MOBILE APPLICATION DEVELOPMENT

1. CALCULATOR

AIM:

To develop a mobile application for native calculator in arithmetic operations.

ALGORITHM:

CREATING A NEW PROJECT

- **Open Android studio and then click on file -> new -> new project**
- **Then type the application name as and click**
- **Then select the minimum SDK as shown below and click next.**
- **Then select the empty activity and click next.**
- **Finally click finish**
- **It will take some time to build and load the project.**

DESIGNING LAYOUT FOR ANDROID APPLICATION

- **Click on app -> res -> layout -> activity_main.XML**
- **Now click on text as shown below.**
- **Click on app -> java -> MAINACTIVITY.**

Program code:

Activity_main.XML

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
    <TextView
        android:id="@+id/textView1"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text=""
        android:textAppearance="?android:attr/textAppearanceMedium" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text=""
        android:textAppearance="?android:attr/textAppearanceMedium" />
    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
        <TableRow
            android:id="@+id/tableRow1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content" >
           <EditText
                android:id="@+id/editText1"
                android:layout_width="320dp"
                android:layout_height="100dp"
                android:ems="10" >
                <requestFocus />
            </EditText>
        </TableRow>
        <TableRow
            android:id="@+id/tableRow2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content" >
            <GridLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content">
                <Button
                    android:id="@+id/button1"
                    android:width="80dp"
                    android:height="80dp"
                    android:layout_gravity="left"
                    android:onClick="btnSeven"
                    android:text="7" />
                <Button
                    android:id="@+id/button2"
                    android:width="80dp"
                    android:height="80dp"
                    android:layout_gravity="left"
                    android:onClick="btnEight"
                    android:text="8" />
                <Button
                    android:id="@+id/button3"
                    android:width="80dp"
                    android:height="80dp"
                    android:layout_gravity="left"
                    android:onClick="btnNine"
```

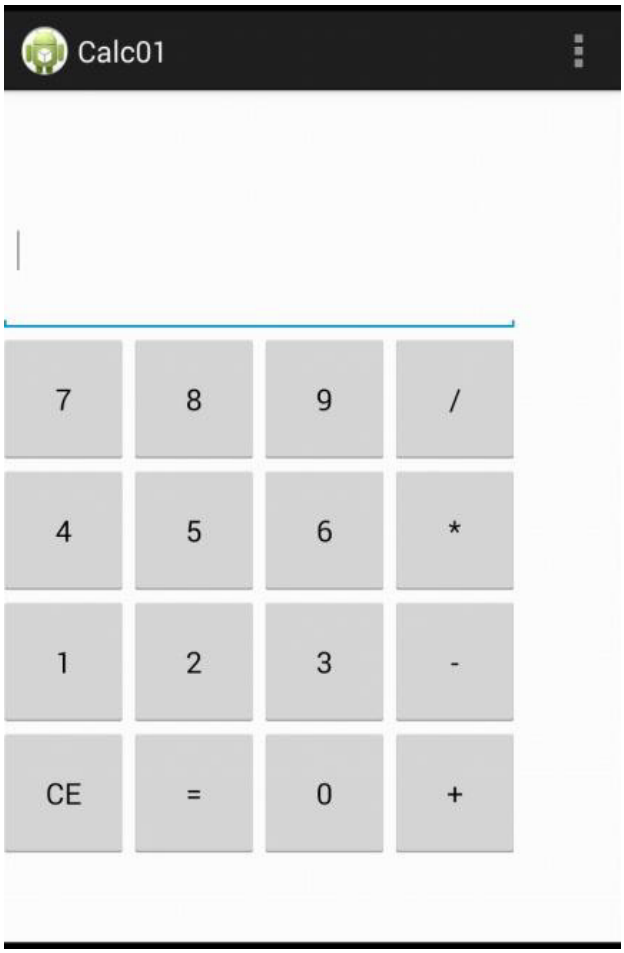
```
                android:text="9" />
            <Button
                android:id="@+id/button4"
                android:width="80dp"
                android:height="80dp"
                android:layout_gravity="left|top"
                android:onClick="btnDiv"
                android:text="/" />
        </GridLayout>
</TableRow>
</TableLayout>
</LinearLayout>
```

MainActivity.java

```
public class MainActivity extends Activity {
      EditText A;
      TextView B,C;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        A=(EditText)findViewById(R.id.editText1);
        B=(TextView)findViewById(R.id.textView1);
        C=(TextView)findViewById(R.id.textView2);

       Button butZero=(Button)findViewById(R.id.button51);
        butZero.setOnClickListener(new View.OnClickListener() {

                    @Override
                    public void onClick(View v) {

                          if(A.getText().toString()== null)
                          {
                                A.setText('0');
                          }
                          else
                          {
                                A.setText(A.getText().toString()+'0');
                          }

                    }
             });


        Button butNine=(Button)findViewById(R.id.button3);
        butNine.setOnClickListener(new View.OnClickListener() {

                    @Override
                    public void onClick(View v) {

                          if(A.getText().toString()== null)
                          {
                                A.setText('9');
                          }
                          else
                          {
                                A.setText(A.getText().toString()+'9');
            }

                         }
                          });
```

```
  Button butAdd=(Button)findViewById(R.id.button4);
  butAdd.setOnClickListener(new View.OnClickListener() {

              @Override
              public void onClick(View v) {

              try{
                     double AA=Double.parseDouble(A.getText().toString());
                     double BB=Double.parseDouble(B.getText().toString());
                     AA=AA+BB;
                     B.setText(Double.toString(AA));
                     C.setText("+");
                     A.setText("0");
              }catch(NumberFormatException ex){
              B.setText(A.getText().toString());
              C.setText("+");
              A.setText("0");
              }
       }
 });
  Button butEqu=(Button)findViewById(R.id.button14);
  butEqu.setOnClickListener(new View.OnClickListener() {

              @Override
              public void onClick(View v) {

              double AA=Double.parseDouble(A.getText().toString());
              double BB=Double.parseDouble(B.getText().toString());
              char CC=C.getText().charAt(0);
              double val=0;
              if(CC=='+'){
                     val=AA+BB;
              }
              else if(CC=='-'){
                     val=BB-AA;
              }
              else if(CC=='*'){
                     val=BB*AA;
              }
              else if(CC=='/'){
                     val=BB/AA;
              }
              else if(CC=='0'){
                     val=AA;
              }
              A.setText(Double.toString(val));
              B.setText("0");
              C.setText("0");
}
});
}
```

OUTPUT:



RESULT:

The simple android application for native calculator is developed and executed successfully.

2. STUDENT MARK LIST

AIM:

To develop an application that makes use of student database for end semester mark list.

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **“Create student” button on your res -> layout -> activity_main.XML**
- **Then select the minimum SDK as shown below and click next.**
- **Then select the empty activity and click next.**
- **Finally click finish**
- **Click on app -> res -> layout -> activity_main.XML**
- **Now click on text as shown below.**
- **Click on app -> java -> MAINACTIVITY.**

Program code:

```
 <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="27dp"
    android:text="Large Text"
    android:textAppearance="?android:attr/textAppearanceLarge" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignRight="@+id/textView1"
    android:layout_below="@+id/textView1"
    android:layout_marginTop="18dp"
    android:text="Roll No :"
    android:textAppearance="?android:attr/textAppearanceLarge" />

<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/textView2"
    android:layout_alignBottom="@+id/textView2"
```

```
        android:layout_marginLeft="20dp"
        android:layout_toRightOf="@+id/textView2"
        android:ems="10" >

        <requestFocus />
    </EditText>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/textView2"
        android:layout_below="@+id/editText1"
        android:layout_marginTop="19dp"
        android:text="Mark 1 :"
        android:textAppearance="?android:attr/textAppearanceLarge" />

<EditText
           android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView3"
        android:layout_alignLeft="@+id/editText1"
        android:ems="10" />

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView3"
        android:layout_marginTop="16dp"
        android:layout_toLeftOf="@+id/editText1"
        android:text="Mark 2 :"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <EditText
        android:id="@+id/editText3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText2"
        android:layout_alignTop="@+id/textView4"
        android:ems="10" />

    <EditText
        android:id="@+id/editText4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView5"
        android:layout_alignLeft="@+id/editText3"
        android:ems="10" />

    <EditText
        android:id="@+id/editText5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView6"
        android:layout_alignLeft="@+id/editText4"
        android:ems="10" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/textView4"
        android:layout_below="@+id/button1"
        android:text="Total :"
        android:textAppearance="?android:attr/textAppearanceLarge" />
```

```
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView1"

        android:layout_below="@+id/editText3"
        android:onClick="btnResult"
        android:text="Result" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/textView5"
        android:layout_below="@+id/textView5"
        android:layout_marginTop="15dp"
        android:text="Percentage :"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <TextView
        android:id="@+id/textView7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/textView6"
        android:layout_below="@+id/textView6"
        android:layout_marginTop="24dp"
        android:text="Result :"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <EditText
        android:id="@+id/editText6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText5"
        android:layout_alignTop="@+id/textView7"
        android:ems="10" />

    <TextView
        android:id="@+id/textView8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/textView7"
        android:layout_below="@+id/editText6"
        android:layout_marginTop="14dp"
        android:text="Grade :"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <EditText
        android:id="@+id/editText7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editText6"
        android:layout_alignTop="@+id/textView8"
        android:ems="10" />

