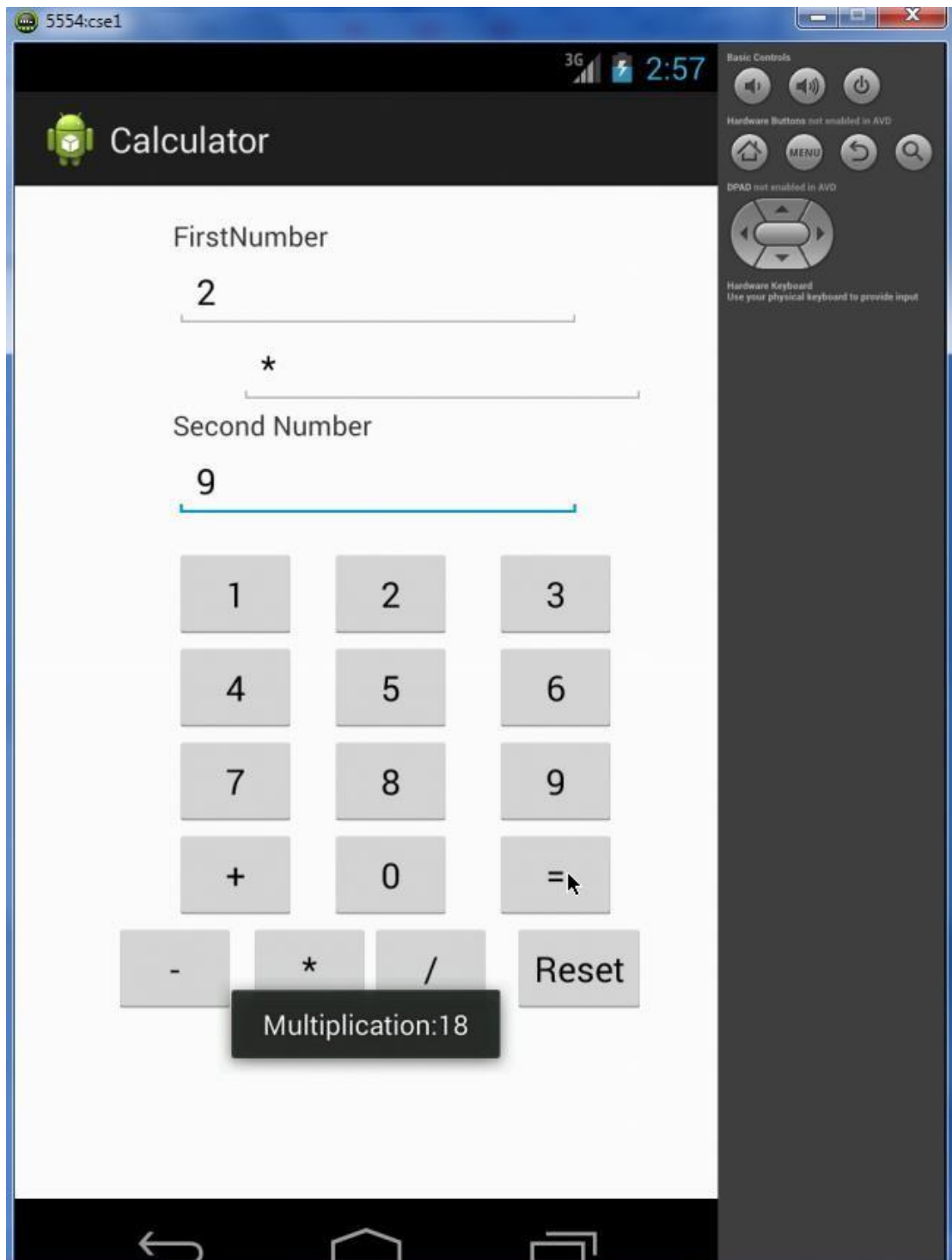
```

        if(t3.getText().toString().equals("-"))
        {
            int a=Integer.parseInt(t1.getText().toString());
            int b=Integer.parseInt(t2.getText().toString());
            int c=a-b;
            Toast.makeText(getApplicationContext(),"subtraction:"+Integer.toString(c),Toast.LENGTH
_LONG).show();
        }
        if(t3.getText().toString().equals("*"))
        {
            int a=Integer.parseInt(t1.getText().toString());
            int b=Integer.parseInt(t2.getText().toString());
            int c=a*b;
            Toast.makeText(getApplicationContext(),"Multiplication:"+Integer.toString(c),Toast.LENG
TH_LONG).show();
        }
        if(t3.getText().toString().equals("/"))
        {
            int a=Integer.parseInt(t1.getText().toString());
            int b=Integer.parseInt(t2.getText().toString());
            int c=a/b;
            Toast.makeText(getApplicationContext(),"Division:"+Integer.toString(c),Toast.LENGTH_
LONG).show();
        }
    }
});
b13.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        t3.setText("-");
    }
});
b14.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        t3.setText("*");
    }
});
b15.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        t3.setText("/");
    }
});
b16.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View arg0) {
        t1.setText(" ");
        t2.setText(" ");
        t3.setText(" ");
    }
}

```

```
});  
}  
}
```

OUTPUT:



RESULT:

The native calculator application in android is executed and the basic arithmetic operations are executed successfully using eclipse.

EX.NO: 3

DATE:

GRAPHIC PRIMITIVES

AIM:

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

PROCEDURE

1. Open eclipse or android studio and select new android project
2. Give project name and select next
3. Choose the android version. Choose the lowest android version (Android 2.2) and select next.
4. Enter the package name. Package name must be two word separated by comma and click finish
5. Go to package explorer in the left hand side and select our project.
6. Go to res folder and select layout. Double click the activitymain.xml file. Don't change anything in layout. Leave as default.
7. Now select mainactivity.java file and type the following code.

PROGRAM

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=".MainActivity" >
</RelativeLayout>
```

MainActivity.java

```
package com.example.graphprimitives;
import android.app.Activity;
import android.content.Context;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(new GraphPrim(this));
    }
    class GraphPrim extends View
```



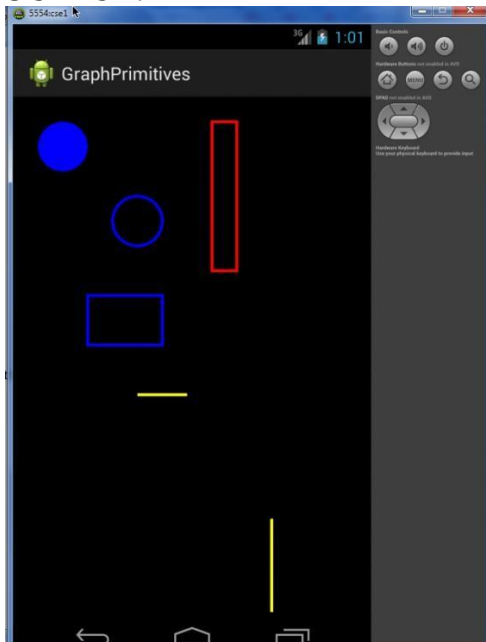
```

{
    public GraphPrim(Context context)
    {
        super(context);

        Paint paint=new Paint();
@Override
protected void onDraw(Canvas canvas) {
    canvas.drawColor(Color.BLACK);
    paint.setColor(Color.BLUE);
    paint.setStrokeWidth(6);
    canvas.drawCircle(100, 100, 50, paint);
    paint.setStyle(Paint.Style.STROKE);
    canvas.drawCircle(250, 250, 50, paint);
    canvas.drawRect(150,400,300,500, paint);
    paint.setColor(Color.RED);
    canvas.drawRect(450,50,400,350, paint);
    paint.setColor(Color.YELLOW);
    canvas.drawLine(520, 850, 520, 1150, paint);
    canvas.drawLine(250, 600, 350, 600, paint);
    }
}
}

```

OUTPUT:



RESULT:

Thus an android application to display the graphical primitives is developed and executed successfully.

EX.NO: 4

DATE :

DATABASE APPLICATION

AIM:

To create an android application that uses database.

PROCEDURE:

- 1)Open eclipse or android studio and select new android project
- 2)Give project name and select next
- 3) Choose the android version. Choose the lowest android version(Android 2.2) and select next
- 4) Enter the package name. Package name must be two word separated by comma and click finish
- 5)Go to package explorer in the left hand side and select our project.
- 6)Go to res folder and select layout. Double click the activity_main.xml file. Add the code below

PROGRAM

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=".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:layout_marginLeft="38dp"
        android:layout_marginTop="57dp"
        android:text="Enter Name" />
    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"
        android:ems="10" />
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerVertical="true"
        android:layout_toRightOf="@+id/textView1"
```

```

        android:text="Add" />
<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button1"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="22dp"
    android:text="View" />
</RelativeLayout>
Mainactivity.java
package com.example.anddb;
import android.app.Activity;
import android.app.AlertDialog;
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;
import android.widget.Toast;
public class MainActivity extends Activity implements OnClickListener {
    EditText et1;
    Button b1,b2;
    SQLiteDatabase DB;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et1=(EditText)findViewById(R.id.editText1);
        b1=(Button)findViewById(R.id.button1);
        b2=(Button)findViewById(R.id.button2);
        DB=openOrCreateDatabase("Hello",Context.MODE_PRIVATE,null);
        DB.execSQL("CREATE TABLE IF NOT EXISTS student(name VARCHAR);");
        b1.setOnClickListener(this);
        b2.setOnClickListener(this);
    }
    @Override
    public void onClick(View arg0) {
        if(arg0==b1){
            Toast.makeText(getApplicationContext(), "BUTTON ADD",
                Toast.LENGTH_LONG).show();
            if(et1.getText().toString().trim().length()==0){
                showMessage("error","Enter valid Input");
            }
            else{
                DB.execSQL("INSERT INTO Student VALUES('"+et1.getText()+"');");
                showMessage("Sucess","Name Added");
            }
            clear();
        }
    }
}

