1.Display a Toast Message

2. Design Login Page and Display Message Using Toast Message and Validate User

3.Date and Time Picker and an Image Demo

4.Implicit Intent(Connecting SRM Website)

5. Explicit Intent(ConnectingActivity1to Activity 2)

6. Students Registration Form Using List view

7. Implement Context Menu

8.Shared Preferences

9.SQLite Bank Database

10. Student App Using SQLite

11. Display a Satellite View In Google Map

12. Display a Street View In Google Map

13. Display a Traffic Condition View In Google Map

EXP NO: 1 DISPLAY A TOAST MESSAGE

AIM:

To display a toast message in android application

ALGORITHM:

Step 1: Start the program

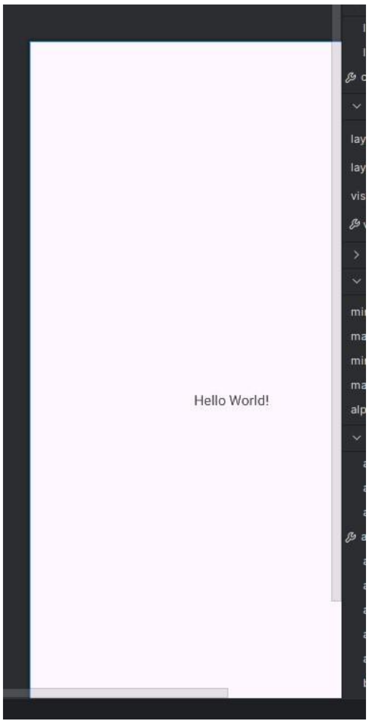
Step 2: Create New file and put your file name

Step 3: Click Empty View Activity

Step 4: In MainActivity.java, give the source code for Toast message.

Step 5: Run the Program.

DESIGN VIEW INPUT WINDOW:

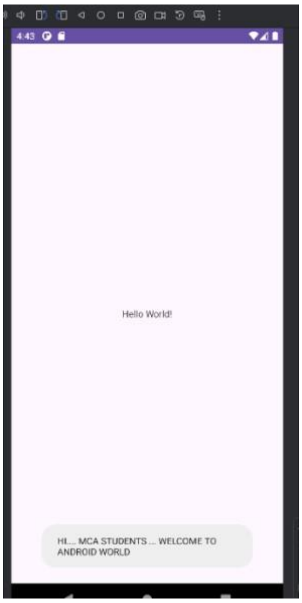


Hello World!

CODE: MainActivity.java package

```
com.example.kktoastmessage; import
androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle; import
android.widget.Toast; public class MainActivity
extends AppCompatActivity {
@Override protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Toast.makeText(this,&quot;HI.... MCA STUDENTS ... WELCOME TO
ANDROID WORLD&quot;,
Toast.LENGTH_LONG).show();
}
```

OUTPUT



Hello World!

HI.... MCA STUDENTS ... WELCOME TO ANDROID WORLD

RESULT:

Thus, The Android Application has been developed and run successfully.

EX NO: 2 DESIGN LOGIN PAGE AND DISPLAY MESSAGE USING TOAST MESSAGE AND VALIDATE USER

AIM:

To design login page and display message using toast message and validate the user.

ALGORITHM:

Step 1: Start the program

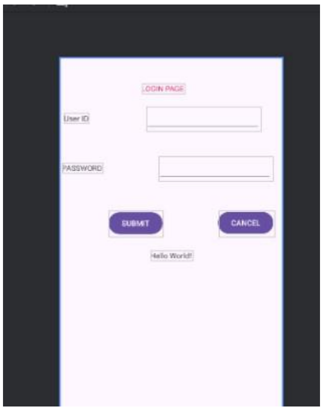
Step 2: Choose the 2 TextBox, 2 Buttons drag and drop in design page.

Step 3: Set the widgets for all components

Step 4: Give the source code for login page inside a MainActivity.java

Step 5: Run the program

DESIGN VIEW INPUT WINDOW:

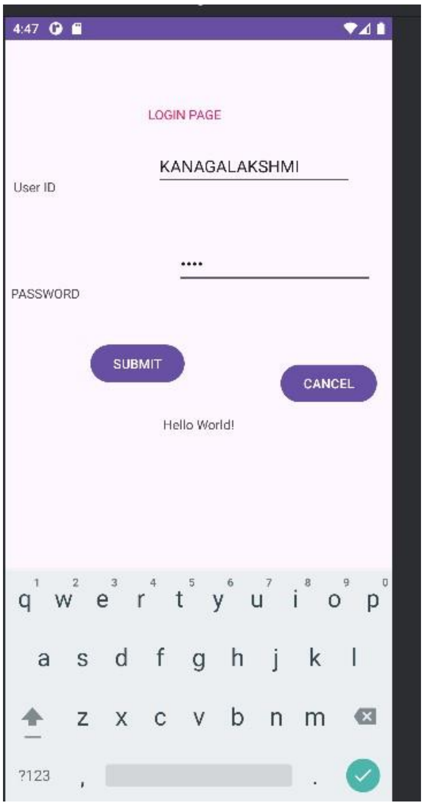


CODE: MainActivity.java package

```
com.example.loginpage; import
androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle; import
android.view.View; import
android.widget.EditText; import
android.widget.TextView; import
android.widget.Toast; import android.os.Bundle;
import java.text.BreakIterator;
public class MainActivity extends AppCompatActivity {
   EditText u, p;
   TextView disp;     @Override     protected void
onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);         u =
(EditText) findViewById(R.id.uid);         p =
(EditText) findViewById(R.id.pwd);        /*
disp=(EditText) findViewById(R.id.tv2);*/
   }public void logFun(View v){
      String uname = u.getText().toString();
      String password = p.getText().toString();
      /*if (uname.contentEquals("admin") &&
pwd.contentEquals("kanagalakshmi")
)*/Toast.makeText(getApplicationContext(),"welcome" +
uname,Toast.LENGTH_LONG).show();
         disp.setText(u.getText());
         /* else
```

```
            Toast.makeText(getApplicationContext(),"invalid
user",Toast.LENGTH_LONG).show();*/
    }}
```

OUTPUT:



LOGIN PAGE

User ID KANAGALAKSHMI

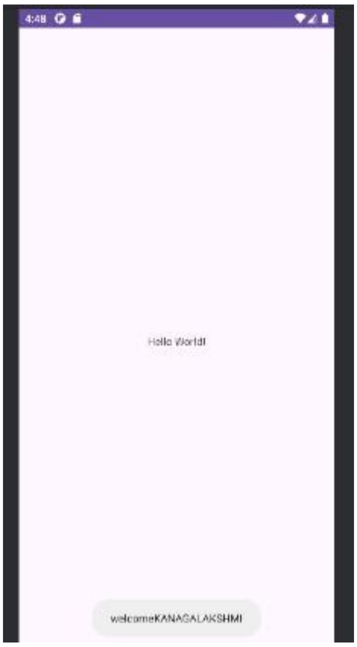
PASSWORD ••••

SUBMIT

CANCEL

Hello World!

OUTPUT:



Hello World!

welcomeKANAGALAKSHMI

RESULT:

Thus, The Android Application has been developed and run successfully.

EXP NO: 3 Date and Time picker and an Image Demo

DATE:

AIM:

To display a current date and time picker and an image demo

ALGORITHM:

Step 1: Create New Project

Step 2: Select Empty View Activity

Step 3: Add Four Components Text View, Button, Image View, Calendar

Step 4: In MainActivity.java, give the source code for date and time picker Step 5: Run the program.