</RelativeLayout>
```

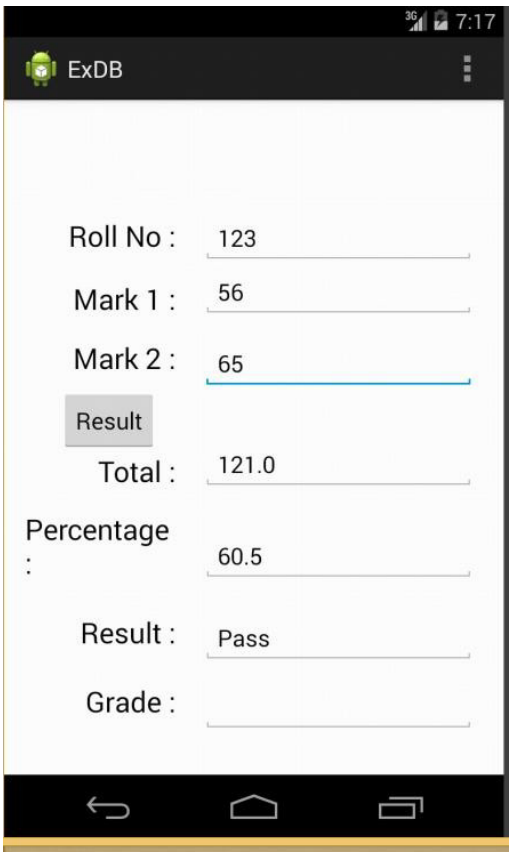
MainActivity.java

```
package com.example.exdb;
```

```
import android.os.Bundle;
import android.R.string;
import android.app.Activity;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.view.Menu;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends Activity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        SQLiteDatabase db = openOrCreateDatabase("Ex.db",MODE_PRIVATE,
null);
        TextView tv=(TextView)findViewById(R.id.textView1);
        db.execSQL("create table if not exists exTable(name text,age
text)");
        db.execSQL("insert into exTable values('example','34')");

        Cursor cu=db.rawQuery("select * from exTable", null);
        cu.moveToFirst();

        String na=cu.getString(0);
        String ag=cu.getString(1);

        tv.setText(na+"\n"+ag);

    }

    public void btnResult(View v){
    SQLiteDatabase db = openOrCreateDatabase("StuMark.db",MODE_PRIVATE,null);
         EditText rollno= (EditText)findViewById(R.id.editText1);
         EditText M1= (EditText)findViewById(R.id.editText2);
         EditText M2= (EditText)findViewById(R.id.editText3);
         EditText total= (EditText)findViewById(R.id.editText4);
         EditText per= (EditText)findViewById(R.id.editText5);
         EditText result= (EditText)findViewById(R.id.editText6);
         EditText grade= (EditText)findViewById(R.id.editText7);

   db.execSQL("create table if not exists taStu(Rollno text,m1 text,m2 text)");
   String rn= rollno.getText().toString();
           String
         ma1=M1.getText().toString(); String
         ma2=M2.getText().toString();
   db.execSQL("insert into taStu values('"+ rn +"','"+ ma1 +"','"+ ma2+"')");
         Cursor cuStu=db.rawQuery("select * from taStu", null);
         cuStu.moveToFirst();

         Double mark1=Double.parseDouble( cuStu.getString(1));
         Double mark2=Double.parseDouble( cuStu.getString(2));

         Double tot=mark1+mark2;
         total.setText(Double.toString(tot));

         Double perc=tot/2;
         per.setText(Double.toString(perc));

         if ((mark1>40) &&(mark2>40) )
         {
            result.setText("Pass");
         }
         else{
```

```
            result.setText("Fail");
        }
        db.close();
    }

    @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:

The simple android application for native calculator is developed and executed successfully.

3. HOTEL MENU CARD LIST

AIM:

To design a mobile app for hotel menu card using list vie activity.

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Select the minimum SDK as shown below and click next.**
- **Select the button on your res -> layout -> activity_main.XML**
- **Then select the list view activity and click next.**
- **Finally click finish**
- **Click on app -> res -> layout -> activity_main.XML**
- **Click on app -> java -> MAINACTIVITY.**

Program code:

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:layout_width="wrap_content" android:layout_height="wrap_content"
android:id="@+id/mainText" android:text="My list" />

<TextView
android:layout_width="wrap_content" android:layout_height="wrap_content"
android:layout_below="@+id/mainText" android:id="@android:id/empty" android:text="There is no
data" android:textStyle="bold" />
<ListView
android:id="@android:id/list" android:layout_width="wrap_content" android:layout_height="300dp"
android:layout_alignLeft="@+id/mainText" android:layout_below="@+id/mainText"
android:background="#aaaaaa" >
</ListView>

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

```
android:layout_marginTop="16dp" android:layout_toLeftOf="@+id/editText1" android:text="Enter No of Item :"
android:textAppearance="?android:attr/textAppearanceLarge" />

<EditText
android:id="@+id/editText1" android:layout_width="50dp" android:layout_height="wrap_content"
android:layout_alignRight="@android:id/list" android:layout_alignTop="@+id/textView1"
android:ems="10" >

<requestFocus />
</EditText>

</RelativeLayout>
```

row_layout.XML

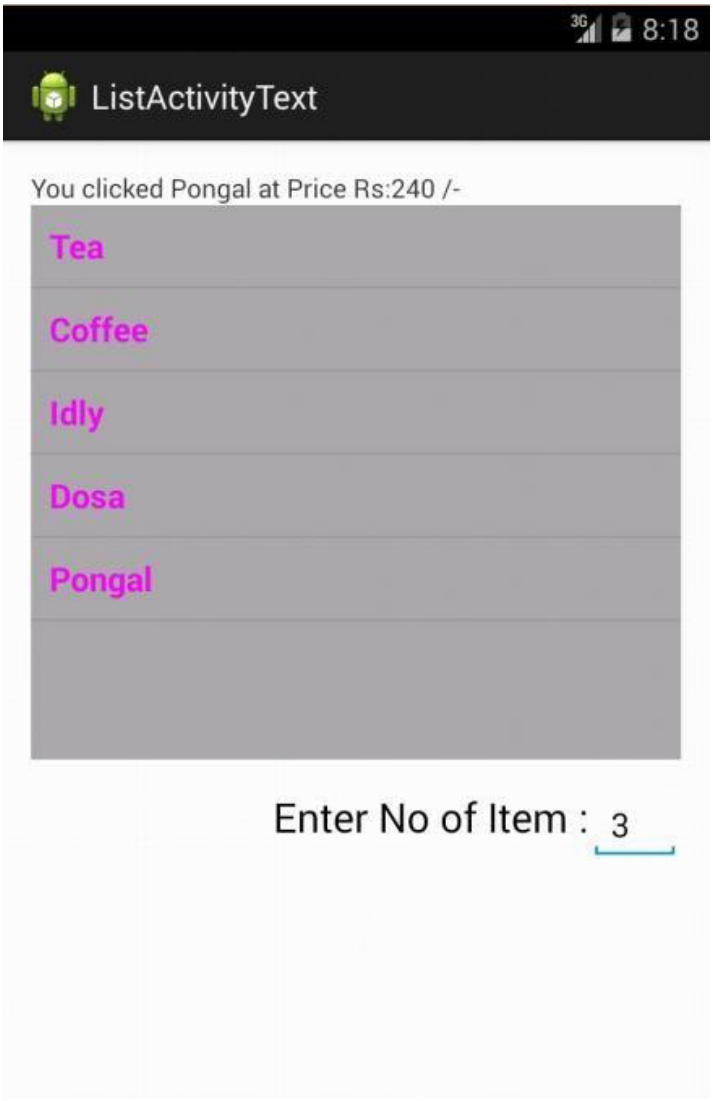
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent"
android:orientation="vertical" >

<TextView
android:id="@+id/listText" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:padding="10dp" android:textSize="18sp"
android:textStyle="bold" android:textColor="#ff00ff" />

</LinearLayout>
```

MainActivity.java

```
package com.example.exdb;

import android.os.Bundle; import android.R.string; import android.app.Activity;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.view.Menu; import android.view.View; import android.widget.EditText; import
android.widget.TextView;
public class MainActivity extends ListActivity

{ private TextView text;

private List<String> listValues;
private EditText ET;

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

text = (TextView) findViewById(R.id.mainText); ET=(EditText)findViewById(R.id.editText1);
ET.setText("1");
listValues = new ArrayList<String>(); listValues.add("Tea");
listValues.add("Coffee"); listValues.add("Idly"); listValues.add("Dosa");
listValues.add("Pongal");


// initiate the listadapter
ArrayAdapter<String> myAdapter = new ArrayAdapter <String>(this, R.layout.row_layout,
R.id.listText, listValues);

// assign the list adapter setListAdapter(myAdapter);

}

// when an item of the list is clicked @Override
protected void onListItemClick(ListView list, View view, int
position, long id) {
super.onListItemClick(list, view, position, id);

String selectedItem = (String)
getListView().getItemAtPosition(position);
if(selectedItem=="Tea"){
int no= Integer.parseInt(ET.getText().toString()); text.setText("You clicked " + selectedItem + " at Price
Rs: " + (no*10) +" /-");
}
else if(selectedItem=="Coffee"){
int no= Integer.parseInt(ET.getText().toString()); text.setText("You clicked " + selectedItem + " at Price
Rs:" + (no*20) +" /-");
}
else if(selectedItem=="Idly"){
```