```

```

    }
    if(arg0==b2){
        Cursor c=DB.rawQuery("SELECT * FROM student; ",null );
        if(c.getCount()==0){
            showMessage("...", "No record Found");
            return;
        }
        StringBuffer buffer=new StringBuffer();
        while(c.moveToNext())
        {
            buffer.append("Name: "+c.getString(0)+"\n");
        }
        showMessage("Student Details", buffer.toString());
    }
}

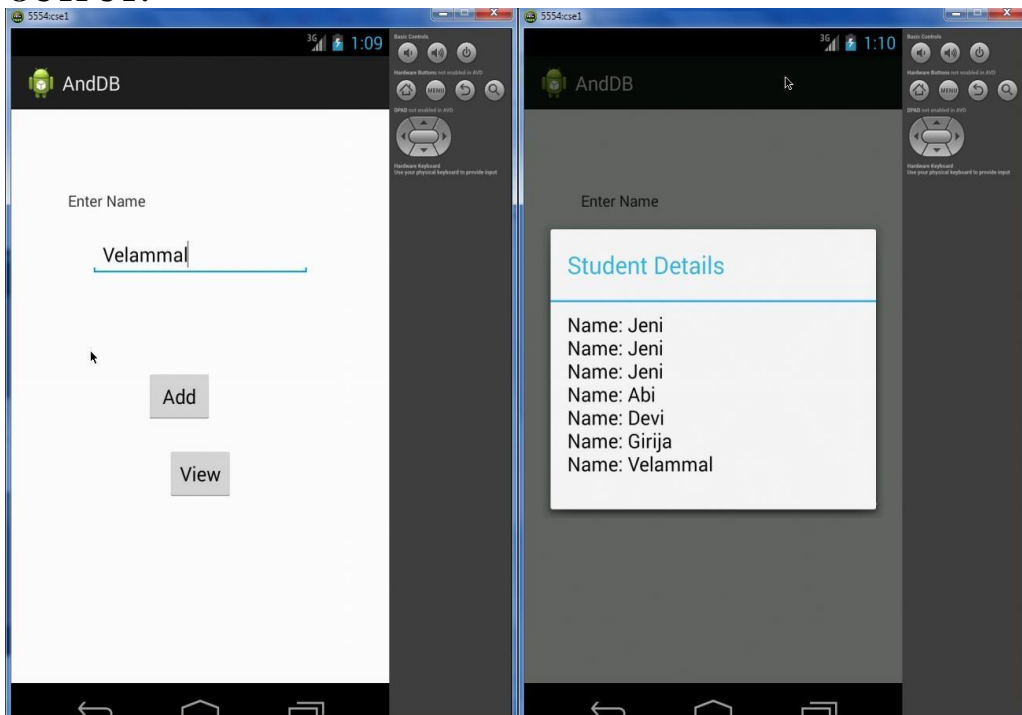
private void clear() {

    // TODO Auto-generated method stub
    et1.clearFocus();
}

private void showMessage(String string, String string2) {
    // TODO Auto-generated method stub
    AlertDialog.Builder builder=new AlertDialog.Builder(this);
    builder.setCancelable(true);
    builder.setTitle(string);
    builder.setMessage(string2);
    builder.show();
}
}
}

```

OUTPUT:



RESULT:

Thus an android application is created successfully to implement the database connection.

EX.NO: 5

DATE :

ALARM USING NOTIFICATION MANGER

AIM:

To create an alarm application using notification manager in android.

PROCEDURE:

Step 1: Create a user interface with button and textfield to get the number of seconds.

Step 2: The when the button is clicked print the number of seconds of alarm in toast and intent to MyBroadcastReceiver.

Step 3: In MyBroadcastReceiver, call the vibrator method to vibrate for 2 seconds.

Step 4: After the number of seconds given for alarm is over, print the alarm message in toast.

PROGRAM:

MainActivity.java

```
package com.example.alarm;
import android.os.Bundle;
import android.app.Activity;
import android.app.AlarmManager;
import android.app.PendingIntent;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends Activity {
    TextView t1;
    EditText t2;
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=(TextView)findViewById(R.id.textView1);
        t2=(EditText)findViewById(R.id.editText1);
        b1=(Button)findViewById(R.id.button1);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                int i=Integer.parseInt(t2.getText().toString());
                Intent intent=new Intent(MainActivity.this,
MyBroadcastReceiver.class);
                PendingIntent
p1=PendingIntent.getBroadcast(getApplicationContext(),100, intent,0);
```

```

        AlarmManager
a=(AlarmManager)getSystemService(ALARM_SERVICE);

        a.set(AlarmManager.RTC_WAKEUP,System.currentTimeMillis()+(i*1000),p1);
        Toast.makeText(getApplicationContext(),"Alarm set in
"+i+"seconds",Toast.LENGTH_LONG).show();
    }
    });
}
}

```

MyBroadcastReceiver.java

```

package com.example.alarm;

import android.os.Vibrator;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.view.Menu;
import android.widget.Toast;

public class MyBroadcastReceiver extends BroadcastReceiver {

    @Override
    public void onReceive(Context arg0, Intent arg1) {
        Vibrator v=(Vibrator)arg0.getSystemService(Context.VIBRATOR_SERVICE);
        v.vibrate(2000);

        Toast.makeText(arg0,"Alarm...",Toast.LENGTH_LONG).show();
    }
}

```

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=".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:layout_marginLeft="16dp"
        android:layout_marginTop="22dp"
        android:text="Enter seconds" />
<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/textView1"
    android:layout_below="@+id/textView1"
    android:layout_marginTop="29dp"
    android:ems="10" >
    <requestFocus />
</EditText>
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerVertical="true"
    android:layout_marginLeft="15dp"
    android:layout_toRightOf="@+id/textView1"
    android:text="Alarm" />
</RelativeLayout>

```

AndroidManifest.xml

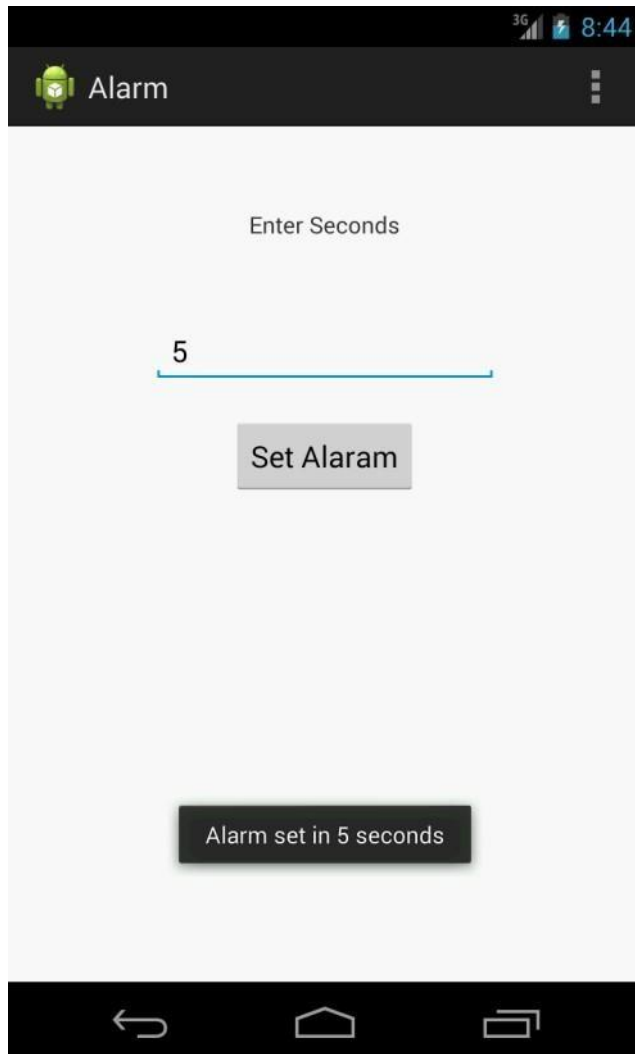
```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.alarm"
    android:versionCode="1"
    android:versionName="1.0" >
    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />
    <uses-permission android:name="android.permission.VIBRATE"/>
    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.alarm.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>
        <activity
            android:name="com.example.alarm.MyBroadcastReceiver"
            android:label="@string/title_activity_my_broadcast_receiver" >
        </activity>
        <receiver android:name="com.example.alarm.MyBroadcastReceiver">

```

```
</receiver>  
</application>  
</manifest>
```

OUTPUT:



RESULT:

Thus the alarm application using notification manager is executed successfully in android in eclipse.

EX.NO : 6

DATE :

MULTI-THREADING

AIM:

To develop an application that implements Multithreading.

PROCEDURE:

- 1) Open eclipse or android studio and select new android project
- 2) Give project name and select next
- 3) Choose the android version. Choose the lowest android version(Android 2.2) and select next
- 4) Enter the package name, Package name must be two words separated by a comma and click finish
- 5) Go to package explorer in the left hand side and select our project.
- 6) Go to res folder and select layout and double click on the activity_main.xml file.
- 7) Now select MainActivity.java file and type the code.
- 8) Now go to main.xml and right click, select run as option and select run configuration
- 9) Android output is present in the android emulator as shown in below.

PROGRAM:

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=".MainActivity" >
    <RelativeLayout
        android:id="@+id/relativeLayout3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/relativeLayout1"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="120dp"
        android:layout_marginLeft="72dp" >
        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentLeft="true"
            android:layout_alignParentTop="true"
            android:onClick="clicker"
            android:text="Click Me"
            android:visibility="invisible" />
    </RelativeLayout>
    <RelativeLayout
        android:id="@+id/relativeLayout1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```

        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="14dp"
        android:layout_marginTop="38dp" >
        <TextView
            android:id="@+id/textView1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentLeft="true"
            android:layout_alignParentTop="true"
            android:layout_marginLeft="38dp"
            android:layout_marginTop="72dp"
            android:text="Button will appear after 10 Seconds" />
    </RelativeLayout>
    <RelativeLayout
        android:id="@+id/relativeLayout2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/relativeLayout1"
        android:layout_centerHorizontal="true" >
        <TextView
            android:id="@+id/textView2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="59dp"
            android:text="10" />
    </RelativeLayout>
</RelativeLayout>