DESIGN VIEW INPUT WINDOW:

CODE: XML

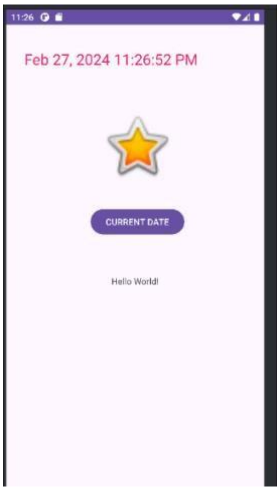
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

 <TextView
        android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="138dp"
android:layout_marginTop="39dp"
```

```
android:layout_marginEnd="215dp"
android:text="TextView"
android:textColor="#E91E63"
android:textSize="24sp"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

<Button
        android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="164dp"
android:layout_marginTop="204dp"
android:layout_marginEnd="157dp"
android:text="CURRENT DATE AND TIME"
android:onClick="showTime"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView" />

<ImageView
        android:id="@+id/imageView3"
android:layout_width="265dp"
android:layout_height="117dp"
android:layout_marginStart="76dp"
android:layout_marginTop="124dp"
android:layout_marginEnd="70dp"
android:layout_marginBottom="28dp"
app:layout_constraintBottom_toTopOf="@+id/button"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:srcCompat="@android:drawable/btn_star_big_on" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

CODE: MainActivity.java package com.example.kktimerandimage; import androidx.appcompat.app.AppCompatActivity;

```
import     android.os.Bundle;    import
android.view.View;                    import
android.widget.TextView;         import
com.example.kktimerandimage.R;
import
com.example.kktimerandimage.R;
import java.text.DateFormat; import
java.util.Date;
public class MainActivity extends AppCompatActivity {
@Override
 protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
public void showTime(View v)
{
TextView tv=(TextView)findViewById(R.id.textView);
Date d=new Date();
String s=DateFormat.getDateTimeInstance().format(d);
tv.setText(s);
}}
```

OUTPUT



RESULT:

Thus, The Android Application has been developed and run successfully.

EXP NO: 4 Implicit Intent (connecting SRM WebSite)

DATE:

AIM:

To Implicity connecting to SRM Website using Intent in Android Application

ALGORITHM:

Step 1: Create New Project

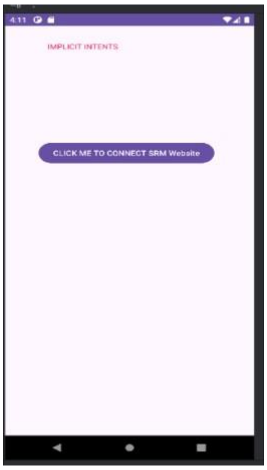
Step 2 : Select Empty View Activity

Step 3: Add the TextView, Button components.

Step 4: In the MainActivity.java, implement the code to handle the button click and create an implicit intent to open a web browser.

Step 5: Run the app.

DESIGN VIEW INPUT WINDOW:



CODE: XML

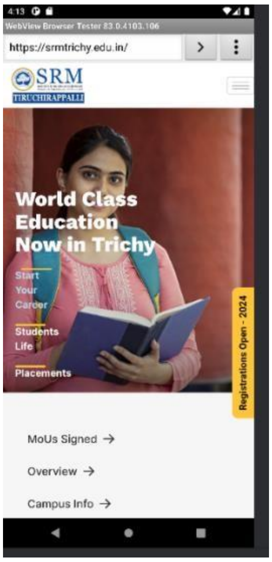
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
xmlns:app="http://schemas.android.com/apk/res-auto"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

   <TextView        android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="70dp"
android:layout_marginTop="32dp"
android:layout_marginEnd="334dp"
android:text="IMPLICIT INTENTS"
android:textColor="#E91E63"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.0"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.0" />

   <Button
      android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="155dp"
android:layout_marginTop="135dp"
android:layout_marginEnd="166dp"
android:layout_marginBottom="497dp"
android:text="CLICK ME TO CONNECT SRM Website"
android:onClick="connect"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
```

```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

CODE: MainActivity.java

```
package
com.example.kkintentintext;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;

import android.os.Bundle;
import android.view.View;

import android.net.Uri;
import
android.os.Bundle;
import
android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

   }
   public void connect(View v)
   {
      Intent i=new Intent(Intent.ACTION_VIEW);
      i.setData(Uri.parse("https://srmtrichy.edu.in/"));
startActivity(i);
}

}
```

OUTPUT



WebView Browser Tester 83.0.4103.106

https://srmtrichy.edu.in/

RESULT:

Thus, The Android Application has been developed and run successfully.

EXP NO: 5 Explicit Intent (connecting Activity1 to activity2)

DATE:

AIM:

To Explicity connecting Activity 1 to Activity 2 using intent in Android Application.

ALGORITHM:

Step 1: Open Android Studio and create a new project with an Empty Activity.

Step 2: Add the Textview and Button components

Step 3: Create A New Activity

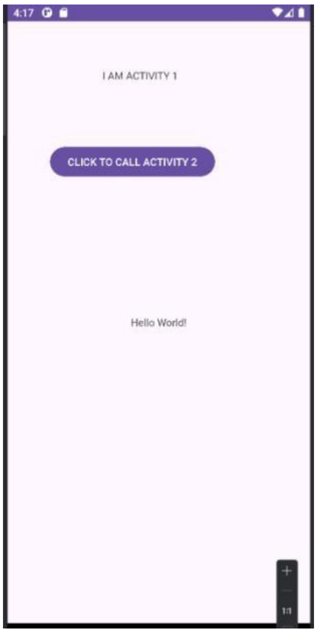
1. Right-click on the java folder in your project.

2. Choose New-> Activity->Empty Activity

Step 4: In the MainActivity.java, implement the code to handle the button click and create an explicit intent to open SecondActivity.

Step 5: Run the app.

DESIGN VIEW INPUT WINDOW:



CODE: 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">

   <TextView android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello World!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

   <Button
```

```
        android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="125dp"
android:layout_marginTop="145dp"
android:layout_marginEnd="197dp"
android:layout_marginBottom="163dp"
android:onClick="show"
        android:text="CLICK TO CALL ACTIVITY 2"
app:layout_constraintBottom_toTopOf="@+id/textView"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

    <TextView
android:id="@+id/textView3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="151dp"
android:layout_marginTop="53dp"
android:layout_marginEnd="202dp"
android:layout_marginBottom="73dp"
android:text="I AM ACTIVITY 1"
        app:layout_constraintBottom_toTopOf="@+id/button"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

CODE: XML (Activity2)

```
<?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=".MainActivity2">

   <Button
       android:id="@+id/button2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="131dp"
android:layout_marginTop="218dp"
android:layout_marginEnd="123dp"
android:layout_marginBottom="465dp"
android:text="SHOW MESSAGE"
android:onClick="display"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

   <TextView
android:id="@+id/textView2"
android:layout_width="287dp"
android:layout_height="13dp"
android:layout_marginStart="197dp"
android:layout_marginTop="107dp"
android:layout_marginEnd="157dp"
android:layout_marginBottom="339dp
" android:text="TextView"
       app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.491"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/button2"
app:layout_constraintVertical_bias="1.0" />

   <TextView
android:id="@+id/textView4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="164dp"
android:layout_marginTop="47dp"
android:layout_marginEnd="143dp"
```

```
android:layout_marginBottom="152dp"
android:text="I AM ACTIVITY 2"
        app:layout_constraintBottom_toTopOf="@+id/button2"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

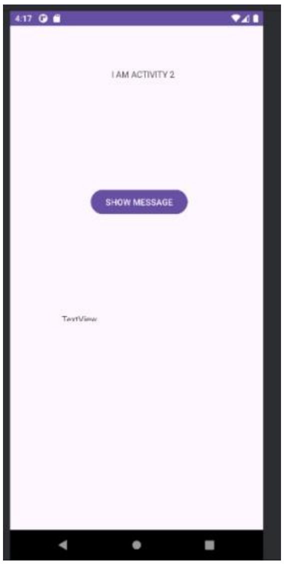
CODE: MainActivity.java