```
int no= Integer.parseInt(ET.getText().toString()); text.setText("You clicked " + selectedItem + " at Price
Rs:" + (no*30)+" /-");
}
else if(selectedItem=="Dosa"){
int no= Integer.parseInt(ET.getText().toString()); text.setText("You clicked " + selectedItem + " at
Price Rs:" + (no*60)+" /-");
}
else if(selectedItem=="Pongal"){
int no= Integer.parseInt(ET.getText().toString()); text.setText("You clicked " + selectedItem + " at Price
Rs:" + (no*80)+" /-");
} }
}
```

OUTPUT:



RESULT:

The simple android application for native calculator is developed and executed successfully.

4. MONTHLY EXPENSE TRACKER

AIM:

To develop a mobile application for expense tracker monitoring system of monthly budget.

ALGORITHM:

- Open Android studio and then click on file -> new -> new project
- Select the button on your res -> layout -> activity_main.XML
- Button on your res -> layout -> activity_main.XML
- Finally click finish
- Click on app -> res -> layout -> activity_main.XML
- Click on app -> res -> layout -> String.XML
- Click on app -> java -> MAINACTIVITY.

Program code:

Activity_budget.XML

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
    <TextView
        android:id="@+id/textView1"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="@string/title" />
    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
        <TableRow
            android:id="@+id/tableRow1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content" >
                <TextView
                    android:id="@+id/textView2"
                           android:layout_width="150dp"
                    android:layout_height="wrap_content"
                    android:text="@string/in" />
                    <EditText
                    android:id="@+id/editText1"
                    android:layout_width="150dp"
                    android:layout_height="wrap_content"
```

```
            android:ems="10"
            android:inputType="numberDecimal"
            android:gravity="right">
            <requestFocus />
            </EditText>
</TableRow>
<TableRow
    android:id="@+id/tableRow2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" >
            <TextView
            android:id="@+id/textView3"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:text="@string/eone" />
            <EditText
            android:id="@+id/editText2"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="numberDecimal"
            android:gravity="right">
 <requestFocus />
</EditText>
</TableRow>

<TableRow
    android:id="@+id/tableRow3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" >
            <TextView
            android:id="@+id/textView4"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:text="@string/etwo" />
            <EditText
            android:id="@+id/editText3"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="numberDecimal"
            android:gravity="right">
            <requestFocus />
            </EditText>
</TableRow>
<TableRow
    android:id="@+id/tableRow4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" >
            <TextView
            android:id="@+id/textView5"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:text="@string/ethree" />
            <EditText
            android:id="@+id/editText4"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="numberDecimal"
            android:gravity="right">
            <requestFocus />
            </EditText>
</TableRow>
<TableRow
```

```
      android:id="@+id/tableRow5"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content" >

      <TextView
      android:id="@+id/textView6"
      android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:text="@string/efour" />

      <EditText
      android:id="@+id/editText5"
       android:layout_width="150dp"
      android:layout_height="wrap_content"
      android:ems="10"
      android:inputType="numberDecimal"
      android:gravity="right">
              <requestFocus />
              </EditText>
  </TableRow>
  <TableRow
      android:id="@+id/tableRow6"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content" >
              <TextView
              android:id="@+id/textView7"
              android:layout_width="150dp"
              android:layout_height="wrap_content"
              android:text="@string/efive" />
              <EditText
              android:id="@+id/editText6"
              android:layout_width="150dp"
              android:layout_height="wrap_content"
              android:ems="10"
              android:inputType="numberDecimal"
              android:gravity="right">
              <requestFocus />
              </EditText>
  </TableRow>
  <TableRow
      android:id="@+id/tableRow7"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:gravity="right">

      <Button
         android:id="@+id/button1"
         android:text="@string/btn"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:onClick="cal"/>
</TableRow>

<TableRow
      android:id="@+id/tableRow8"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content" >
              <TextView
              android:id="@+id/textView13"
              android:layout_width="150dp"
              android:layout_height="wrap_content"
              android:text="@string/tot" />


              <EditText
```

```
                    android:id="@+id/editText12"
                    android:layout_width="150dp"
                    android:layout_height="wrap_content"
                    android:ems="10"
                    android:inputType="numberDecimal"
                    android:gravity="right">
                    <requestFocus />
                    </EditText>
         </TableRow>
          <TableRow
             android:id="@+id/tableRow9"
             android:layout_width="wrap_content"
             android:layout_height="wrap_content" >
         </TableRow>
         <TableRow
             android:id="@+id/tableRow16"
             android:layout_width="wrap_content"
             android:layout_height="wrap_content" >

                    <TextView
                    android:id="@+id/textView14"
                    android:layout_width="150dp"
                    android:layout_height="wrap_content"
                    android:text="@string/ba" />

                    <EditText
                    android:id="@+id/editText13"
                    android:layout_width="150dp"
                    android:layout_height="wrap_content"
                    android:ems="10"
                    android:inputType="numberDecimal"
                    android:gravity="right">
                    <requestFocus />
                    </EditText>
         </TableRow>
     </TableLayout>
</LinearLayout>
```

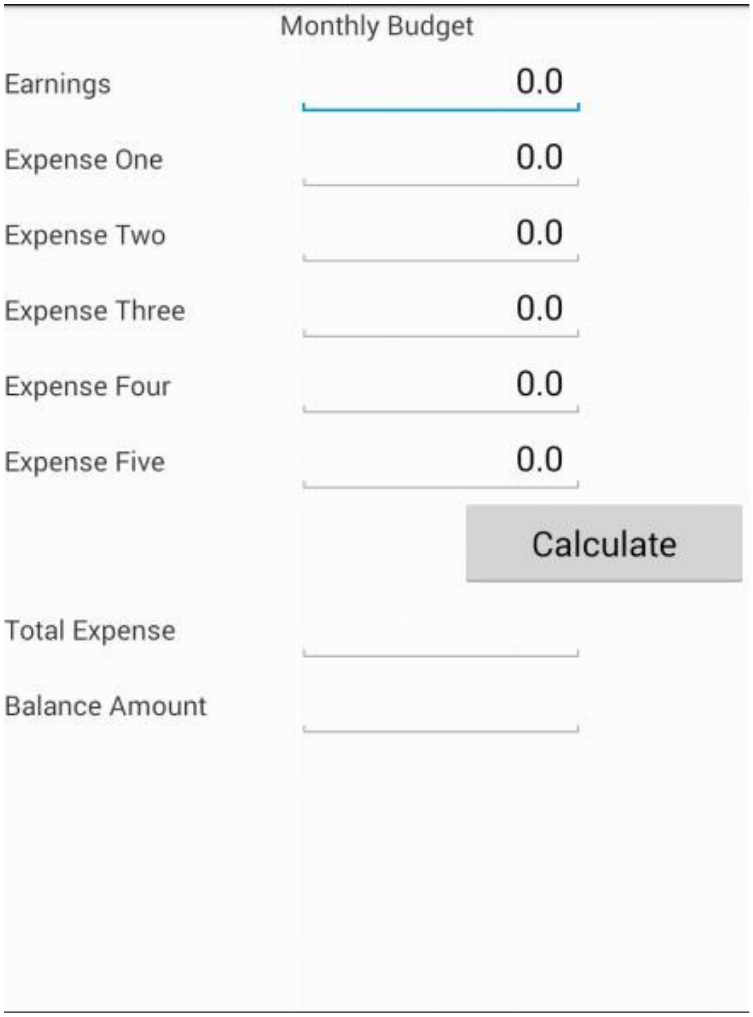
String.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string name="app_name">Budget</string>
    <string name="action_settings">Settings</string>
    <string name="title">Monthly Budget</string>
    <string name="in">Earnings</string>
    <string name="eone">Expense One</string>
    <string name="etwo">Expense Two</string>
    <string name="ethree">Expense Three</string>
    <string name="efour">Expense Four</string>
    <string name="efive">Expense Five</string>
    <string name="btn">Calculate</string>
    <string name="tot">Total Expense</string>
    <string name="ba">Balance Amount</string>
</resources>
```

BudgetActivity.java

```
package com.example.budget;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.view.View;
import android.widget.EditText;


public class BudgetActivity extends Activity {
       EditText in, eone, etwo, ethree, efour, efive, te,bal;

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_budget);
        in= (EditText)findViewById(R.id.editText1);
        in.requestFocus();
        eone=(EditText)findViewById(R.id.editText2);
        etwo=(EditText)findViewById(R.id.editText3);
         ethree=(EditText)findViewById(R.id.editText4);
        efour=(EditText)findViewById(R.id.editText5);
        efive=(EditText)findViewById(R.id.editText6);
        te=(EditText)findViewById(R.id.editText12);
        bal=(EditText)findViewById(R.id.editText13);

        in.setText("0.0");
        eone.setText("0.0");
        etwo.setText("0.0");
        ethree.setText("0.0");
        efour.setText("0.0");
        efive.setText("0.0");
    }

    public void cal(View v){

       double income= Double.parseDouble(in.getText().toString());
       double exone= Double.parseDouble(eone.getText().toString());
       double extwo= Double.parseDouble(etwo.getText().toString());
       double exthree= Double.parseDouble(ethree.getText().toString());
       double exfour= Double.parseDouble(efour.getText().toString());
       double exfive= Double.parseDouble(efive.getText().toString());

       double total = exone+extwo+exthree+exfour+exfive;
       double balance= income-total;

       te.setText(Double.toString(total));
       bal.setText(Double.toString(balance));

}
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.budget, menu);
        return true;
    }

}
```

OUTPUT:



RESULT:

The simple android application for native calculator is developed and executed successfully.

5. DIGITAL DIARY TO CREATING ALERT MESSAGE

AIM:

To develop a mobile app for digital diary to creating alert message of our day to day activity

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Then type the application name as and click next.**
- **Then select the minimum SDK as shown below and click next.**
- **Select the button on your res -> layout -> activity bus reservation.XML**
- **Button on yours res -> layout -> Button.XML**
- **Finally click finish**
- **Click on app -> res -> layout -> activity digital diary.**
- **Click on app -> res -> layout -> digital diary.XML**
- **Click on app -> java -> digital diary.java**

Program code:

Activity_DD.XML

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

  <ListView android:id="@+id/android:list"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" />
  <TextView android:id="@+id/android:empty"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="" />
</LinearLayout>
```