```

MainActivity.java

```

package com.example.mt;
import android.app.Activity;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends Activity {
    Handler hand = new Handler();
    Button clickme;
    TextView timer;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        timer = (TextView) findViewById(R.id.textView2);
        clickme = (Button) findViewById(R.id.button1);
        hand.postDelayed(run, 1000);
    }
}

```

```

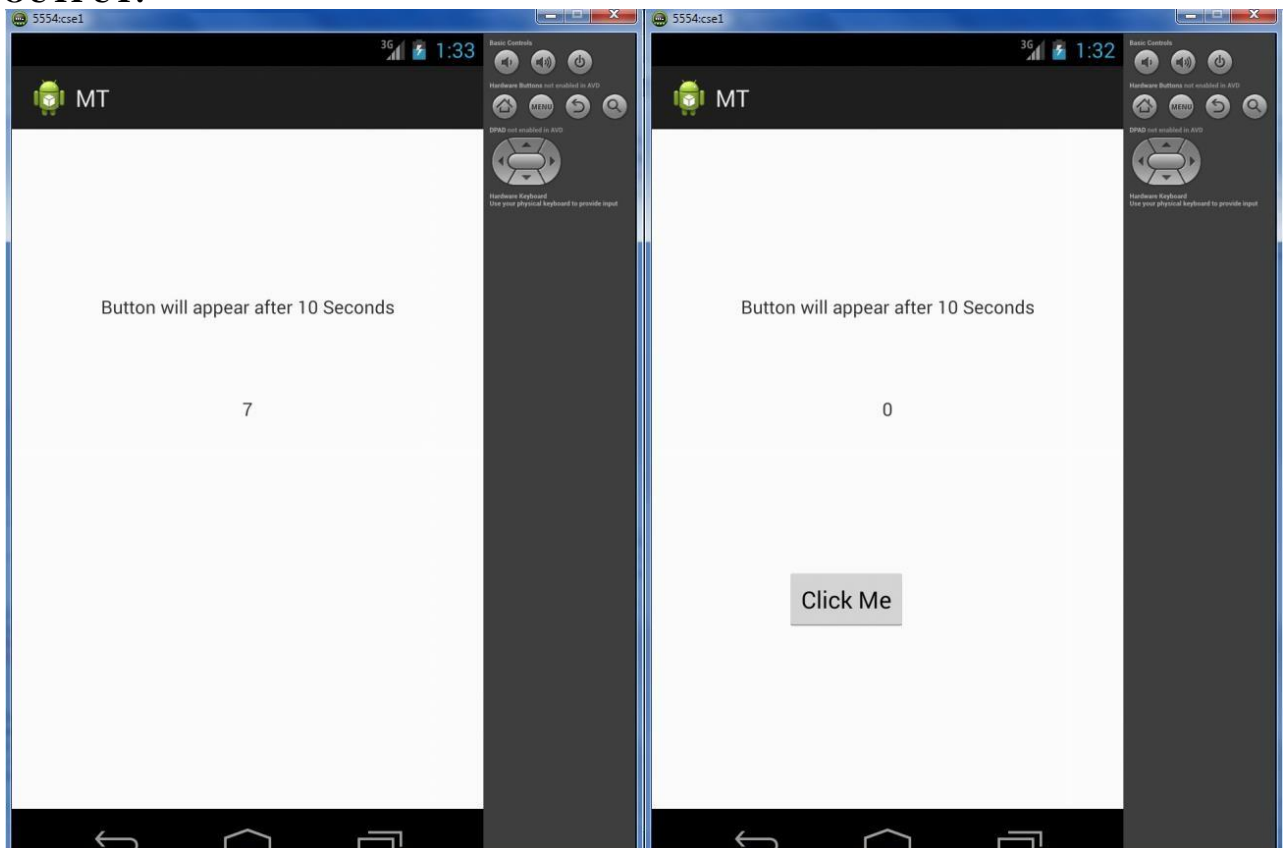
Runnable run = new Runnable() {
    @Override
    public void run() {
        updateTime();
    }
};

public void updateTime() {
    timer.setText("" + (Integer.parseInt(timer.getText().toString()) - 1));
    if (Integer.parseInt(timer.getText().toString()) == 0) {
        clickme.setVisibility(View.VISIBLE);
    } else {
        hand.postDelayed(run, 1000);
    }
}

public void clicker(View view){
    hand.postDelayed(run, 1000);
    timer.setText("10");
    clickme.setVisibility(View.INVISIBLE);
}
}

```

OUTPUT:



RESULT:

Thus the multithreading concept is executed successfully in android in eclipse.

EX.NO : 7

DATE :

GPS APPLICATION

AIM:

To develop a native application that uses GPS location information.

PROCEDURE:

- 1) Open eclipse or android studio and select new android project
- 2) Give project name and select next
- 3) Choose the android version. Choose the lowest android version(Android 2.2) and select next
- 4) Enter the package name. Package name must be two word separated by comma and click finish
- 5) Go to package explorer in the left hand side and select our project
- 6) Go to res folder and select layout and double click on activity_main.xml.
- 7) Now select mainactivity.java file and type the following code. In my coding mainactivity name is GPSlocationActivity.

PROGRAM

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=".MainActivity" >

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="100dp"
        android:layout_marginTop="139dp"
        android:text="Show Location" />

</RelativeLayout>
```

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.gpslocation"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="18" />
        <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>
        <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
        <uses-permission android:name="android.permission.INTERNET"/>
    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.gpslocation.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>
    </application>

</manifest>
```

Mainactivity.java

```
package com.example.gpslocation;

import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
public class MainActivity extends Activity {
    Button btnShowLocation;
    GPSTrace gps;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnShowLocation=(Button)findViewById(R.id.button1);
    }
}
```

```

btnShowLocation.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View V) {
        // TODO Auto-generated method stub
        gps=new GPSTrace(MainActivity.this);
        if(gps.canGetLocation()) {
            double latitude=gps.getLatitude();
            double longitude=gps.getLongitude();
            Toast.makeText(getApplicationContext(), "your Location is \nLat:"+latitude+"\nLong"+longitude,
            Toast.LENGTH_LONG).show();
        }
        else {
            gps.showSettingAlert();
        }
    }
});
}
}

```

GPSTrace.java

```

package com.example.gpslocation;

import android.app.AlertDialog;
import android.app.Service;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import android.os.IBinder;
import android.util.Log;

public class GPSTrace extends Service implements LocationListener{
    private final Context context;
    boolean isGPSEnabled=false;
    boolean canGetLocation=false;
    boolean isNetworkEnabled=false;
    Location location;
    double latitude;
    double longitude;
    private static final long MIN_DISTANCE_CHANGE_FOR_UPDATES=1;
    private static final long MIN_TIME_BW_UPDATES=3000;
    protected LocationManager locationManager;
    public GPSTrace(Context context)
    {
        this.context=context;
        getLocation();
    }
    public Location getLocation()

```

```

{
try {
locationManager=(LocationManager)context.getSystemService(LOCATION_SERVICE);
isGPSEnabled=locationManager.isProviderEnabled(LocationManager.GPS_PROVIDER);
isNetworkEnabled=locationManager.isProviderEnabled(LocationManager.NETWORK_PROVIDER);
if(!isGPSEnabled && !isNetworkEnabled) {
}else {
this.canGetLocation=true;
if(isNetworkEnabled) {
locationManager.requestLocationUpdates(LocationManager.NETWORK_PROVIDER,
MIN_TIME_BW_UPDATES, MIN_DISTANCE_CHANGE_FOR_UPDATES, this);
}
if(locationManager!=null) {
location=locationManager.getLastKnownLocation(LocationManager.NETWORK_PROVIDER);
if (location !=null) {
latitude=location.getLatitude();
longitude=location.getLongitude();
}
}
}
if (isGPSEnabled) {
if (location==null) {
locationManager.requestLocationUpdates(LocationManager.GPS_PROVIDER,
MIN_TIME_BW_UPDATES, MIN_DISTANCE_CHANGE_FOR_UPDATES, this);
if (locationManager!=null) {
location=locationManager.getLastKnownLocation(LocationManager.GPS_PROVIDER);
if (location!=null) {
latitude=location.getLatitude();
longitude=location.getLongitude();
}
}
}
}
}
catch(Exception e)
{
e.printStackTrace();
}
return location;
}

public void stopUsingGPS() {
if (locationManager!=null) {
locationManager.removeUpdates(GPSTrace.this);
}
}

public double getLatitude() {
if (location!=null) {
latitude=location.getLatitude();
}
return latitude;
}