```
package com.example.kkexplicit;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;

import android.os.Bundle;
import android.view.View;

import android.net.Uri;
import
android.os.Bundle;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

    public void show(View v) {
        Intent i = new Intent(getApplicationContext(), MainActivity2.class);
startActivity(i);

}
}
```

CODE: MainActivity.java Activity2

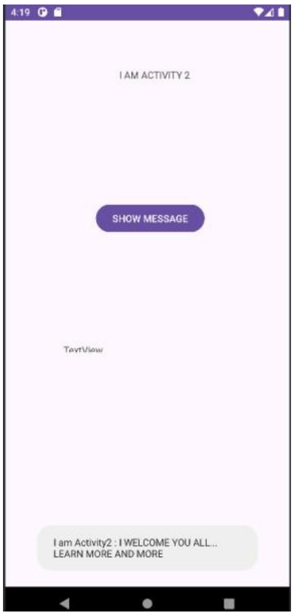
```
package com.example.kkexplicit;

import
androidx.appcompat.app.AppCompatActivity;
import android.view.View; import
android.os.Bundle; import
android.widget.TextView; import
android.widget.Toast;
public class MainActivity2 extends AppCompatActivity {
@Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main2);
   }
   public void display(View v)
   {

      Toast.makeText(getApplicationContext(),"I am Activity2 : I WELCOME
YOU ALL... LEARN MORE AND MORE",Toast.LENGTH_LONG).show();

  }}
```

OUTPUT



I AM ACTIVITY 2

TextView



I AM ACTIVITY 2

TextView

I am Activity2 : I WELCOME YOU ALL...
LEARN MORE AND MORE

RESULT:

Thus, The Android Application has been developed and run successfully.

Ex No: 6 STUDENTS REGISTRATION FORM USING LISTVIEW DATE:

AIM:

To develop an android App to implement LinearLayout and ListView.

ALGORITHM:

Step 1: Create a New project -> Empty view activity ->Finish

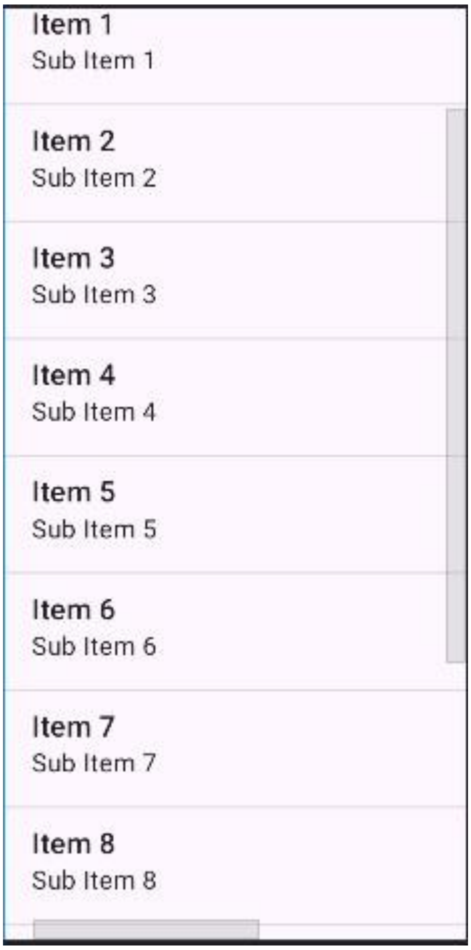
Step 2: Add the following components, LinearLayout and ListView

Step 3: Develop the MainActivity.java to add items in the ListView using ArrayAdaptor class.

Step 4: Build and Run the App.

Step 5: Stop the Project.

DESIGN VIEW INPUT WINDOW:



Item 1
Sub Item 1

Item 2
Sub Item 2

Item 3
Sub Item 3

Item 4
Sub Item 4

Item 5
Sub Item 5

Item 6
Sub Item 6

Item 7
Sub Item 7

Item 8
Sub Item 8

CODE: XML

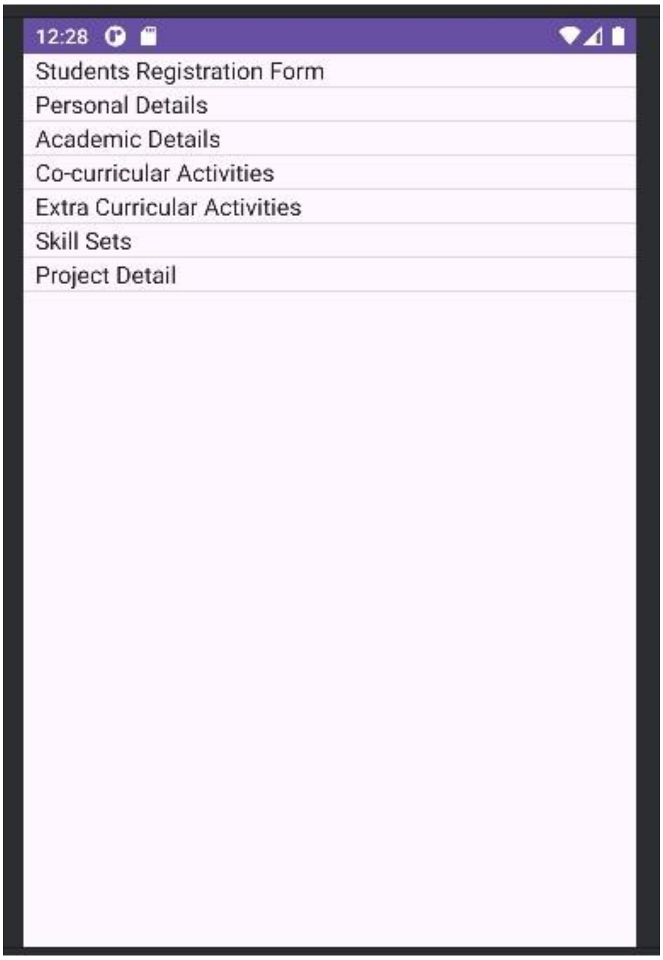
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayoutxmlns:android="http://sche
mas.a ndroid.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"     tools:context=".MainActivity">
<LinearLayout        android:layout_width="409dp"
android:layout_height="665dp"
android:layout_marginStart="1dp"
```

```
android:layout_marginTop="1dp"

android:layout_marginEnd="1dp"

android:orientation="vertical"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.0"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@+id/textView"

app:layout_constraintVertical_bias="0.0"></LinearLayout>

<ListView

      android:id="@+id/list"

android:layout_width="match_parent"

android:layout_height="match_parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

CODE: MainActivity.java package

```
com.example.kklistview;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import
android.widget.AdapterView;
import
android.widget.ArrayAdapter;
import
android.widget.ListView;
public class MainActivity extends AppCompatActivity {
ListView l;
   //Spinner s;