//diary_now.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:id="@+id/row"

  xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="fill_parent"
  android:layout_height="fill_parent">

  <TextView android:id="@+id/text1"
    android:layout_width="wrap_content" android:layout_height="30px"
    android:maxWidth="200dip"
    android:textSize="22sp"
    android:layout_marginTop="10dip"
    android:text="??????" />
  <TextView android:id="@+id/created" android:layout_width="wrap_content"
    android:layout_height="35px" android:layout_alignParentRight="true"
    android:layout_marginLeft="10dip"
    android:layout_marginTop="10dip"
    android:text="1999?12?3?" />

</RelativeLayout>
```

diary_now.xml

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

<LinearLayout
 xmlns:android="http://schemas.android.com/apk/res/android"
android:orientation="vertical"
android:layout_width="fill_parent"
 android:layout_height="fill_parent">

<LinearLayout android:orientation="vertical"

          android:layout_width="fill_parent"
          android:layout_height="wrap_content">

    <TextView android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="@string/title"
```

```
    android:padding="2px" />



  <EditText android:id="@+id/title"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content" android:layout_weight="1" />
</LinearLayout>

<TextView android:layout_width="wrap_content"
  android:layout_height="wrap_content" android:text="@string/body" />
<EditText android:id="@+id/body" android:layout_width="fill_parent"
  android:layout_height="fill_parent" android:layout_weight="1"
  android:scrollbars="vertical" android:gravity="top" />

<Button android:id="@+id/confirm"

 android:text="@string/confirm"

android:layout_width="wrap_content"

android:layout_height="wrap_content" />

 </LinearLayout>
```

DDActivity.java

```
package com.eoeAndroid.SQLite;

import android.app.ListActivity;
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.ListView;
import android.widget.SimpleCursorAdapter;



import android.app.Activity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

import java.util.Calendar;
import java.util.Date;

import android.content.ContentValues;
import android.content.Context; import
android.database.Cursor; import
android.database.SQLException;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.util.Log;

class DiaryDbAdapter {

  public static final String KEY_TITLE =
  "title"; public static final String
```

```
  KEY_BODY = "body"; public static final
  String KEY_ROWID = "_id";
  public static final String KEY_CREATED = "created";

  private static final String TAG = "DiaryDbAdapter";
  private DatabaseHelper mDbHelper;
  private SQLiteDatabase mDb;

  private static final String DATABASE_CREATE = "create table diary (_id integer primary key
 autoincre ment, "
      + "title text not null, body text not null, created text not null);";

  private static final String DATABASE_NAME =
  "database"; private static final String
  DATABASE_TABLE = "diary"; private static final int
  DATABASE_VERSION = 1;

  private final Context mCtx;

 private static class DatabaseHelper extends SQLiteOpenHelper {

    DatabaseHelper(Context context) {
     super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db)
     { db.execSQL(DATABASE_CREATE);
}

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion)
     { db.execSQL("DROP TABLE IF EXISTS diary");
     onCreate(db);
    }
  }

  public DiaryDbAdapter(Context ctx)
   { this.mCtx = ctx;
```

```
}

public DiaryDbAdapter open() throws
 SQLException { mDbHelper = new
 DatabaseHelper(mCtx);
 mDb = mDbHelper.getWritableDatabase();
 return this;
}

public void closeclose()
 { mDbHelper.close();
}

public long createDiary(String title, String body) {
 ContentValues initialValues = new
 ContentValues(); initialValues.put(KEY_TITLE,
 title); initialValues.put(KEY_BODY, body);
 Calendar calendar = Calendar.getInstance();
 String created = calendar.get(Calendar.YEAR) +
 ""
    + calendar.get(Calendar.MONTH) + ""
    + calendar.get(Calendar.DAY_OF_MONTH) + ""
   + calendar.get(Calendar.HOUR_OF_DAY) + ""

    + calendar.get(Calendar.MINUTE) + "";
 initialValues.put(KEY_CREATED, created);
 return mDb.insert(DATABASE_TABLE, null, initialValues);
}

public boolean deleteDiary(long rowId) {

 return mDb.delete(DATABASE_TABLE, KEY_ROWID + "=" + rowId, null) > 0;
}

public Cursor getAllNotes() {

 return mDb.query(DATABASE_TABLE, new String[] { KEY_ROWID,
    KEY_TITLE, KEY_BODY, KEY_CREATED }, null, null, null, null,
    null);
```

```
    }

    public Cursor getDiary(long rowId) throws SQLException {

     Cursor mCursor =

     mDb.query(true, DATABASE_TABLE, new String[] { KEY_ROWID,
        KEY_TITLE, KEY_BODY, KEY_CREATED }, KEY_ROWID + "=" +
        rowId, null, null,
        null, null, null);
     if (mCursor != null) {
      mCursor.moveToFirst();
     }
     return mCursor;

}

    public boolean updateDiary(long rowId, String title, String body)
     { ContentValues args = new ContentValues();
     args.put(KEY_TITLE,
     title);
     args.put(KEY_BODY,
     body);
     Calendar calendar = Calendar.getInstance();
     String created = calendar.get(Calendar.YEAR) +
     ""
        + calendar.get(Calendar.MONTH) + ""
        + calendar.get(Calendar.DAY_OF_MONTH) + ""
        + calendar.get(Calendar.HOUR_OF_DAY) + ""
        + calendar.get(Calendar.MINUTE) + ""; args.put(KEY_CREATED, created);

     return mDb.update(DATABASE_TABLE, args, KEY_ROWID + "=" + rowId, null) > 0;
    }
   }

    class ActivityDiaryEdit extends Activity {

     private EditText mTitleText;
```

```
 private EditText mBodyText;
private Long mRowId;
private DiaryDbAdapter mDbHelper;

@Override
protected void onCreate(Bundle savedInstanceState)

{

 super.onCreate(savedInstanceState);
  mDbHelper = new DiaryDbAdapter(this);
   mDbHelper.open();
  setContentView(R.layout.diary_edit);

  mTitleText = (EditText) findViewById(R.id.title);
  mBodyText = (EditText) findViewById(R.id.body);


  Button confirmButton = (Button) findViewById(R.id.confirm);


  mRowId = null;
  Bundle extras = getIntent().getExtras();
  if (extras != null) {
   String title =
   extras.getString(DiaryDbAdapter.KEY_TITLE); String
   body = extras.getString(DiaryDbAdapter.KEY_BODY);
   mRowId =
   extras.getLong(DiaryDbAdapter.KEY_ROWID);


   if (title != null) {
    mTitleText.setText(title);
   }
   if (body != null) {
    mBodyText.setText(body);
   }
  }


  confirmButton.setOnClickListener(new View.OnClickListener() {
   public void onClick(View view) {
    String title = mTitleText.getText().toString();
    String body = mBodyText.getText().toString();
    if (mRowId != null) {
```

```
        mDbHelper.updateDiary(mRowId, title, body);
        } else
       mDbHelper.createDiary(title, body);
       Intent mIntent = new Intent();
       setResult(RESULT_OK, mIntent);

        finish();
       }

    });
  }
}

public class ActivityMain extends ListActivity { private static final int ACTIVITY_CREATE = 0;
  private static final int ACTIVITY_EDIT = 1;
  private static final int INSERT_ID = Menu.FIRST;
  private static final int DELETE_ID = Menu.FIRST + 1;
  private DiaryDbAdapter mDbHelper;
  private Cursor mDiaryCursor;

  @Override
  public void onCreate(Bundle savedInstanceState)
   {
    super.onCreate(savedInstanceState);
   setContentView(R.layout.diary_list);
   mDbHelper = new
   DiaryDbAdapter(this);
   mDbHelper.open();
   renderListView();

  }

  private void renderListView() {
   mDiaryCursor =
   mDbHelper.getAllNotes();
   startManagingCursor(mDiaryCursor);
   String[] from = new String[]
```

```
 {

 DiaryDbAdapter.KEY_TITLE,
 DiaryDbAdapter.KEY_CREATED
  };
 int[] to = new int[] { R.id.text1, R.id.created }; SimpleCursorAdapter notes = new
 SimpleCursorAdapter(this,
  R.layout.diary_row, mDiaryCursor, from, to); setListAdapter(notes);
}

@Override
public boolean onCreateOptionsMenu(Menu menu) { super.onCreateOptionsMenu(menu);
 menu.add(0, INSERT_ID, 0, R.string.menu_insert); menu.add(0, DELETE_ID, 0,
 R.string.menu_delete); return true;
}

@Override
public boolean onMenuItemSelected(int featureId, MenuItem item) {
 switch (item.getItemId()) {
 case INSERT_ID:
  createDiary();
 return true;
 case
 DELETE_ID:
  mDbHelper.deleteDiary(getListView().getSelectedItemId());
  renderListView();
  return true;
 }
 return super.onMenuItemSelected(featureId, item);
 }

private void createDiary() {
 Intent i = new Intent(this,
 ActivityDiaryEdit.class); startActivityForResult(i,
 ACTIVITY_CREATE);
}
```

```
@Override

protected void onListItemClick(ListView l, View v, int position, long
  id) { super.onListItemClick(l, v, position, id);
  Cursor c = mDiaryCursor;
  c.moveToPosition(position);
  Intent i = new Intent(this, ActivityDiaryEdit.class);
  i.putExtra(DiaryDbAdapter.KEY_ROWID, id);
  i.putExtra(DiaryDbAdapter.KEY_TITLE, c.getString(c
     .getColumnIndexOrThrow(DiaryDbAdapter.KEY_TITLE
  ))); i.putExtra(DiaryDbAdapter.KEY_BODY, c.getString(c
     .getColumnIndexOrThrow(DiaryDbAdapter.KEY_BOD
  Y))); startActivityForResult(i, ACTIVITY_EDIT);
}
@Override
protected void onActivityResult(int requestCode, int resultCode,
    Intent intent) {
  super.onActivityResult(requestCode, resultCode, intent);
  renderListView();
}
  }
```

OUTPUT:

RESULT:

The simple android application for native calculator is developed and executed successfully.