```

```

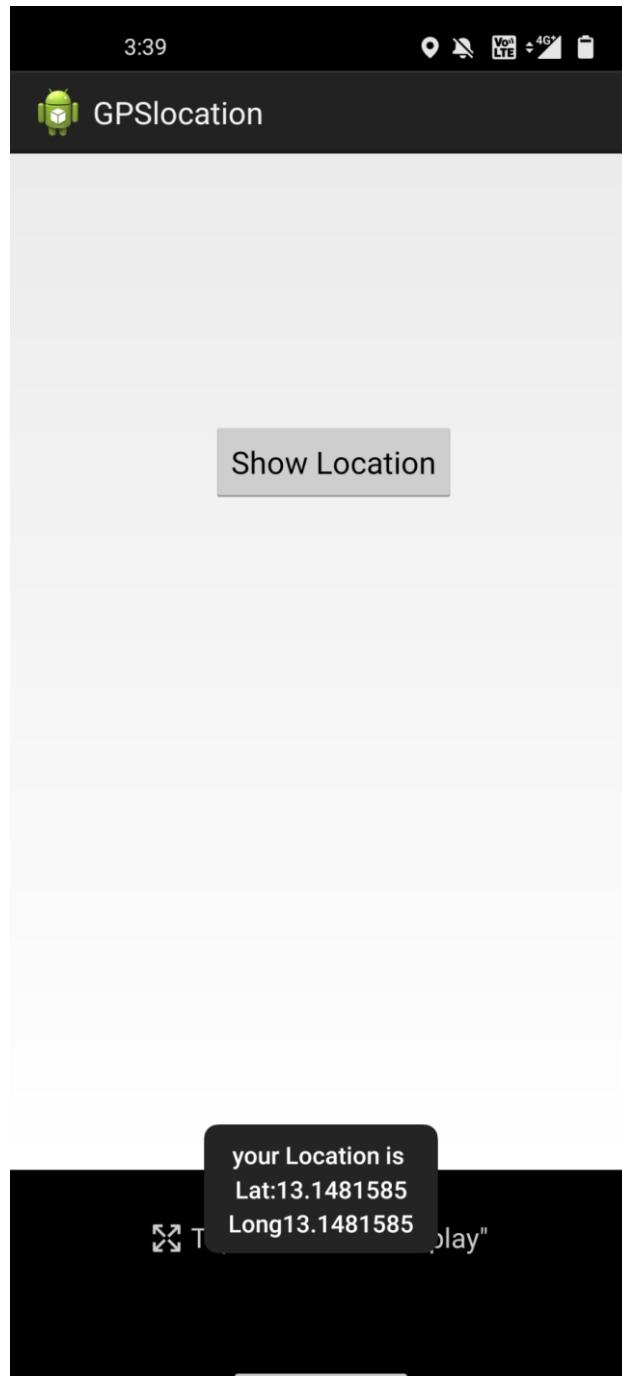
    }
    public double getLongitude(){
    if (location!=null) {
    longitude=location.getLatitude();
    }
    return longitude;
    }
    public boolean canGetLocation(){
    return this.canGetLocation;
    }
    public void showSettingAlert(){
    AlertDialog.Builder alertDialog=new AlertDialog.Builder(context);
    alertDialog.setTitle("GPS is settings");
    alertDialog.setMessage("GPS is not enabled.Do you want to go to setting menu?");
    alertDialog.setPositiveButton("settings", new DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog, int which) {
    // TODO Auto-generated method stub
    Intent viewIntent=new
    Intent(android.provider.Settings.ACTION_LOCATION_SOURCE_SETTINGS);
    startActivity(viewIntent);
    }
    });
    alertDialog.setNegativeButton("cancel", new DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog, int which) {
    // TODO Auto-generated method stub
    dialog.cancel();
    }
    });
    alertDialog.show();
    }
    @Override
    public void onLocationChanged(Location location) {
    // TODO Auto-generated method stub
    }
    @Override
    public void onProviderDisabled(String provider) {
    // TODO Auto-generated method stub
    }
    @Override
    public void onProviderEnabled(String provider) {
    // TODO Auto-generated method stub
    }
    @Override
    public void onStatusChanged(String provider, int status , Bundle extras) {
    //TODO Auto-generated method stub
    }

```



```
@Override
public IBinder onBind(Intent intent) {
//TODO Auto-generated method stub
return null;
}
}
```

OUTPUT :



RESULT :

Thus an android application to display GPS location information has been developed and executed successfully.

EX.NO : 8

DATE :

WRITE DATA TO THE SD CARD

AIM:

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

PROCEDURE:

- 1) Open eclipse or android studio and select new android project
- 2) Give project name and select next
- 3) Choose the android version. Choose the lowest android version(Android 2.2) and select next
- 4) Enter the package name. package name must be two word separated by comma and click finish
- 5) Go to package explorer in the left hand side , select our project.
- 6) Go to res folder and select layout, double click the main.xml file.
- 7) Now select mainactivity.java file and type the code.
- 8) Next step is to set permission to write data in sdcard , So go to AndroidManifest.xml file , Copy and paste the following coding. The code should come before <application> tab.
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE">
</uses-permission>
- 9) Now go to main.xml and right click .select run as option and select run configuration
- 10) Android output is present in the android emulator as shown in below.

PROGRAM:

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=".MainActivity" >
    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText2"
        android:layout_alignParentTop="true"
        android:layout_marginTop="83dp"
        android:ems="10"
        android:hint="Filename" >
        <requestFocus />
    </EditText>
```

```

<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/editText1"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="36dp"
    android:ems="10"
    android:hint="Message"
    android:inputType="textMultiLine" />
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/editText2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="26dp"
    android:text="Submit" />
</RelativeLayout>

```

MainActivity.java

```

package com.example.filecreation;

import java.io.File;
import java.io.FileOutputStream;
import android.os.Bundle;
import android.os.Environment;
import android.app.Activity;
import android.view.Menu;
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 Activity {

    EditText t1,t2;
    Button b;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=(EditText)findViewById(R.id.editText1);
        t2=(EditText)findViewById(R.id.editText2);
        b=(Button)findViewById(R.id.button1);
    }
}

```

```

        b.setOnClickListener(new OnClickListener() {

            @Override
            public void onClick(View arg0) {
                File sdcard=new
File(Environment.getExternalStorageDirectory().getAbsolutePath()+"/Kughan");
                sdcard.mkdirs();
                File file=new File(sdcard,t1.getText().toString()+".txt");
                try {
                    FileOutputStream fos= new FileOutputStream(file);
                    fos.write(t2.getText().toString().getBytes());
                    fos.close();
                    Toast.makeText(getApplicationContext(), "File Created
Successfully :-)", Toast.LENGTH_SHORT).show();
                } catch (Exception e) {
                    // TODO Auto-generated catch block
                    Toast.makeText(getApplicationContext(), "Unable to
create File :-(", Toast.LENGTH_SHORT).show();
                }
            }

        });
    }
}

```

AndroidManifestFile.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.filecreation"
    android:versionCode="1"
    android:versionName="1.0" >

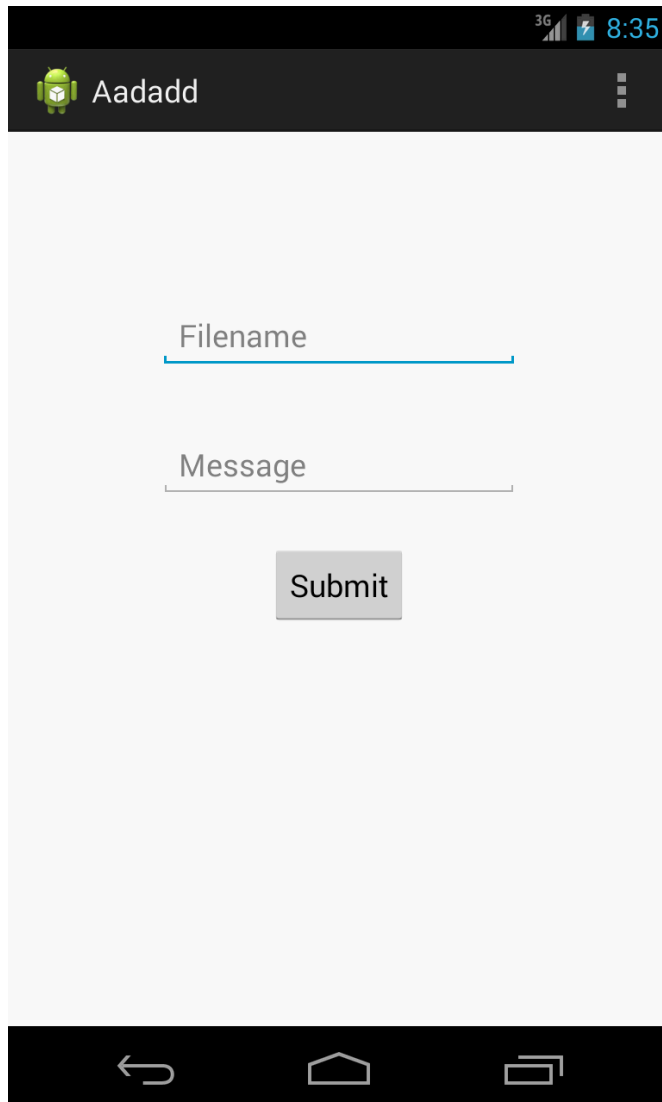
    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="19" />
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.example.filecreation.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>
</application>
</manifest>
```

OUTPUT



RESULT:

Thus implementation of a program such that data is written into a SD-card is executed successfully.

EX.NO : 9

DATE :

SHORT MESSAGE SERVICE

AIM :

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

PROCEDURE:

Step 1: Create a user interface and add textfields for the emulator id to send the message and the message content.

Step 2: Then open two emulators and launch the program in one of them.

Step 3: Then give the other emulator id or Mobile number in the textfield and message.

Step 4 : The message would be seen in the other emulator in top left corner.