String registration[]= { "Students Registration Form","Personal Details",
"Academic
Details", "Co-curricular Activities","Extra Curricular Activities", "Skill
Sets", "Project Detail"}; @Override
   protected void onCreate(Bundle savedInstanceState)
   {
        super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        l = findViewById(R.id.list);
ArrayAdapter<String> arr;

       arr=new
ArrayAdapter(MainActivity.this,android.R.layout.simple_spinner_item,registrat
ion);        l.setAdapter(arr);
    }
}
```

OUTPUT



12:28

Students Registration Form

Personal Details

Academic Details

Co-curricular Activities

Extra Curricular Activities

Skill Sets

Project Detail

RESULT:

Thus, The Android Application has been developed and run successfully.

EXP NO: 7 IMPLEMENT CONTEXT MENU

DATE:

AIM:

To develop an android Application to implement Context Menu.

ALGORITHM:

Step 1: Create a New Project in the Android Studio
Step 2: Select an Empty View Window
Step 3: Add the following components : TextView, RelativeLayout
Step 4: In the MainActivity.java, implement the code for context menu. Step 5: Run the program.

CODE: XML (Design)

```
<?xml version="1.0" encoding="utf-8"?>
<!-- Relative Layout to display all the details -->
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/relLayout"     android:layout_width="match_parent"
android:layout_height="match_parent"     android:background="#fff"
android:padding="16dp"     tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_centerHorizontal="true"
android:layout_marginTop="20dp"
android:text="Long press me!"
android:textColor="#000"
android:textSize="20sp"
        android:textStyle="bold" />
</RelativeLayout>
```

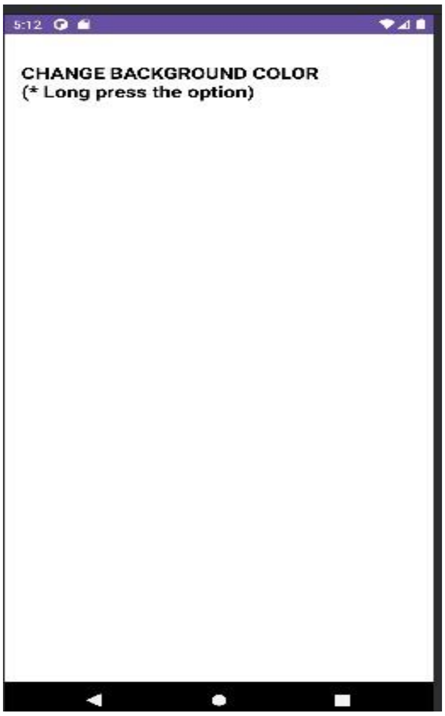
CODE: MainActivity.java import

```
          android.graphics.Color;  import android.os.Bundle;
          import android.view.ContextMenu;  import
          android.view.MenuItem;  import android.view.View;
```

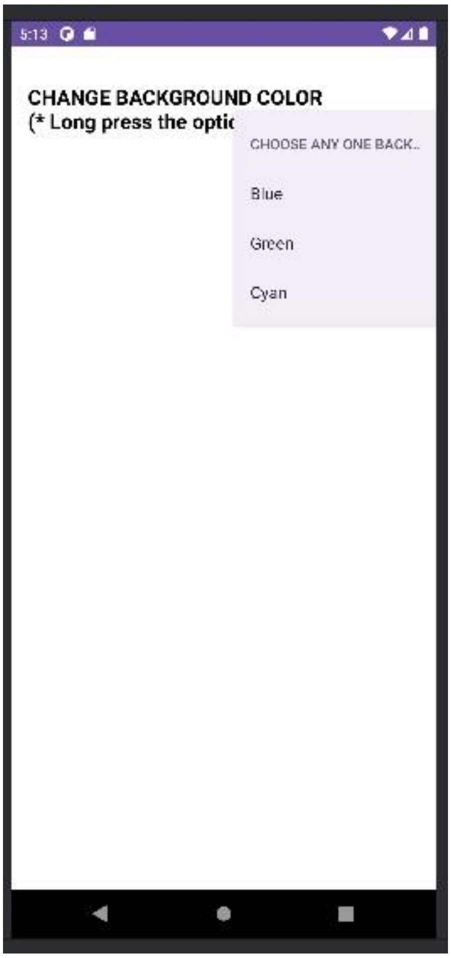
```
import android.widget.RelativeLayout;  import
android.widget.TextView;  import
androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends
AppCompatActivity {
    TextView textView;
    RelativeLayout relativeLayout;
   @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
 // Link those objects with their respective id's that we have given in
.XML file
       textView      =      (TextView)      findViewById(R.id.textView);
relativeLayout = (RelativeLayout) findViewById(R.id.relLayout);    //
here you have to register a view for context menu you can register any
view
         // like listview, image view, textview, button etc
       registerForContextMenu(textView);
  }
      @Override
   public    void    onCreateContextMenu(ContextMenu    menu,
View     v,     ContextMenu.ContextMenuInfo     menuInfo)     {
super.onCreateContextMenu(menu, v, menuInfo);          // you
can     set     menu     header     with     title     icon     etc
menu.setHeaderTitle("Choose a color");
       //       add       menu       items
menu.add(0,  v.getId(),  0,  "Yellow");
menu.add(0, v.getId(), 0, "Gray");
       menu.add(0, v.getId(), 0, "Cyan");
    }
// menu item select listener
    @Override
    public boolean onContextItemSelected(MenuItem item)
{         if (item.getTitle() == "Yellow") {
           relativeLayout.setBackgroundColor(Color.YELLOW);
       } else if (item.getTitle() == "Gray") {
           relativeLayout.setBackgroundColor(Color.GRAY);
       } else if (item.getTitle() == "Cyan") {
           relativeLayout.setBackgroundColor(Color.CYAN);
       }
```

```
        return true;
    }
}
```

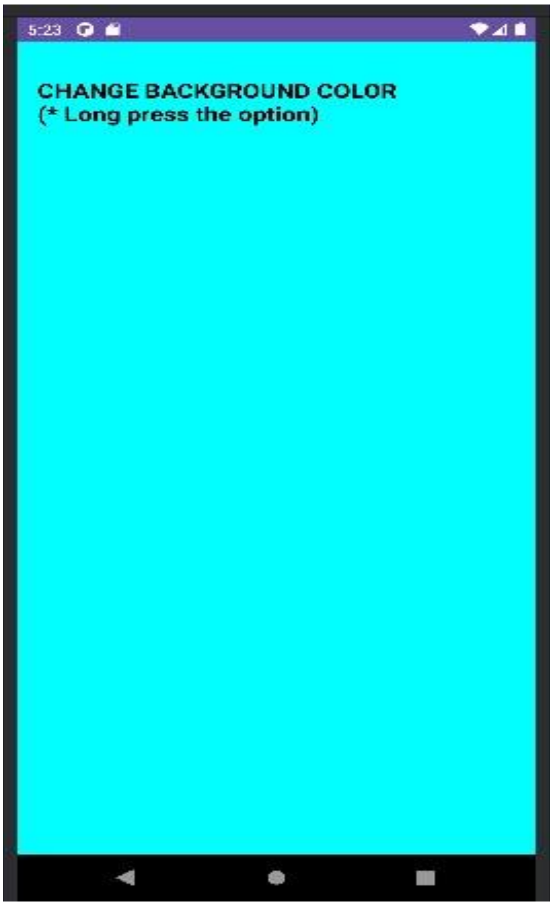
OUTPUT:



CHANGE BACKGROUND COLOR
(* Long press the option)



CHANGE BACKGROUND COLOR
(* Long press the optic



5:23

CHANGE BACKGROUND COLOR
(* Long press the option)

RESULT:

Thus, The Android Application has been developed and run successfully.

EXP NO: 8 **SHARED PREFERENCES**

DATE:

AIM:

To implement the shared preference in Android Application.

ALGORITHM:

STEP 1: The first thing we need to do is to create one shared preferences file per app.

STEP 2: Name it with the package name of your app- unique and easy to associate with the app.

STEP 3: When you want to get the values, call the getSharedPreferences() method.

STEP4: To write to a SharedPreference file we can create a SharedPreferences.Editor by calling edit() on your sharedpreference.

STEP 5: To retrieve values from a shared preferences file, call methods such as getInt() and getString()

CODE: XML

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"    tools:context=".MainActivity"
tools:ignore="HardcodedText">
  <TextView
android:id="@+id/textview"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_centerHorizontal="true"
android:layout_marginTop="32dp"
android:text="Shared Preferences Demo"
android:textColor="@android:color/black"
android:textSize="24sp" />
  <!--EditText to take the data from the user and save the data in
SharedPreferences-
->
```