6. BUS TICKET RESERVATION

AIM:

To develop a mobile app for bus reservation system.

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Then type the application name as and click next.**
- **Then select the minimum SDK as shown below and click next.**
- **Select the button on your res -> layout -> activity bus reservation.XML**
- **Button on yours res -> layout -> Button.XML**
- **Finally click finish**
- **Click on app -> res -> layout -> activity bus reservation.**
- **Click on app -> res -> layout -> button.XML**
- **Click on app -> java -> bus reservation.java**

Program code:

activity_bus_reservation.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=".BusReservationActivity" >

   <Button
      android:id="@+id/button6"
      style="?android:attr/buttonStyleSmall"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignLeft="@+id/button3"
      android:layout_alignRight="@+id/button3"
      android:layout_alignTop="@+id/button5"
      android:text="@string/five"
      android:onClick="btnfive"/>

   <Button
      android:id="@+id/button7"
```

```
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button6"
    android:layout_alignBottom="@+id/button6"
    android:layout_alignLeft="@+id/button4"
    android:layout_alignRight="@+id/button4"
    android:text="@string/six"
    android:onClick="btnsix"/>

<Button
    android:id="@+id/button13"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button12"
    android:layout_alignBottom="@+id/button12"
    android:layout_alignLeft="@+id/button10"
    android:layout_alignRight="@+id/button10"
    android:text="@string/twelve"
   android:onClick="btntwelve" />
<Button
    android:id="@+id/button15"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button14"
    android:layout_alignBottom="@+id/button14"
    android:layout_alignLeft="@+id/button12"
    android:layout_alignRight="@+id/button12"
    android:text="@string/fourteen"
    android:onClick="btnfourteen" />

<Button
    android:id="@+id/button16"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/button15"
    android:layout_alignBottom="@+id/button15"
    android:layout_alignLeft="@+id/button13"
    android:layout_alignRight="@+id/button13"
    android:text="@string/fifteen"
    android:onClick="btnfifteen"/>

<Button
    android:id="@+id/button18"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button15"
    android:layout_alignRight="@+id/button15"
    android:layout_alignTop="@+id/button17"
    android:text="@string/seventeen"
    android:onClick="btnseventeen" />

<Button
android:id="@+id/button19" style="?
android:attr/buttonStyleSmall"
```

```
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
android:layout_alignBaseline="@+id/button17"
android:layout_alignBottom="@+id/button17"
android:layout_alignLeft="@+id/button16"
android:layout_alignRight="@+id/button16"
android:text="@string/eighteen"
android:onClick="btneighteen" />


  <Button
     android:id="@+id/button1"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_alignParentRight="true"
     android:layout_below="@+id/textView1"
     android:text="@string/btn"
     android:onClick="reserve"  />

  <EditText
     android:id="@+id/editText2"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_alignBaseline="@+id/button1"
     android:layout_alignBottom="@+id/button1"
     android:layout_toLeftOf="@+id/button1"
     android:ems="10"
      />

  <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_marginTop="17dp"
     android:text="@string/name" />

  <Button
     android:id="@+id/button2"
     style="?android:attr/buttonStyleSmall"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_alignLeft="@+id/editText2"
     android:layout_below="@+id/button1"
     android:text="@string/one"
     android:onClick="btnone"/>

  <Button
     android:id="@+id/button3"style="?
     android:attr/buttonStyleSmall"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_alignBaseline="@+id/button2"
     android:layout_alignBottom="@+id/button2"
     android:layout_centerHorizontal="true"
     android:text="@string/two"
    android:onClick="btntwo"/>
```

```
<Button
   android:id="@+id/button4"
   style="?android:attr/buttonStyleSmall"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:layout_alignBaseline="@+id/button3"
   android:layout_alignBottom="@+id/button3"
   android:layout_toRightOf="@+id/button3"
   android:text="@string/three"
   android:onClick="btnthree" />

<Button
   android:id="@+id/button5"
   style="?android:attr/buttonStyleSmall"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:layout_alignLeft="@+id/button2"
   android:layout_below="@+id/button2"
   android:text="@string/four"
   android:onClick="btnfour"/>

<Button
   android:id="@+id/button8"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:layout_alignLeft="@+id/button5"
   android:layout_alignRight="@+id/button5"
   android:layout_below="@+id/button5"
   android:text="@string/seven"
   android:onClick="btnseven"/>

<Button
   android:id="@+id/button11"
   style="?android:attr/buttonStyleSmall"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:layout_alignLeft="@+id/button8"
   android:layout_below="@+id/button9"
   android:text="@string/ten"
   android:onClick="btnten" />

<Button
   android:id="@+id/button12"
   style="?android:attr/buttonStyleSmall"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
  android:layout_below="@+id/button8"
   android:layout_toLeftOf="@+id/button10"
   android:text="@string/eleven"
   android:onClick="btneleven"/>

<Button
    android:id="@+id/button14"style="?
    android:attr/buttonStyleSmall"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
```

```
    android:layout_alignLeft="@+id/button11"
    android:layout_below="@+id/button11"
    android:text="@string/thirteen"
    android:onClick="btnthirteen"/>

<Button
    android:id="@+id/button17"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button14"
    android:layout_below="@+id/button14"
    android:text="@string/sixteen"
    android:onClick="btnsixteen" />
<Button
   android:id="@+id/button20"style="?
   android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button17"
    android:layout_below="@+id/button17"
    android:text="@string/Nineteen"
    android:onClick="btnnineteen"/>

<Button
 android:id="@+id/button21"style="?
android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignLeft="@+id/button18"
 android:layout_below="@+id/button18"
 android:text="@string/Twenty"
 android:onClick="btntwenty" />

<Button
     android:id="@+id/button22"style="?
    android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button19"
    android:layout_below="@+id/button19"
    android:text="@string/TwentyOne"
    android:onClick="btntwentyone" />

<Button
   android:id="@+id/button10"style="?
   android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button6"
    android:layout_toRightOf="@+id/button6"
    android:text="@string/nine"
     android:onClick="btnnine" />

<Button
     android:id="@+id/button9"style="?
     android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
        android:layout_below="@+id/button6"
        android:layout_toLeftOf="@+id/button7"
        android:text="@string/eight"
        android:onClick="btneight" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView1"
        android:layout_toRightOf="@+id/button3"
        android:ems="10" />

</RelativeLayout>
```

BusReservationActivity.java

```
int seatno=1;
        EditText name, seat;
        Button reg, one, two, three, four, five, six, seven, eitht, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eithteen, ninteen, twenty, twentyone;
        String [] res = new String[21];


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

      name=(EditText)findViewById(R.id.editText2);
      seat=(EditText)findViewById(R.id.editText1);

      reg=(Button)findViewById(R.id.button1);
      one=(Button)findViewById(R.id.button2);
      two=(Button)findViewById(R.id.button3);
      three=(Button)findViewById(R.id.button4);
      four=(Button)findViewById(R.id.button5);
      five=(Button)findViewById(R.id.button6);
      six=(Button)findViewById(R.id.button7);
      seven=(Button)findViewById(R.id.button8);
      eitht=(Button)findViewById(R.id.button9);
      nine=(Button)findViewById(R.id.button10);
      ten=(Button)findViewById(R.id.button11);
      eleven=(Button)findViewById(R.id.button12);
      twelve=(Button)findViewById(R.id.button13);
      thirteen=(Button)findViewById(R.id.button14);
      fourteen=(Button)findViewById(R.id.button15);
      fifteen=(Button)findViewById(R.id.button16);
      sixteen=(Button)findViewById(R.id.button17);
      seventeen=(Button)findViewById(R.id.button18);
      eithteen=(Button)findViewById(R.id.button19);
      ninteen=(Button)findViewById(R.id.button20);
      twenty=(Button)findViewById(R.id.button21);
      twentyone=(Button)findViewById(R.id.button22);


      one.setBackgroundColor(Color.GREEN);
      two.setBackgroundColor(Color.GREEN);
      three.setBackgroundColor(Color.GREEN);
      four.setBackgroundColor(Color.GREEN);
      five.setBackgroundColor(Color.GREEN);
     six.setBackgroundColor(Color.GREEN);