PROGRAM :

Activitymain.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.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=".MainActivity">

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Number"
        app:layout_constraintBottom_toTopOf="@+id/editTextTextPersonName2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="100dp"
        android:layout_marginBottom="208dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Text"
        app:layout_constraintBottom_toTopOf="@+id/button"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/button"
```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="156dp"
        android:layout_marginBottom="156dp"
        android:text="Send"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

AndroidManifestfile.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.mysms">
    <uses-permission android:name="android.permission.SEND_SMS" />
    <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/Theme.MySms">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <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.mysms;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.Manifest;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.os.Bundle;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    private static final int MY_PERMISSIONS_REQUEST_SEND_SMS =0 ;
    private String phoneNo,message;
    private Button b;
    private EditText e1,e2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1 = findViewById(R.id.editTextTextPersonName);
    }
}

```

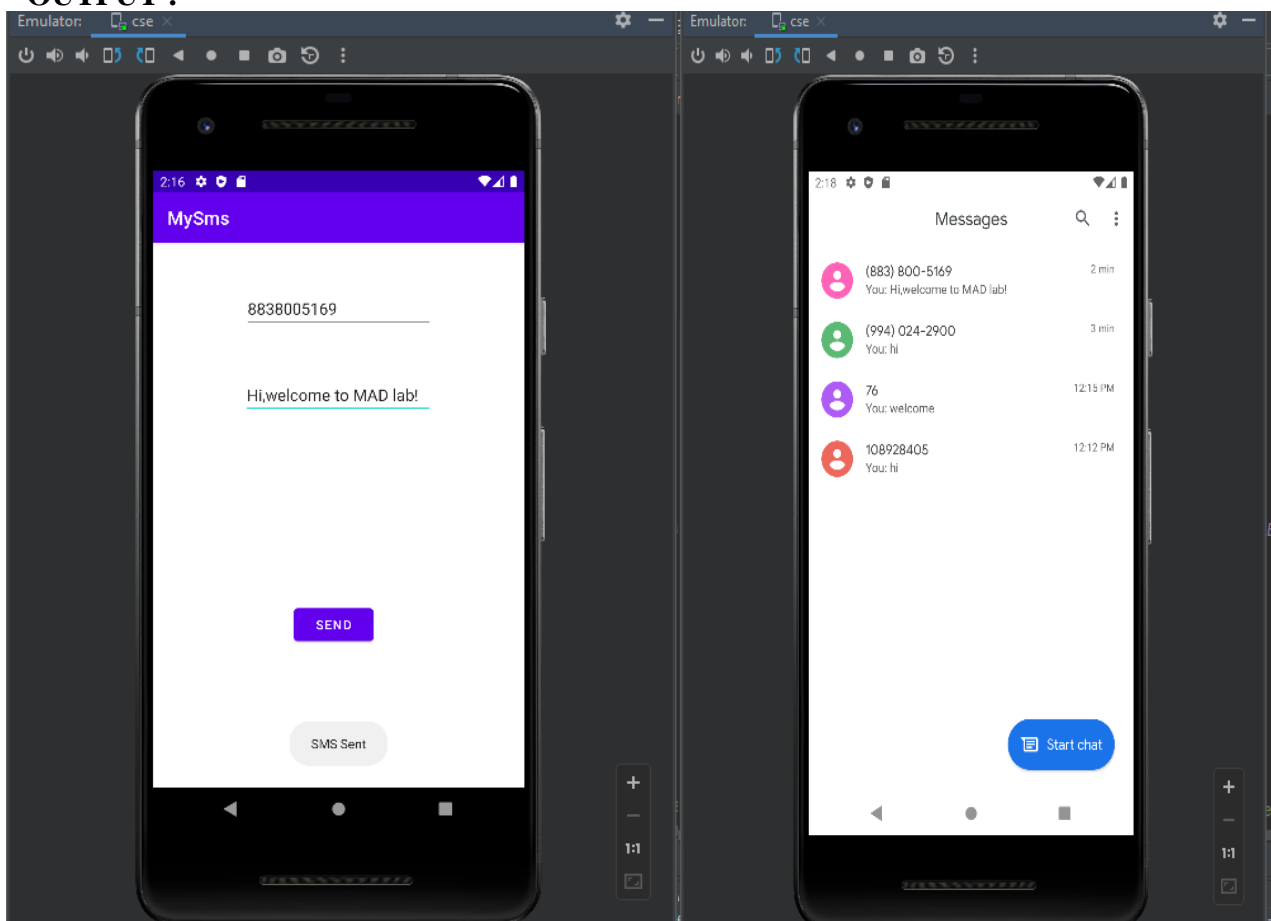
```

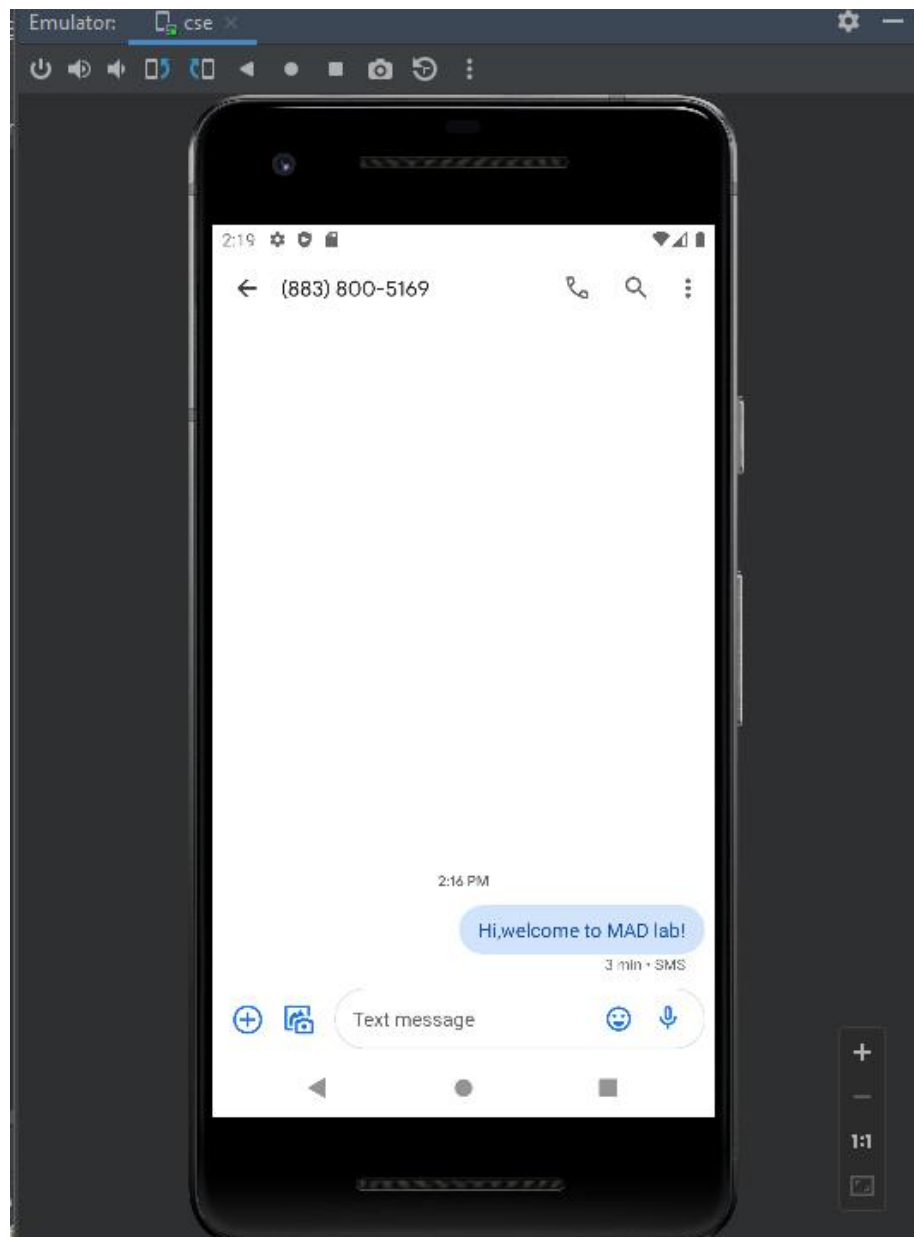
e2 = findViewById(R.id.editTextTextPersonName2);
b = findViewById(R.id.button);
SmsManager smsManager = SmsManager.getDefault();
ActivityCompat.requestPermissions(this,new String[]{
    Manifest.permission.SEND_SMS},MY_PERMISSIONS_REQUEST_SEND_SMS);
b.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        phoneNo = e1.getText().toString();
        message = e2.getText().toString();
        try {
            SmsManager smsManager1 = SmsManager.getDefault();

            smsManager1.sendTextMessage(phoneNo, null, message, null, null);
            Toast.makeText(getApplicationContext(),"SMS
Sent",Toast.LENGTH_LONG).show();
        }
        catch (Exception e)
        {
            Toast.makeText(getApplicationContext(),"SMS failed , Please try again
later!",Toast.LENGTH_LONG).show();
        }
    }
});
}
}

```

OUTPUT :



**RESULT :**

Thus the Short Message Service (SMS) application to create an alert on receiving a message has been executed and verified successfully.

EX.NO : 10

DATE :

ADVERISEMNET USING RSS FEED

AIM :

To develop an advertisement application that makes use of RSS Feed.

PROCEDURE:

Step 1: Create the FrameLayout.

Step 2 : Create a new layout named as fragment_layout.xml which has following components:

- a. ListView
- b. ProgressBar

Step 3 : Create another one layout named as rss_item.xml which has only one TextView.

Step 4 : 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

Step 5: Write appropriate actions for the created additional classes.

Step 6 : Get the following permission in AndroidManifest.xml file:

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

Step 7 : Finally run the android application.

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"

    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 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:

```
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

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

PcWorldRssParser.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;
            }
        }
        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

```

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;
    }
    @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

```

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()

            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

```

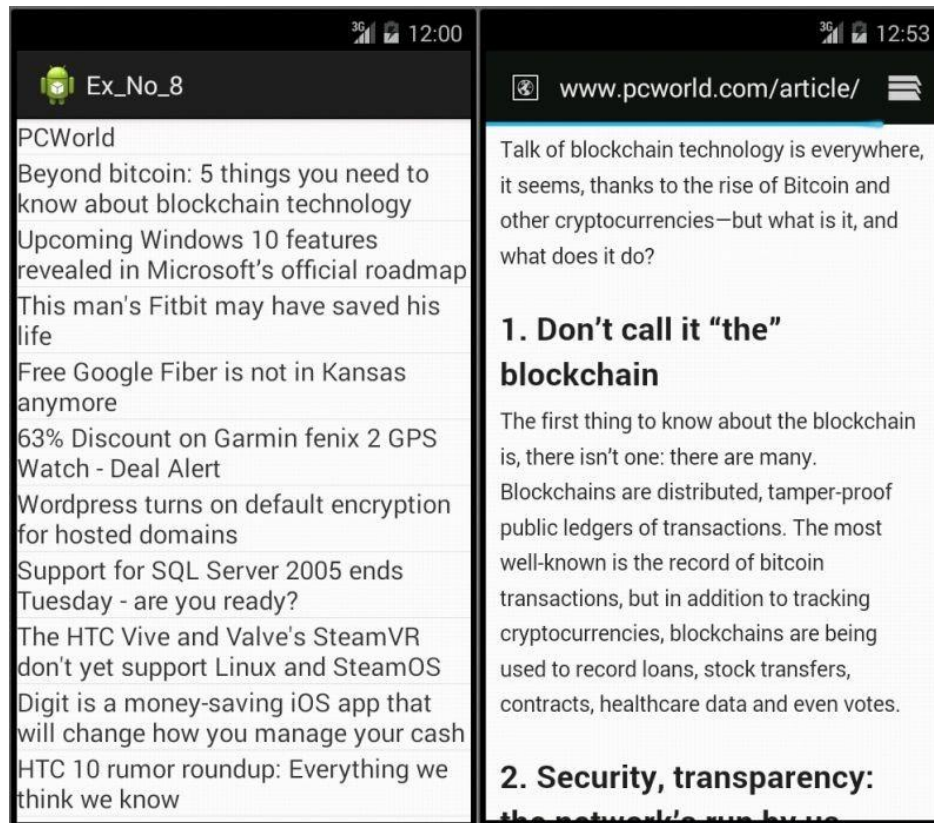
package com.example.ex_no_8;
public class RssItem {
    private final String title;
    private final String link;
    public RssItem(String title, String link) {
        this.title = title;
        this.link = link;
    }
    public String getTitle() {
        return title;
    }
    public String getLink()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

```

RssService.java

```
package com.example.ex_no_8;
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 advertisement application that makes use of RSS Feed has been developed and the output was verified successfully.