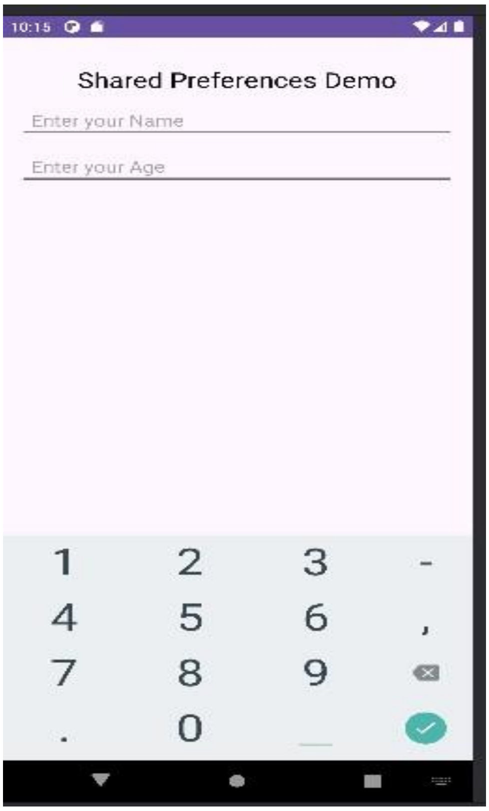
```
   <EditText
android:id="@+id/edit1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@+id/textview"
android:layout_marginStart="16dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="16dp"
android:hint="Enter your Name"
android:padding="10dp" />     <!--
EditText to take the data from the user
and save the data in SharedPreferences--
>     <EditText
android:id="@+id/edit2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@+id/edit1"
android:layout_marginStart="16dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="16dp"
android:hint="Enter your Age"
android:inputType="number"
android:padding="10dp" />
</RelativeLayout>
```

CODE: MainActivity.java import

```
androidx.appcompat.app.AppCompatActivity;
```

```
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
private EditText name, age;

   @Override
   protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
name = findViewById(R.id.edit1);
      age = findViewById(R.id.edit2);
   }

   // Fetch the stored data in onResume() Because this is what will be called
when the app opens again      @Override     protected void onResume() {
super.onResume();
      // Fetching the stored data from the SharedPreference
      SharedPreferences sh = getSharedPreferences("MySharedPref",
MODE_PRIVATE);
      String s1 = sh.getString("name", "");
      int a = sh.getInt("age", 0);

      // Setting the fetched data in the EditTexts
name.setText(s1);
      age.setText(String.valueOf(a));
   }

   // Store the data in the SharedPreference in the onPause() method
   // When the user closes the application onPause() will be called and data will
be stored      @Override
   protected void onPause() {
super.onPause();
      // Creating a shared pref object with a file name "MySharedPref" in private
mode
      SharedPreferences sharedPreferences =
getSharedPreferences("MySharedPref", MODE_PRIVATE);
      SharedPreferences.Editor myEdit = sharedPreferences.edit();
      // write all the data entered by the user in SharedPreference and
apply myEdit.putString("name", name.getText().toString());
myEdit.putInt("age", Integer.parseInt(age.getText().toString()));
myEdit.apply();
   }
}
```

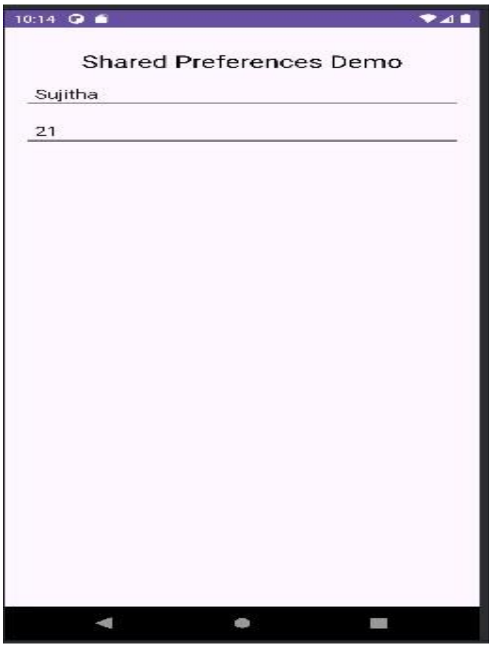
OUTPUT:



Shared Preferences Demo

Enter your Name

Enter your Age



Shared Preferences Demo

Sujitha

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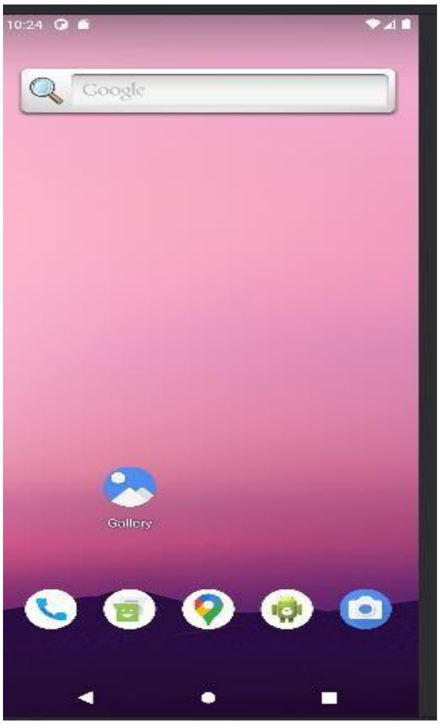

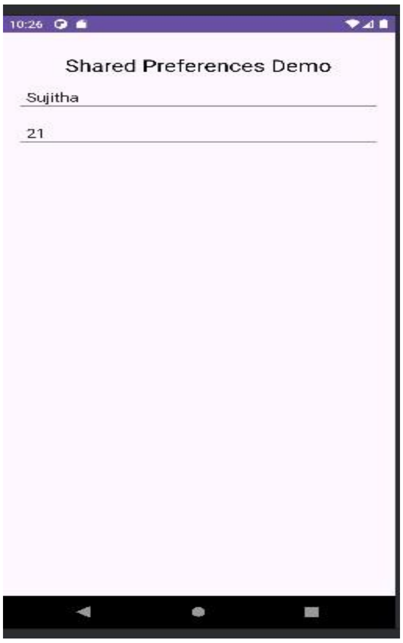

Shared Preferences Demo

Sujitha

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RESULT:

Thus, The Android Application has been developed and run successfully.

Ex No:9 **SQLite BANK DATABASE**

DATE:

AIM:

To implement the SQlite bank database in android application.

ALGORITHM:

STEP 1: Create a class that extends SQLiteOpenHelper to manage the creation and version management of the database.