      seven.setBackgroundColor(Color.GREEN);
      eitht.setBackgroundColor(Color.GREEN);
      nine.setBackgroundColor(Color.GREEN);
```

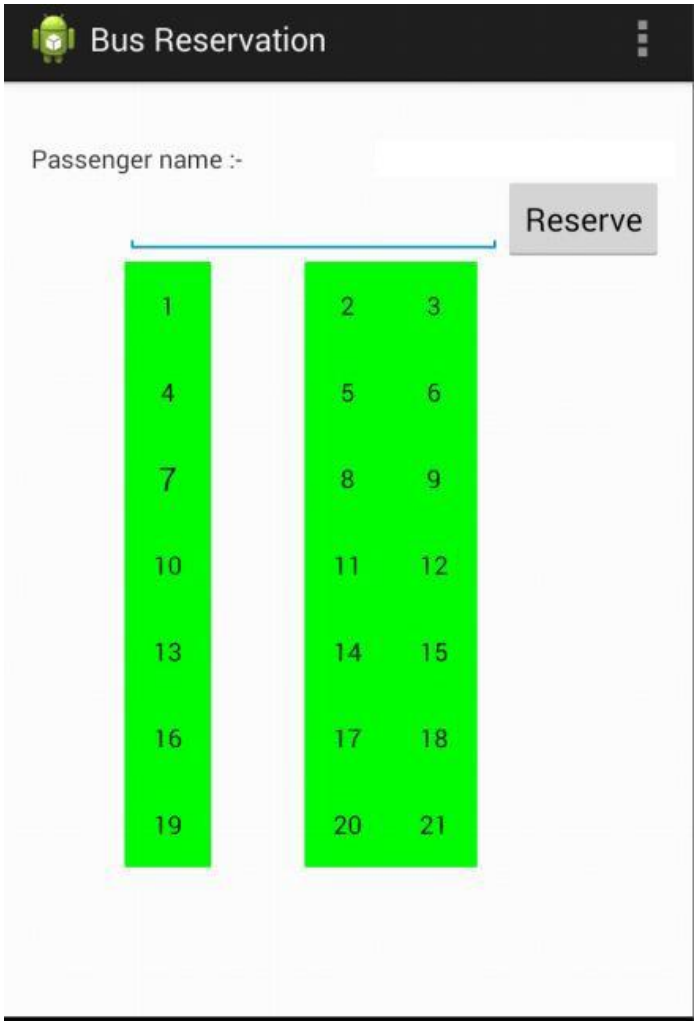
```
        ten.setBackgroundColor(Color.GREEN);
        eleven.setBackgroundColor(Color.GREEN);
        twelve.setBackgroundColor(Color.GREEN);
        thirteen.setBackgroundColor(Color.GREEN);
        fourteen.setBackgroundColor(Color.GREEN);
        fifteen.setBackgroundColor(Color.GREEN);
        sixteen.setBackgroundColor(Color.GREEN);
        seventeen.setBackgroundColor(Color.GREEN);
        eithteen.setBackgroundColor(Color.GREEN);
        ninteen.setBackgroundColor(Color.GREEN);
        twenty.setBackgroundColor(Color.GREEN);
        twentyone.setBackgroundColor(Color.GREEN);

    }


    public void reserve (View v)
    {
        String na;
        na=name.getText().toString();

        if (na.length()==0)
        {
            Toast.makeText(this, "Please Enter the Name !", Toast.LENGTH_SHORT)
             .show();
        }
        else
        {
             res[seatno]=na.toString();
             switch(seatno)
             {
             case 1:
             {
                  one.setBackgroundColor(Color.RED);
                  break;
             }
             case 2:
             {
                  two.setBackgroundColor(Color.RED);
                  break;
             }
             case 3:
             {
                  three.setBackgroundColor(Color.RED);
break;

             }
             case 4:
             {
                  four.setBackgroundColor(Color.RED);
                  break;
             }
             case 5:
             {
                  five.setBackgroundColor(Color.RED);
                  break;
             }
             case 6:
```

```
                {
                        six.setBackgroundColor(Color.RED);
                        break;
                }
                case 7:
                {
                        seven.setBackgroundColor(Color.RED);
                        break;
                }
                case 8:
                {
                        eitht.setBackgroundColor(Color.RED);
                        break;
                }
                case 9:
                {
                        nine.setBackgroundColor(Color.RED);
                        break;
                }
                case 10:
                {
                        ten.setBackgroundColor(Color.RED);
                        break;
                }
                case 11:
                {
                        eleven.setBackgroundColor(Color.RED);
                        break;
                }
                case 12:
                {
                        twelve.setBackgroundColor(Color.RED);
                        break;
                }
                case 13:
{
                        thirteen.setBackgroundColor(Color.RED);
                        break;
                }
                case 14:
                {
                        fourteen.setBackgroundColor(Color.RED);
                        break;
                }
                case 15:
                {
                        fifteen.setBackgroundColor(Color.RED);
                        break;
                }
                case 16:
                {
                        sixteen.setBackgroundColor(Color.RED);
                        break;
                }
                case 17:
                {
                        seventeen.setBackgroundColor(Color.RED);
                        break;
```

```
                }
                case 18:
                {
                        eithteen.setBackgroundColor(Color.RED);
                        break;
                }
                case 19:
                {
                        nine.setBackgroundColor(Color.RED);
                        break;
                }
                case 20:
                {
                        twenty.setBackgroundColor(Color.RED);
                        break;
                }
                case 21:
                {
                        twentyone.setBackgroundColor(Color.RED);
                        break;
                }
                }
                seatno++;

        }
}
    public void btnone(View v){
        Toast.makeText(this, res[1], Toast.LENGTH_SHORT)
                .show();
    }
    public void btntwo(View v){
        Toast.makeText(this, res[2], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnthree(View v){
        Toast.makeText(this, res[3], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnfour(View v){
        Toast.makeText(this, res[4], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnfive(View v){
        Toast.makeText(this, res[5], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnsix(View v){
        Toast.makeText(this, res[6], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnseven(View v){
        Toast.makeText(this, res[7], Toast.LENGTH_SHORT)
                .show();
    }
    public void btneight(View v){
        Toast.makeText(this, res[8], Toast.LENGTH_SHORT)
                .show();
    }
```

```
    public void btnnine(View v){
        Toast.makeText(this, res[9], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnten(View v){
        Toast.makeText(this, res[10], Toast.LENGTH_SHORT)
                .show();
    }
    public void btneleven(View v){
        Toast.makeText(this, res[11], Toast.LENGTH_SHORT)
                .show();
    }
    public void btntwelve(View v){
        Toast.makeText(this, res[12], Toast.LENGTH_SHORT)
   .show();

    }
    public void btnthirteen(View v){
        Toast.makeText(this, res[13], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnfourteen(View v){
        Toast.makeText(this, res[14], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnfifteen(View v){
        Toast.makeText(this, res[15], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnsixteen(View v){
        Toast.makeText(this, res[16], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnseventeen(View v){
        Toast.makeText(this, res[17], Toast.LENGTH_SHORT)
                .show();
    }
    public void btneighteen(View v){
        Toast.makeText(this, res[18], Toast.LENGTH_SHORT)
                .show();
    }
    public void btnninteen(View v){
        Toast.makeText(this, res[19], Toast.LENGTH_SHORT)
                .show();
    }
    public void btntwenty(View v){
        Toast.makeText(this, res[20], Toast.LENGTH_SHORT)
                .show();
    }
    public void btntwentyone(View v){
        Toast.makeText(this, res[21], Toast.LENGTH_SHORT)
                .show();
}
```

OUTPUT:


Bus Reservation
Passenger name :-
Reserve
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

RESULT:

The simple android application for native calculator is developed and executed successfully

7. BASIC GRAPHICAL PRIMITIVES

AIM:

To develop an application that draws basic graphical primitives (line, circle, rectangle, eclipse) on the screen

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Select the button on your res -> layout -> activity_main.XML**
- **Button on your res -> layout -> String.XML**
- **Finally click finish**
- **Click on app -> res -> layout -> activity_main.XML**
- **Now click on res -> layout -> String.XML**
- **Click on app -> java -> MAINACTIVITY.Java**

Program code:

Activity_main.XML

```
--- No change---
```

String.xml

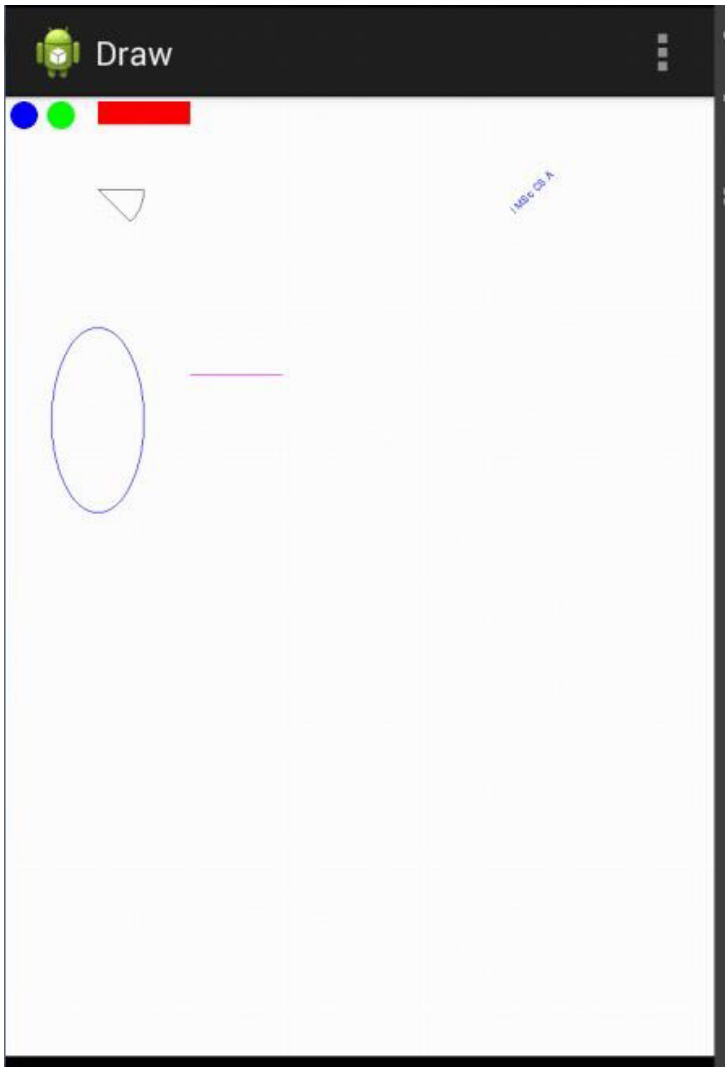
```
--- No change---
```

MainActivity.java