EX.NO : 11

DATE :

SEND AN E-MAIL

AIM :

To create a mobile application to send an e-mail.

PROCEDURE:

Step 1 : Create a graphical user interface with button email.

Step 2 : Add My EmailClientOpeningApp string to the string.xml file.

Step 3 : Go to mainactivity.java type the following code.

Step 4 : Then run the program and configure your email details to send mail.

PROGRAM :

activitymain.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.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=".MainActivity">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="158dp"
        android:layout_marginTop="284dp"
        android:onClick="EmailButton"
        android:text="Email"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Strings.xml

```
<resources>
    <string name="app_name">My EmailClientOpeningApp</string>
    <string name="button">Button</string>
</resources>
```

MainActivity.java

```
package com.example.myemailclientopeningapp;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
```

```

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void EmailButton(View view) {

```

```

        Uri uriEmail = Uri.parse("mailto:jeni10rose@gmail.com" + "?subject=" +
        Uri.encode("request to send MAD Lab Manual")+"&body=" + Uri.encode("Hi Jeni,\n I need your
        help as you know that I was absent yesterday and has not executed the lab Experiment.I just need
        the MAD Lab manual , if have it please do forward me. I would be highly thankful to you if you
        help.\n Thank You. \n\n"));

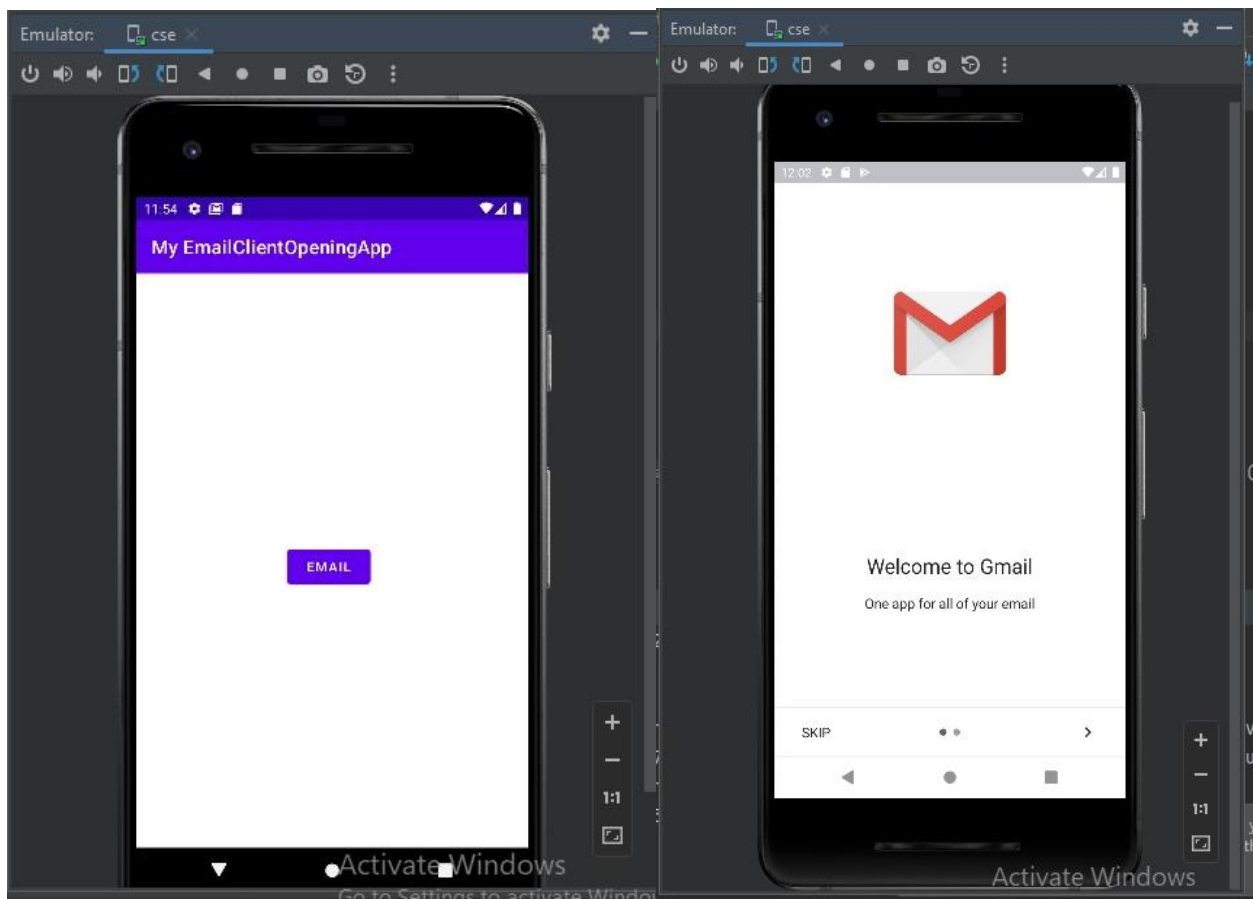
```