STEP 2: Implement methods in your application to perform database operations using SQLiteDatabase class.

STEP 3: You can then use this BankDataSource class in your Android activities

STEP 4: Use SQL commands to create the database schema.

STEP 5: Create tables for each entity with the appropriate attributes.

STEP 6: Apply normalization techniques to organize the data efficiently.

CODE: XML

```
<!-- activity_main.xml -->
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent"
android:layout_height="match_parent">
 <EditText
android:id="@+id/editTextAccountNumber"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Account Number"
android:layout_marginTop="16dp"
android:layout_marginStart="16dp"
android:layout_marginEnd="16dp"/>
   <EditText        android:id="@+id/editTextBalance"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Balance"
android:layout_below="@id/editTextAccountNumber"
android:layout_marginTop="16dp"
android:layout_marginStart="16dp"
android:layout_marginEnd="16dp"/>
```

```
<EditText
android:id="@+id/editTextAccountHolder"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Account Holder"
android:layout_below="@id/editTextBalance"
android:layout_marginTop="16dp"
android:layout_marginStart="16dp"
android:layout_marginEnd="16dp"/>
<Button        android:id="@+id/buttonAddAccount"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Add Account"
android:layout_below="@id/editTextAccountHolder"
android:layout_marginTop="16dp"
android:layout_marginStart="16dp"
android:layout_marginEnd="16dp"/>
</RelativeLayout>
```

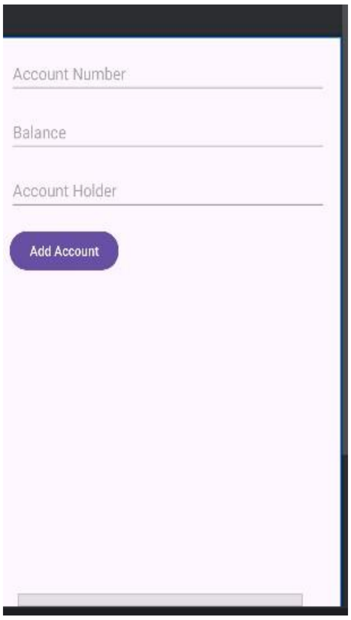
CODE: MainActivity.java import

```
android.content.Context; import
android.database.sqlite.SQLiteDatabase; import
android.database.sqlite.SQLiteOpenHelper; import
android.content.ContentValues; import
android.content.Context; import
android.database.SQLException; import
android.database.sqlite.SQLiteDatabase; public class
```

```
BankDatabaseHelper extends SQLiteOpenHelper {
private static final String DATABASE_NAME =
"bank.db";     private static final int
DATABASE_VERSION = 1;
// Table name and column names     public static final String
TABLE_ACCOUNTS = "accounts";     public static final String COLUMN_ID
= "_id";     public static final String COLUMN_ACCOUNT_NUMBER =
"account_number";     public static final String COLUMN_BALANCE =
"balance";

   public static final String COLUMN_ACCOUNT_HOLDER =
"account_holder";
// SQL statement to create the accounts table
   private static final String DATABASE_CREATE = "create table " +
TABLE_ACCOUNTS + " ("
         + COLUMN_ID + " integer primary key autoincrement, "
         + COLUMN_ACCOUNT_NUMBER + " text not null, "
         + COLUMN_BALANCE + " real not null, "
         + COLUMN_ACCOUNT_HOLDER + " text not null);";
public BankDatabaseHelper(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  "  +
TABLE_ACCOUNTS);        onCreate(db);
```

```
   }
} public class BankDataSource {     private
SQLiteDatabase database;     private
BankDatabaseHelper dbHelper; public
BankDataSource(Context context) {
dbHelper = new BankDatabaseHelper(context);
   }
 public void open() throws SQLException {
database = dbHelper.getWritableDatabase();
   }
public void close() {
dbHelper.close();
   }
public long createAccount(String accountNumber, double balance, String
accountHolder) {
      ContentValues values = new ContentValues();
values.put(BankDatabaseHelper.COLUMN_ACCOUNT_NUMBER,
accountNumber);
values.put(BankDatabaseHelper.COLUMN_BALANCE, balance);
values.put(BankDatabaseHelper.COLUMN_ACCOUNT_HOLDER,
accountHolder);        return
database.insert(BankDatabaseHelper.TABLE_ACCOUNTS, null,
values);
   }
BankDataSource dataSource = new BankDataSource(this);
dataSource.open(); long accountId =
dataSource.createAccount("1234567890", 1000.00, "John Doe");
dataSource.close();
}
```

OUTPUT



RESULT:

Thus, The Android Application has been developed and run successfully.

EXP NO:10 STUDENT APP USING SQLITE

DATE:

AIM:

To create an Student Application using Android studio for maintaining student details in sqlite**.**

ALGORITHM:

Step 1: Start the Android Studio.

Step 2: File -> New -> New Project ->Application Name ->StudentApp

Next>Finish.

Step 3: Design the App (activity_main.xml) by adding the following controls. 4Button,2 Edit Text, 2 Text View.

Step 4: Assign the name for onClick event as inf,delf,updatef,viewf. Step 5:Write coding for MainActivity.java.

Step 5: Run the program Build -> BuildBundles/apk(s)->locate.

Step 6: Now the App is installed and verified in Bluestack.

Step 7:Close the project.

CODE: XML

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

<RelativeLayout 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">


    <TextView
        android:id="@+id/textView"
        android:layout_width="84dp"
        android:layout_height="51dp"
        android:layout_alignParentStart
        ="true"
        android:layout_alignParentLeft=
        "true"
        android:layout_alignParentTop=
        "true"
        android:layout_marginStart="19
        dp"
        android:layout_marginLeft="19
        dp"
        android:layout_marginTop="10dp"
        android:text="name" />


    <TextView
        android:id="@+id/textView2"
        android:layout_width="75dp"
        android:layout_height="44dp"
        android:layout_alignEnd="@+id/text
        View"
        android:layout_alignParentTop="true
        " android:layout_marginTop="92dp"
        android:layout_marginEnd="3dp"
        android:text="rno" />


    <EditText android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/text
        View"
        android:layout_marginStart="31dp"
        android:layout_marginBottom="-3dp"
        android:layout_toEndOf="@+id/textVie
        w2" android:ems="10"
        android:inputType="textPersonName" />


    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_c
        ontent"
        android:layout_height="wrap_c
        ontent"
        android:layout_alignEnd="@+i
        d/editText"
```

```
android:layout_alignBottom="@+id/textView2"
android:ems="10"
android:inputType="textPersonName" />


    <Button android:id="@+id/button"
        android:layout_width="wrap_co
        ntent"
        android:layout_height="wrap_co
        ntent"
        android:layout_alignParentStart=
        "true"
        android:layout_alignParentLeft=
        "true"
        android:layout_alignParentTop=
        "true"
        android:layout_marginStart="51
        dp"
        android:layout_marginLeft="51d
        p"
        android:layout_marginTop="181
        dp" android:onClick="inf"
        android:text="insertion" />


    <Button android:id="@+id/button2"
        android:layout_width="wrap_cont
        ent"
        android:layout_height="wrap_cont
        ent"
        android:layout_alignTop="@+id/b
        utton"
        android:layout_alignParentEnd="tr
        ue"
        android:layout_alignParentRight="
        true"
        android:layout_marginTop="3dp"
        android:layout_marginEnd="64dp
        "
        android:layout_marginRight="64d
        p" android:onClick="delf"
        android:text="deletion" />