```
import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.content.Context;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.RectF;
import android.view.View;

@SuppressWarnings("unused")
public class MainActivity extends Activity {

    DemoView demoview;
    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        demoview = new DemoView(this);
        setContentView(demoview);
    }

    private class DemoView extends View{

             public DemoView(Context context){
             super(context);
        }
      @Override protected void onDraw(Canvas canvas) {
            super.onDraw(canvas);

            // custom drawing code here
            Paint paint = new Paint();
            paint.setStyle(Paint.Style.FILL);

            // make the entire canvas white
            paint.setColor(Color.WHITE);
            canvas.drawPaint(paint);

       // draw blue circle with anti aliasing turned off


            paint.setAntiAlias(false);
            paint.setColor(Color.BLUE);
            canvas.drawCircle(20, 20, 15, paint);

            // draw green circle with anti aliasing turned on
            paint.setAntiAlias(true);
            paint.setColor(Color.GREEN);
            canvas.drawCircle(60, 20, 15, paint);

            // draw red rectangle with anti aliasing turned off
            paint.setAntiAlias(false);
            paint.setColor(Color.RED);
            canvas.drawRect(100, 5, 200, 30, paint);


            //draw arc
```

```
            paint.setColor(Color.DKGRAY);
            final RectF oval = new RectF();
            paint.setStyle(Paint.Style.STROKE);
            oval.set(50, 50, 150, 150);
            canvas.drawArc(oval, 0, 45, true, paint);

            //draw line
            paint.setColor(Color.MAGENTA);
            canvas.drawLine(200, 300, 300, 300, paint);

            //draw Oval
            paint.setStyle(Paint.Style.STROKE);
            paint.setColor(Color.BLUE);
            RectF oval2 = new RectF(50, 250, 150, 450);
            Paint p2 = new Paint();
            p2.setColor(Color.GREEN);

            //canvas.drawText("Child", 75, 75, p2);
            canvas.drawOval(oval2, paint);

            // draw the rotated text
            canvas.rotate(-45);

            paint.setStyle(Paint.Style.FILL);
            canvas.drawText("I MSc CS A", 300, 480, paint);

            //undo the rotate
            canvas.restore();
        }
    }
    @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:

The simple android application for native calculator is developed and executed successfully

8. BACKGROUND ACTIVITY USING MULTITHREADING

AIM:

To implement an application to change the background activity using multithreading.

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Then select the minimum SDK as shown below and click next.**
- **Select the button on your res -> layout -> activity_mt.XML**
- **Button on your res -> layout -> String.XML**
- **Finally click finish**
- **Click on app -> res -> layout -> activity_mt.XML**
- **Click on app-> res -> layout -> String.XML**
- **Click on app -> java -> Mt.activity.java**

Program code:

activity_mt.XML

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >

    <ProgressBar
        android:id="@+id/progressBar1"style="?
        android:attr/progressBarStyleHorizontal"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:indeterminate="false"
        android:max="10"
        android:padding="4dip" >
    </ProgressBar>

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:onClick="startProgress"
        android:text="Start" />
</LinearLayout>
```

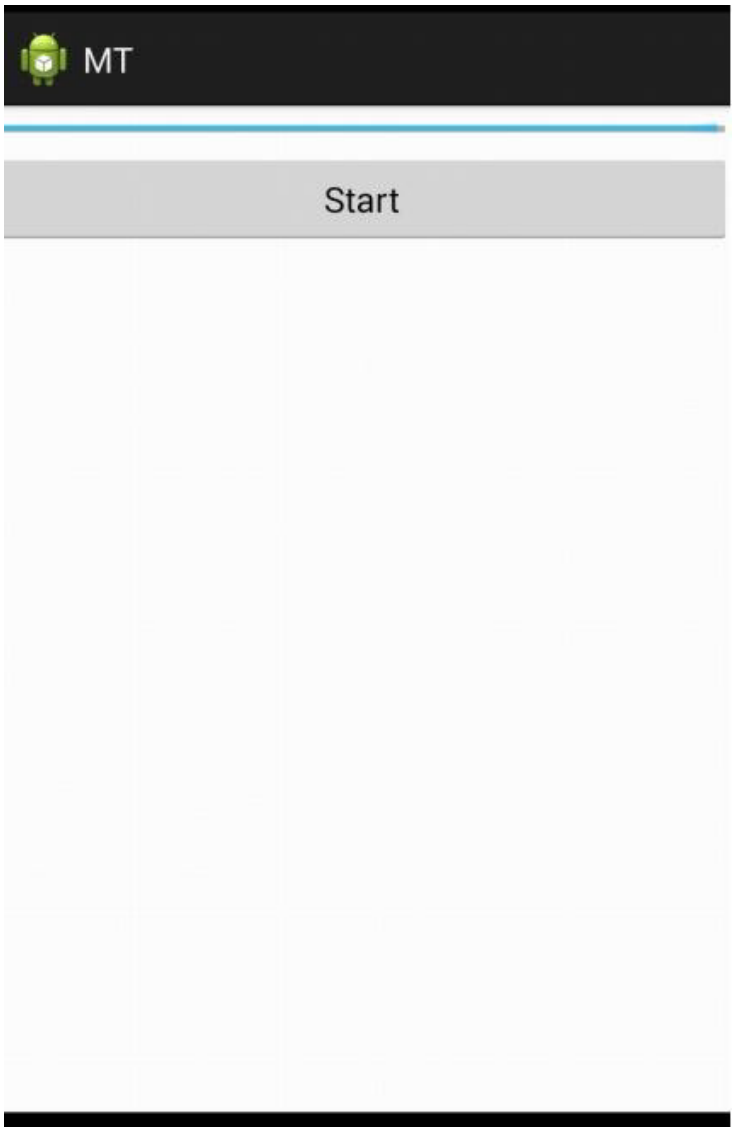
String.xml

--- No change---

MTActivity.java

```
import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.ProgressBar;

public class MTActivity extends Activity {
private ProgressBar bar;
    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState)
     {
     super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_mt);
        //setContentView(R.layout.main);
        bar = (ProgressBar) findViewById(R.id.progressBar1);

}
    public void startProgress(View view) {

        bar.setProgress(0);
        new Thread(new Task()).start();
    }

    class Task implements Runnable {
        @Override
        public void run() {
            for (int i = 0; i <= 10; i++) {
                final int value = i;
                try {
                    Thread.sleep(1000);
                } catch (InterruptedException e) {
                    e.printStackTrace();
                }
                bar.setProgress(value);

            }
        }

    }

}
```

OUTPUT:



RESULT:

The simple android application for native calculator is developed and executed successfully

9. SD CARD AND MANIPULATION

AIM:

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

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Select the button on your res -> layout -> activity SD card.XML**
- **Button on your res -> layout -> String.XML**
- **Finally click finish**
- **Click on app -> res -> layout -> activity SD card.XML**
- **Click on app-> res -> layout -> String.XML**
- **Click on app -> java -> SDactivity.java**

Program code:

Activity_sdcard.XML

```
<LinearLayout
android:id="@+id/widget28"
android:layout_width="fill_parent"
android:layout_height="fill_parent"
android:orientation="vertical"
xmlns:android="http://schemas.android.com/apk/res/android"
>
<EditText
android:id="@+id/txtData"
android:layout_width="fill_parent"
android:layout_height="180px"
android:textSize="18sp" />

<Button
android:id="@+id/btnWriteSDFile"
android:layout_width="400px"
android:layout_height="100px"
android:text="1. Write SD File" />

<Button
android:id="@+id/btnClearScreen"
android:layout_width="400px"
android:layout_height="100px"
android:text="2. Clear Screen" />

<Button
android:id="@+id/btnReadSDFile"
android:layout_width="400px"
android:layout_height="100px"
android:text="3. Read SD File" />

<Button
android:id="@+id/btnClose"
android:layout_width="400px"
android:layout_height="100px"
android:text="4. Close" />
```

```
</LinearLayout>
```

String.xml

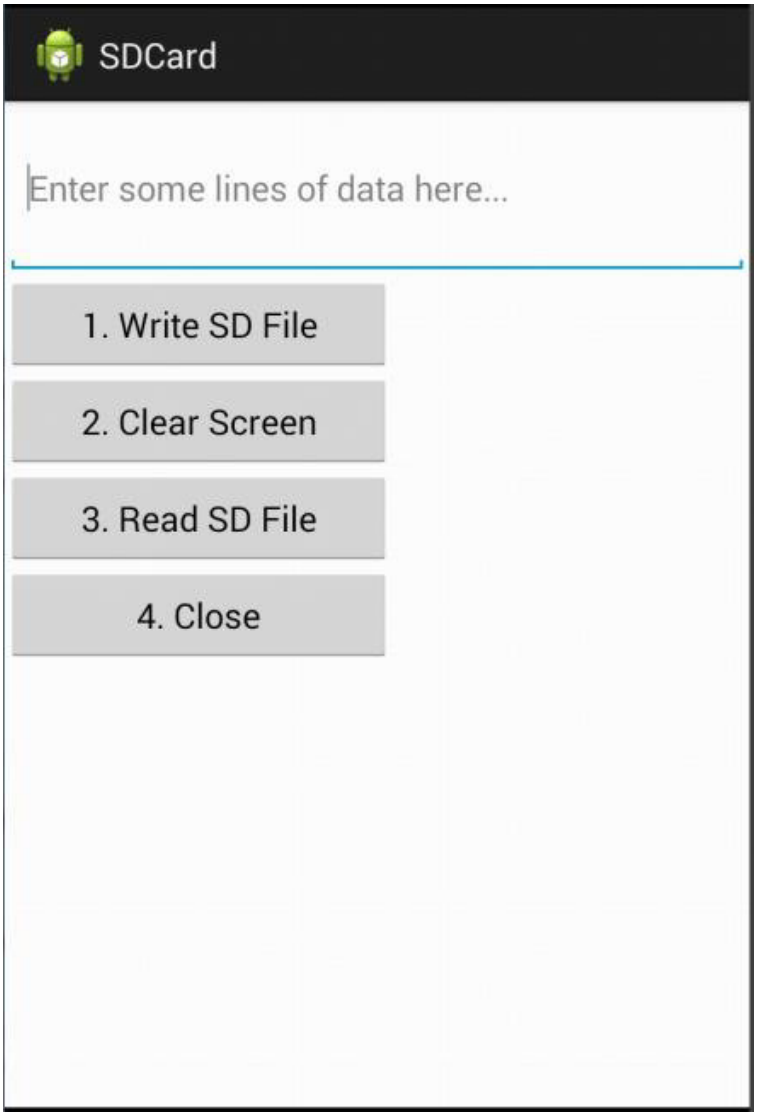
```
--- No change---
```

SDCardActivity.java