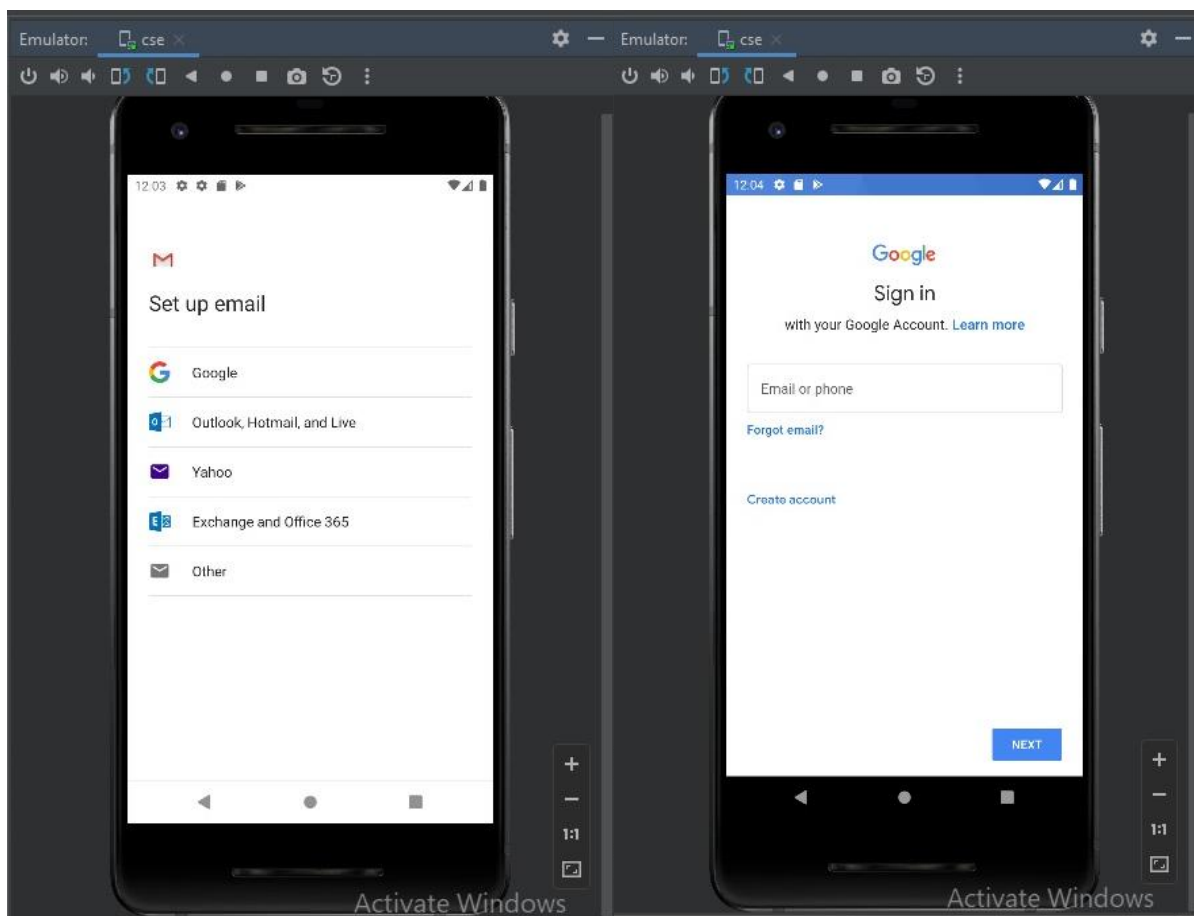
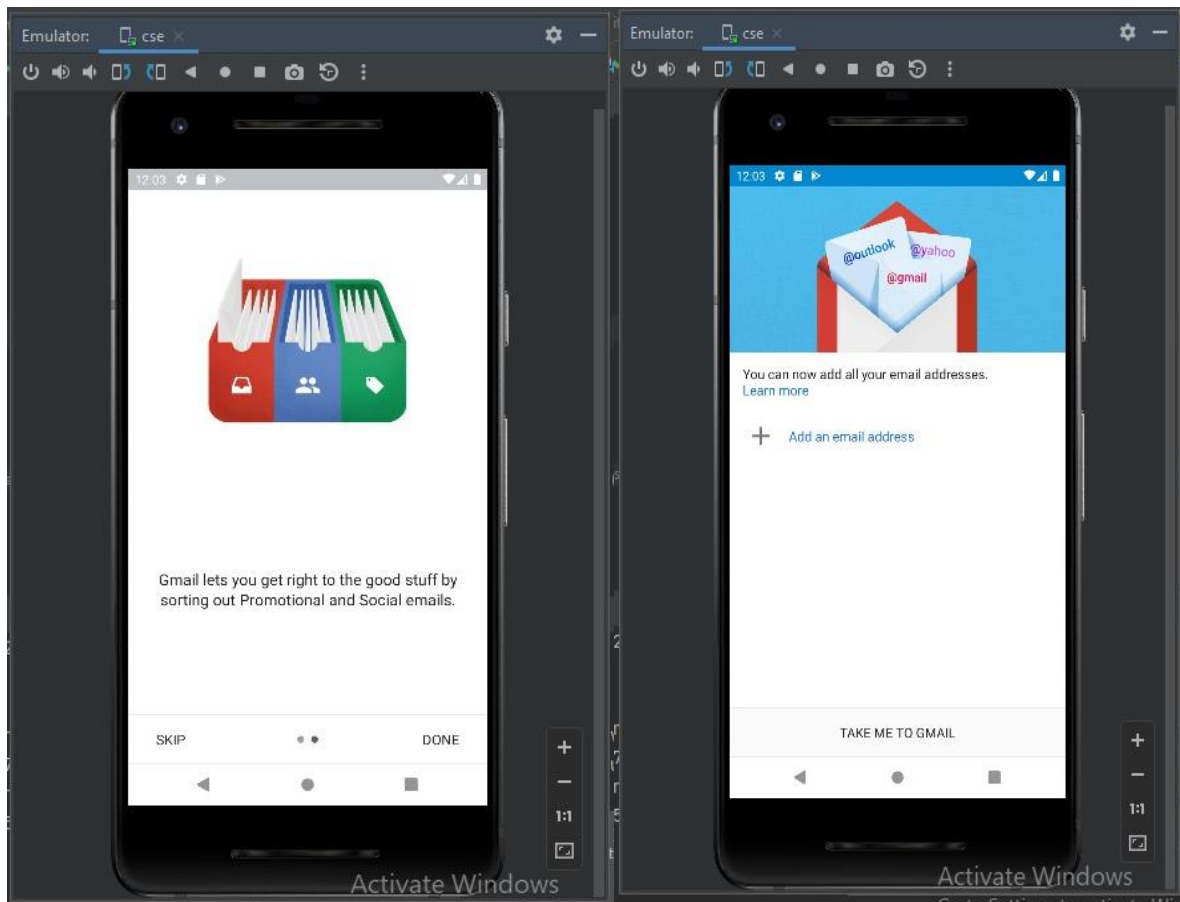
```

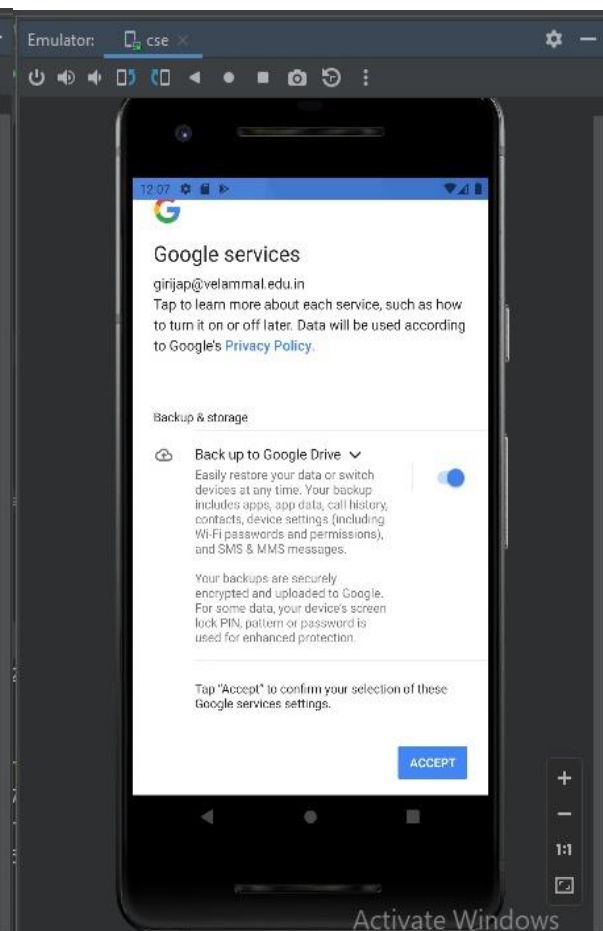
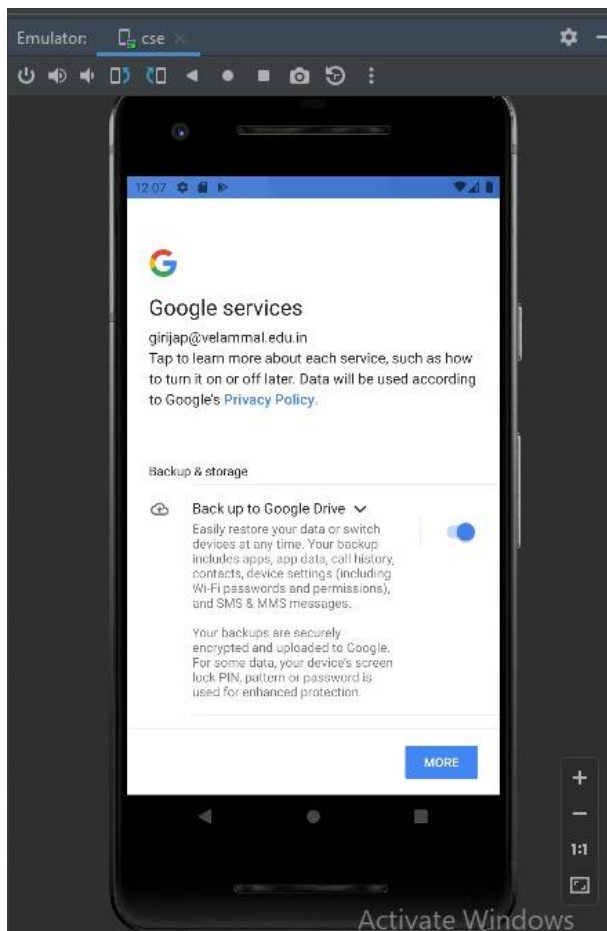
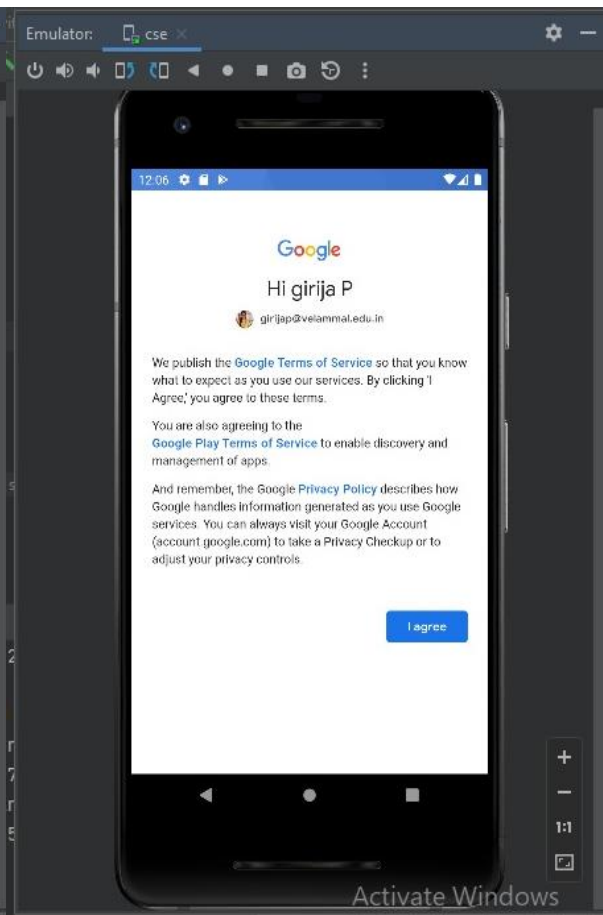
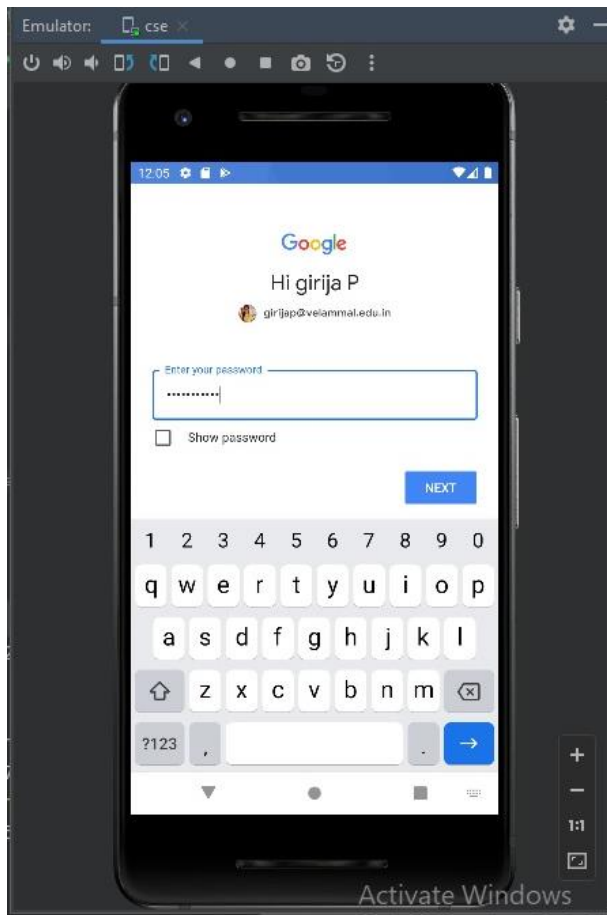
        Intent intentEmail = new Intent(Intent.ACTION_SENDTO);
        intentEmail.setData(uriEmail);
        startActivity(intentEmail);
    }
}

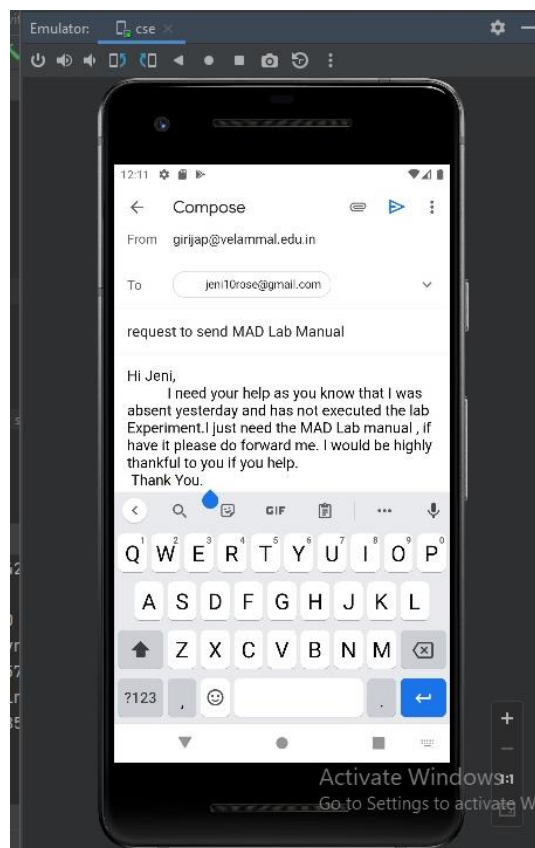
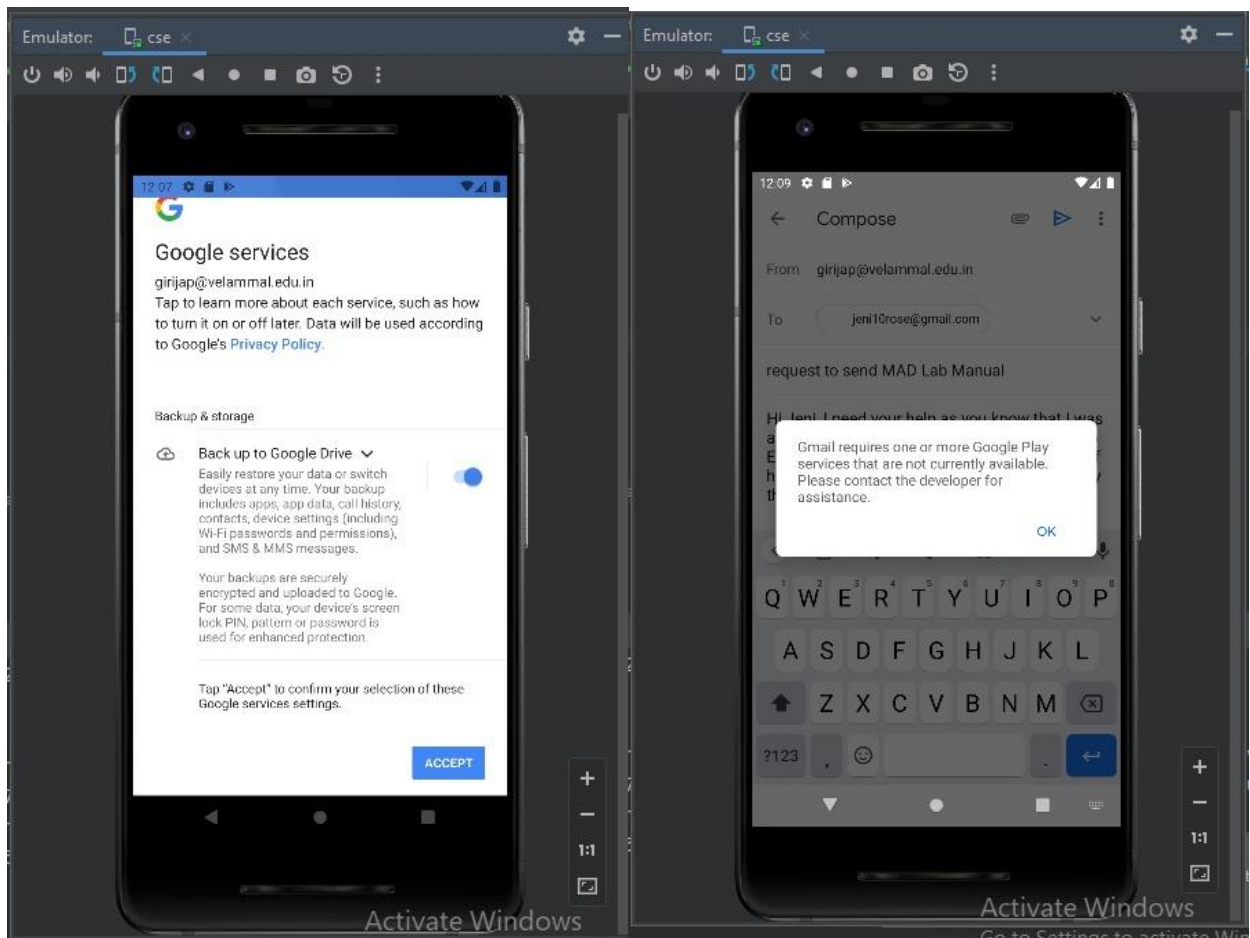
```