    <Button android:id="@+id/button3"
        android:layout_width="wrap_conte
        nt"
        android:layout_height="wrap_conte
        nt"
        android:layout_alignEnd="@+id/bu
        tton"
        android:layout_alignParentBottom=
        "true"
        android:layout_marginEnd="-8dp"
        android:layout_marginBottom="11
        8dp" android:onClick="updatef"
        android:text="updation" />


    <Button
        android:id="@+id/button4"
        android:layout_width="wra
        p_content"
        android:layout_height="wra
        p_content"
        android:layout_alignEnd="
        @+id/textView"
        android:layout_alignParent
        Top="true"
        android:layout_marginTop=
        "346dp"
        android:layout_marginEnd
        ="-250dp"
        android:onClick="viewf"

android:text="viewing" />

 </RelativeLayout>
```

CODE: MainActivity.java

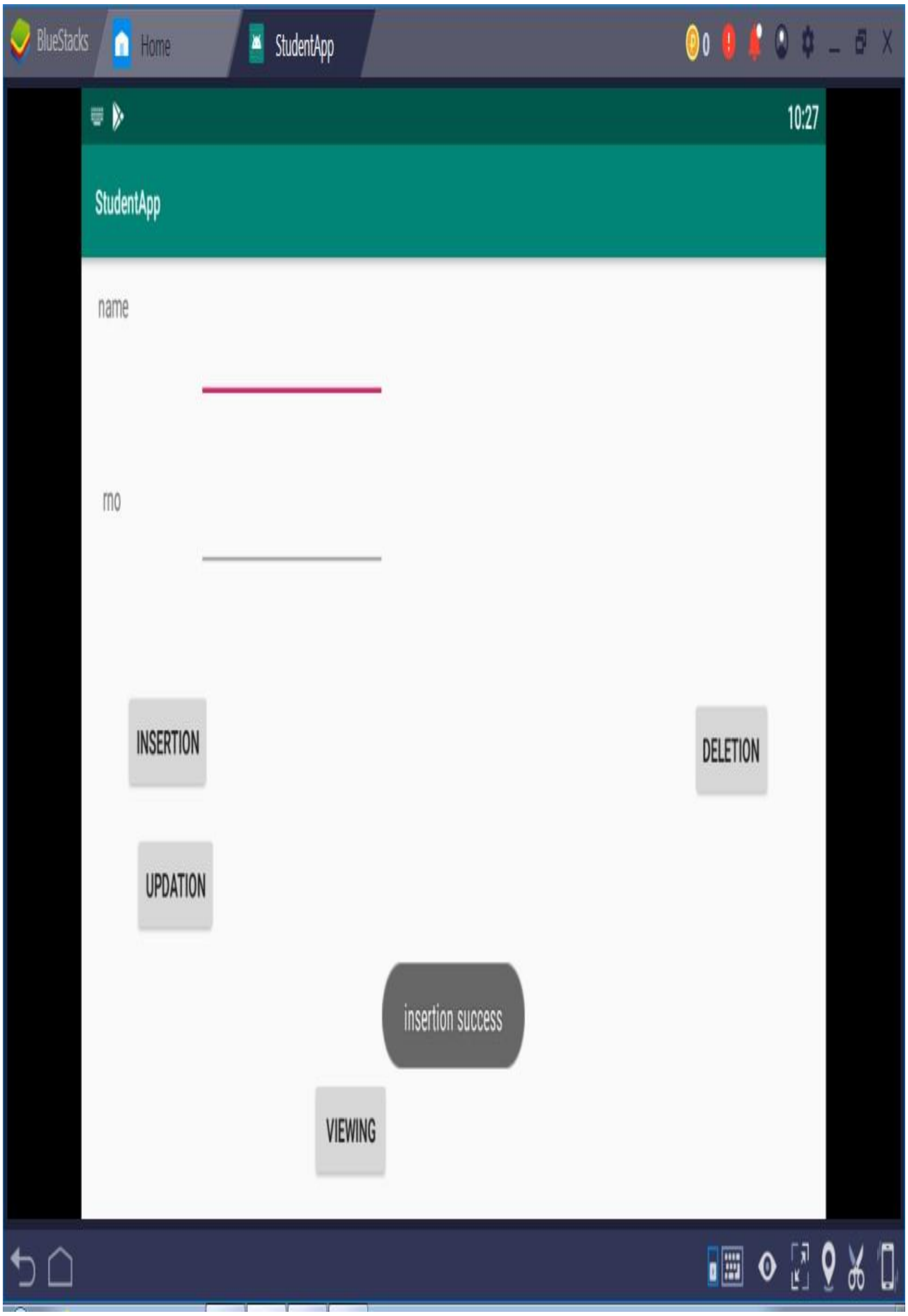
```
 package

 com.example.admin.studentapp;

 import android.content.Context; import
 android.database.Cursor; import
 android.database.sqlite.SQLiteDatabase; import
 android.support.v7.app.AppCompatActivity;
 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 AppCompatActivity {

   EditText name,rno;

   Button i,d,u,v;
   SQLiteDatabase db;


   @Override protected void onCreate(Bundle
   savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      name=(EditText)findViewById(R.id.editText);
      rno=(EditText) findViewById(R.id.editText2);
      i=(Button)findViewById(R.id.button);
      d=(Button)findViewById(R.id.button2);
      u=(Button)findViewById(R.id.button3);
      v=(Button)findViewById(R.id.button4);
      db=openOrCreateDatabase("StudentDB",
      Context.MODE_PRIVATE, null);
      db.execSQL("CREATE TABLE IF NOT EXISTS
      student(name VARCHAR,rno

VARCHAR);");
   }

   public void inf(View v)
   {
      db.execSQL("INSERT INTO student
VALUES('"+name.getText()+"','"+rno.getText()+"');");



      Toast.makeText(getApplicationContext(),"ins
ertion success",Toast.LENGTH_LONG).show();
clearText();
   }
```

```
  public void delf(View v)
  {
     Cursor c=db.rawQuery("SELECT * FROM student WHERE
rno='"+rno.getText()+"'", null);
     if(c.moveToFirst())
     {
        db.execSQL("DELETE FROM student WHERE rno='"+rno.getText()+"'");
        Toast.makeText(getApplicationContext(),"record
deleted",Toast.LENGTH_LONG).show();
     }
     e
     l
     s
     e
     {
        Toast.makeText(getApplicationContext(),"invalid roll
number",Toast.LENGTH_LONG).show();
     }
     clearText();

  }

  public void viewf(View v)
  {

     Cursor c=db.rawQuery("SELECT * FROM student WHERE
rno='"+rno.getText()+"'", null);
     if(c.moveToFirst())
     {
        name.setText(c.getStri
        ng(0));

     }
     e
     l
     s
     e
     {
        Toast.makeText(getApplicationContext(),"No such
record",Toast.LENGTH_LONG).show();
        clearText();
        } public void
    updatef(View v)
    {

        Cursor c=db.rawQuery("SELECT * FROM student WHERE
 rno='"+rno.getText()+"'", null);



        if(c.moveToFirst()) {
   db.execSQL("UPDATE student SET name='" + name.getText() + "' WHERE
 rno='" + rno.getText() + "'");


            Toast.makeText(getApplicationContext(),"Updation
 success",Toast.LENGTH_LONG).show();


        }
        e
        l
        s
        e
        {
            Toast.makeText(getApplicationContext(),"No such
 record",Toast.LENGTH_LONG).show();
        }
        clearText();

    }

public void clearText()
    {
        rno.setText(
        "");
        name.setTex
        t("");
        name.requestFocus();
        }