```
package com.example.sdcard;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import java.io.*;
import android.app.Activity;
import android.os.Bundle;
import android.view.*;
import android.view.View.OnClickListener;
import android.widget.*;
public class SDCardActivity extends Activity {

	// GUI controls
		EditText txtData;
		Button btnWriteSDFile;
		Button btnReadSDFile;
		Button btnClearScreen;
		Button btnClose;

		@Override
		public void onCreate(Bundle savedInstanceState) {
		super.onCreate(savedInstanceState);
		setContentView(R.layout.activity_sdcard);

		// bind GUI elements with local controls

		txtData = (EditText) findViewById(R.id.txtData);
		txtData.setHint("Enter some lines of data here...");

		btnWriteSDFile = (Button) findViewById(R.id.btnWriteSDFile);
		btnWriteSDFile.setOnClickListener(new OnClickListener() {

		public void onClick(View v) {
			// write on SD card file data in the text box
			try {
				File myFile = new File("/sdcard/mysdfile.txt");
				myFile.createNewFile();
		FileOutputStream fOut = new FileOutputStream(myFile);
		OutputStreamWriter myOutWriter = newOutputStreamWriter(fOut);
				myOutWriter.append(txtData.getText());
				myOutWriter.close();
				fOut.close();
				Toast.makeText(getBaseContext(),
						"Done writing SD 'mysdfile.txt'",
						Toast.LENGTH_SHORT).show();
			}
			catch (Exception e)
			{
			Toast.makeText(getBaseContext(), e.getMessage(),
						Toast.LENGTH_SHORT).show();
			}
		}
		// onClick
		});
```

```
        // btnWriteSDFile

              btnReadSDFile = (Button) findViewById(R.id.btnReadSDFile);
              btnReadSDFile.setOnClickListener(new OnClickListener()
               {
              public void onClick(View v)
              {
        // write on SD card file data in the text box
              try
              {
        File myFile = new File("/sdcard/mysdfile.txt");
        FileInputStream fIn = new FileInputStream(myFile);
                                    BufferedReader myReader = new BufferedReader(new
InputStreamReader(fIn));
                    String aDataRow = "";
                    String aBuffer = "";
                    while ((aDataRow = myReader.readLine()) != null) {
                          aBuffer += aDataRow + "\n";
                    }
                    txtData.setText(aBuffer);
                    myReader.close();
                    Toast.makeText(getBaseContext(),
                                "Done reading SD 'mysdfile.txt'",
                                Toast.LENGTH_SHORT).show();
              } catch (Exception e) {

    Toast.makeText(getBaseContext(),e.getMessage(),Toast.LENGTH_SHORT).show();
              }
              }

              // onClick

              });

              // btnReadSDFile

              btnClearScreen = (Button) findViewById(R.id.btnClearScreen);
              btnClearScreen.setOnClickListener(new OnClickListener()
              {

                    public void onClick(View v)
                    {
                          // clear text box
                          txtData.setText("");
                    }
              }); // btnClearScreen

              btnClose = (Button) findViewById(R.id.btnClose);
              btnClose.setOnClickListener(new OnClickListener()
               {

                    public void onClick(View v)
                    {
                          // clear text box
                          finish();
                    }
              }); // btnClose

        }// onCreate

        }
```

OUTPUT:


SDCard
Enter some lines of data here...
1. Write SD File
2. Clear Screen
3. Read SD File
4. Close

RESULT:

The simple android application for native calculator is developed and executed successfully

10. MARRIAGE

INVITATION AIM:

To design a mobile app for marriage invitation that uses GUI components, Font and colors.

ALGORITHM:

- **Open Android studio and then click on file -> new -> new project**
- **Select the button on your res -> layout -> activity Main.XML**
- **Button on your res -> layout -> String.XML**
- **Then select the minimum SDK as shown below and click next.**
- **Finally click finish**
- **Click on app -> res -> layout -> activity Main.XML**
- **Click on app-> res -> layout -> String.XML**

Program code:

activity_main.XML

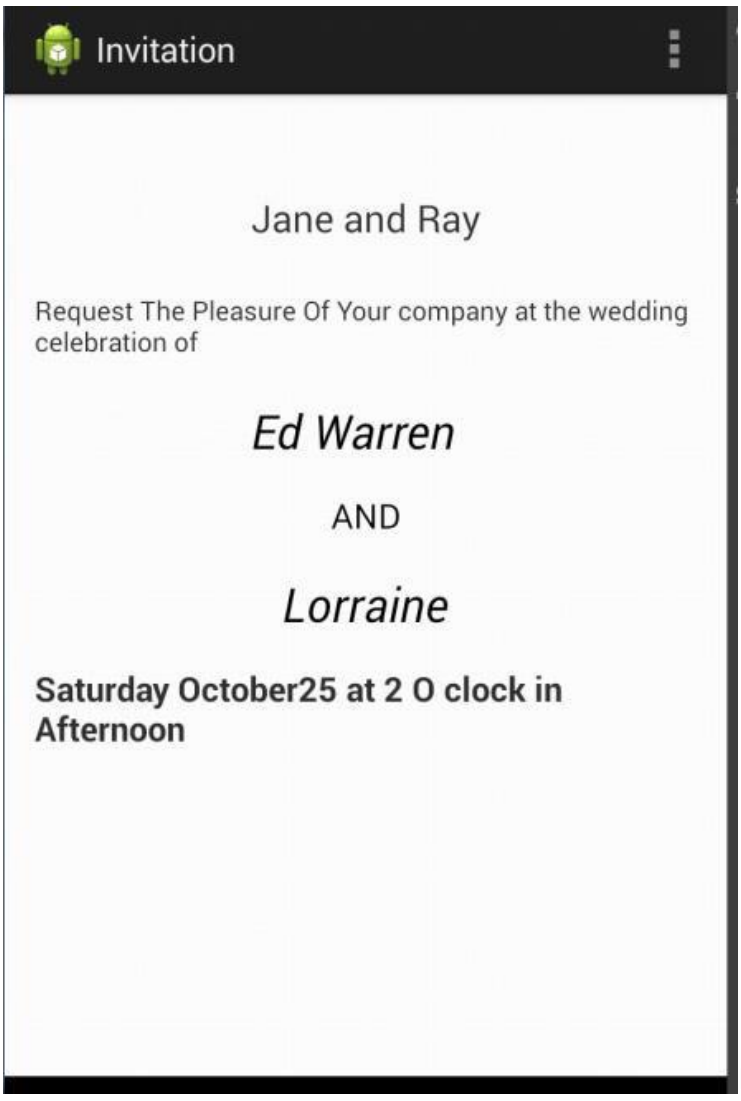
```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
s    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margi
    n"
    android:paddingLeft="@dimen/activity_horizontal_margi
    n"
    android:paddingRight="@dimen/activity_horizontal_marg
    in"
    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_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="36dp"
        android:text="Jane and Ray"
        android:textSize="20dp"/>
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="26dp"
        android:text="Request The Pleasure Of Your company at the wedding
      celebration of" />
    <TextView
```

```
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView
        1"
        android:layout_below="@+id/textView2"
        android:layout_marginTop="21dp"
        android:text="Ed Warren"
        android:textSize="25dp"
        android:textStyle="italic"
        android:textAppearance="?android:attr/textAppearanceLarge" />
    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView3"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="AND"
        android:textAppearance="?android:attr/textAppearanceMedium" />
    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView4"

        android:layout_centerHorizontal="true"
        android:layout_marginTop="18dp"
        android:text="Lorraine"
        android:textSize="25dp"
        android:textStyle="italic"
        android:textAppearance="?android:attr/textAppearanceLarge" />
    <TextView
        android:id="@+id/textView6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView
        2"
        android:layout_below="@+id/textView5"
        android:layout_marginTop="16dp"
        android:text="Saturday October25 at 2 O clock in Afternoon"
        android:textSize="18dp"
        android:textStyle="bold"
        />

</RelativeLayout>
```

String.xml

```
 --- No change---
```

OUTPUT:


Invitation
Jane and Ray
Request The Pleasure Of Your company at the wedding celebration of
Ed Warren
AND
Lorraine
Saturday October25 at 2 O clock in Afternoon

RESULT:

The simple android application for native calculator is developed and executed successfully