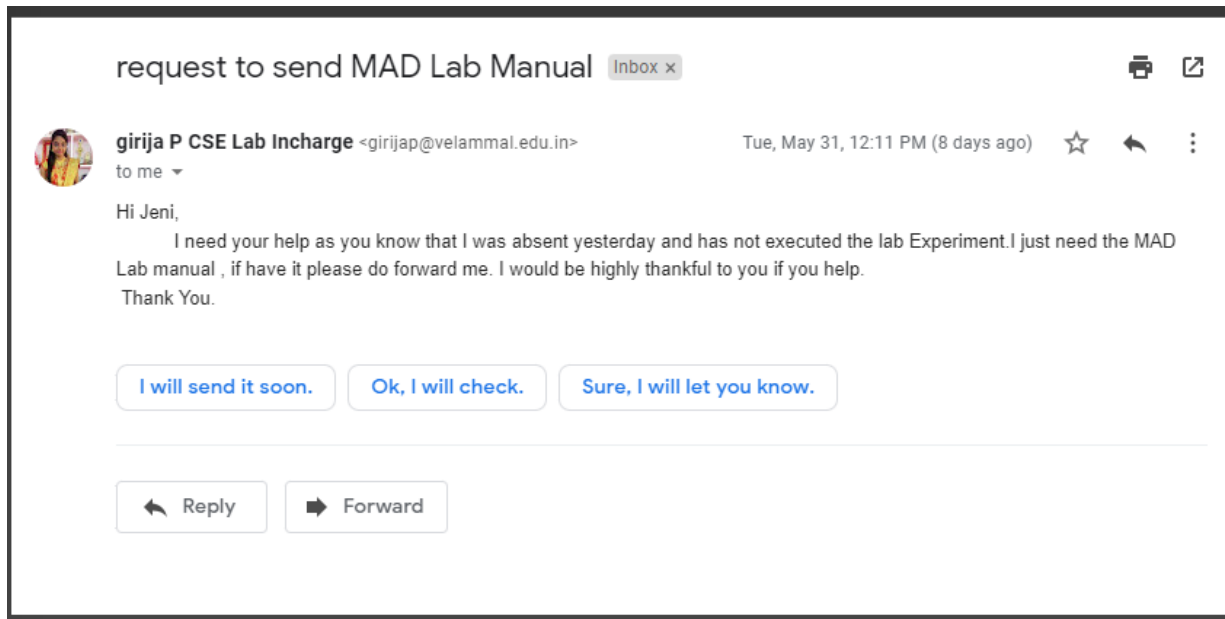
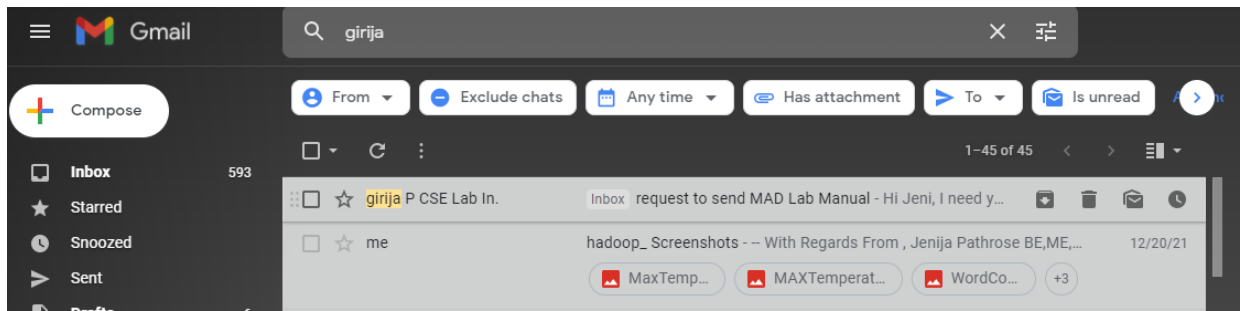
OUTPUT :











RESULT :

Thus an android application to send an email has been created and implemented successfully.