}
```

}

OUTPUT:



RESULT:

Thus, The Android Application has been developed and run successfully.

Ex No: 11 DISPLAY A SATELLITE VIEW IN GOOGLE MAP DATE:

AIM:

To display a Satellite View in Google map using Android Application.

ALGORITHM:

Step 1: Start the Android Studio.

Step 2: File -> New -> New Project ->Application Name ->Next->Finish.
Step 3: Add the following components: Linear layout, Mapview element.

Step 4: In MainActivity.java, give the source code for Satellite view.

Step 5: Run the program.

CODE: 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”>

<com.google.android.maps.MapView android:id=”@+id/mapView”

android:layout_width=”fill_parent” android:layout_height=”fill_parent”

android:enabled=”true” android:clickable=”true”

android:apiKey=”<YOUR KEY>” />

</LinearLayout>
```

CODE : MainActivity.java

```
@Override
public void onCreate(Bundle savedInstanceState) {
```

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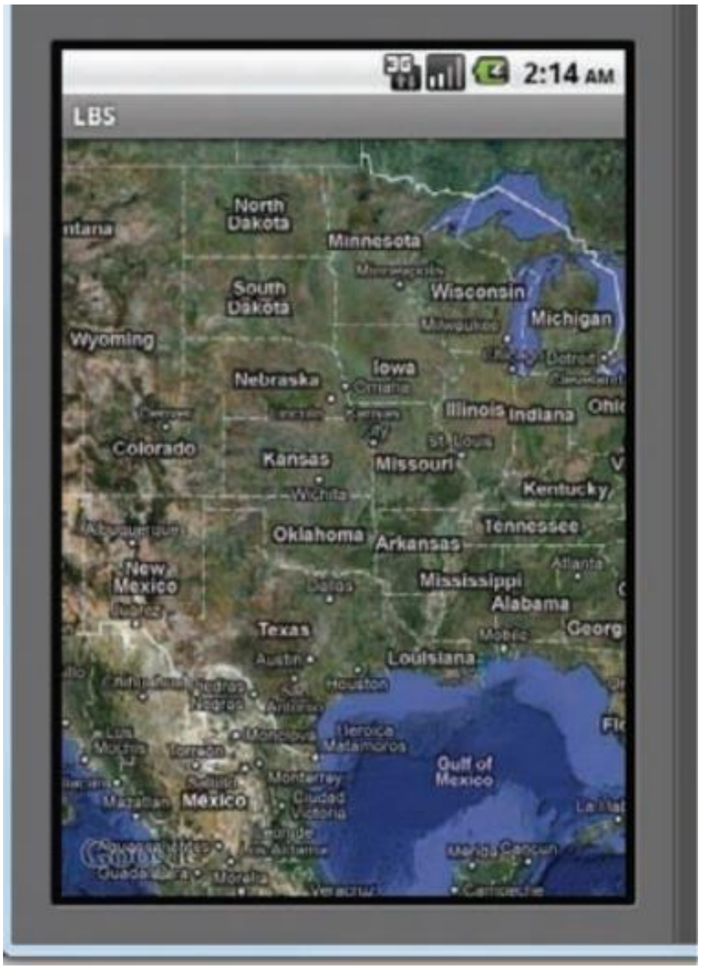
Displaying Maps | 311

```
super.onCreate(savedInstanceState);
setContentView(R.layout.main); mapView =
(MapView) findViewById(R.id.mapView);
mapView.setBuiltInZoomControls(true);
mapView.setSatellite(true);
}
```

OUTPUT:



RESULT:

Thus, The Android Application has been developed and run successfully.

Ex No: 12 DISPLAY A STREET VIEW IN GOOGLE MAP

DATE:

AIM:

To display a Street View in Google map using Android Application.

ALGORITHM:

Step 1: Start the Android Studio.

Step 2: File -> New -> New Project ->Application Name ->Next->Finish.
Step 3: Add the following components: Linear layout, Mapview element.

Step 4: In MainActivity.java, give the source code for Street view.

Step 5: Run the program.

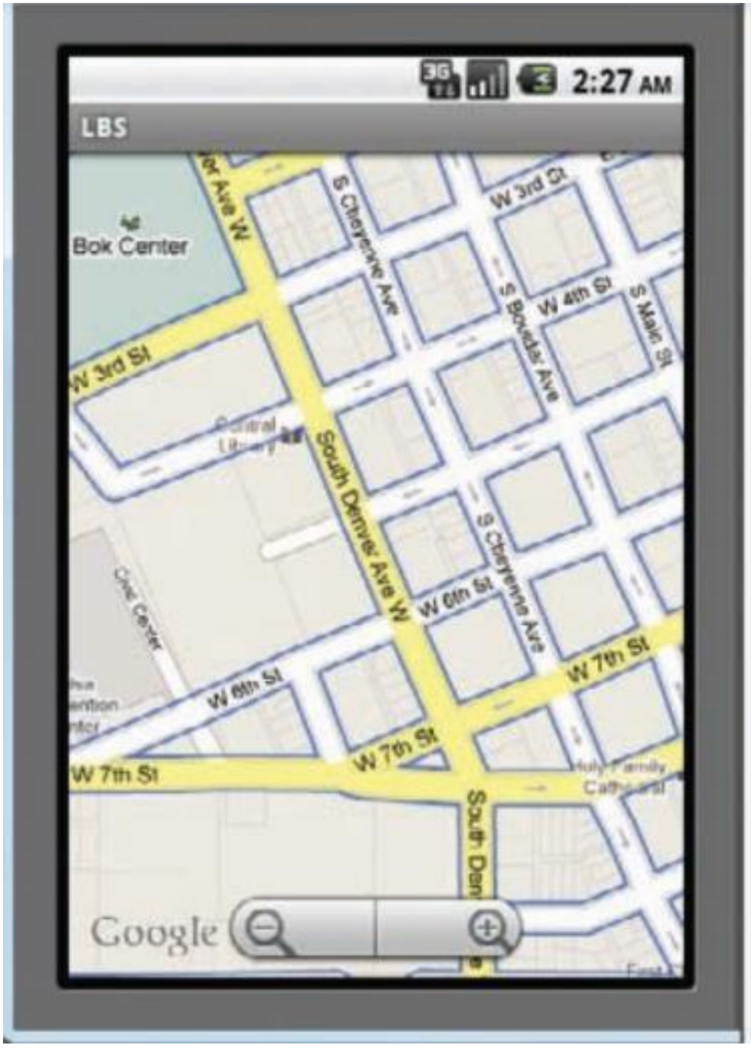
CODE: XML

```
<?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”>
<com.google.android.maps.MapView android:id=”@+id/mapView”
android:layout_width=”fill_parent” android:layout_height=”fill_parent”
android:enabled=”true” android:clickable=”true”
android:apiKey=”<YOUR KEY>” />
</LinearLayout>
```

CODE: MainActivity.java @Override public

```
void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.main); mapView =
(MapView) findViewById(R.id.mapView);
mapView.setBuiltInZoomControls(true);
mapView.setSatellite(true);
mapView.setStreetView(true);
}
```

OUTPUT



RESULT:

Thus, The Android Application has been developed and run successfully.

Ex No: 13 DISPLAY A TRAFFIC CONDITION VIEW IN GOOGLE MAP DATE:

AIM:

To display a Traffic View in Google map using Android Application.

ALGORITHM:

Step 1: Start the Android Studio.

Step 2: File -> New -> New Project ->Application Name ->Next->Finish.
Step 3: Add the following components: Linear layout, Mapview element.

Step 4: In MainActivity.java, give the source code for traffic view.

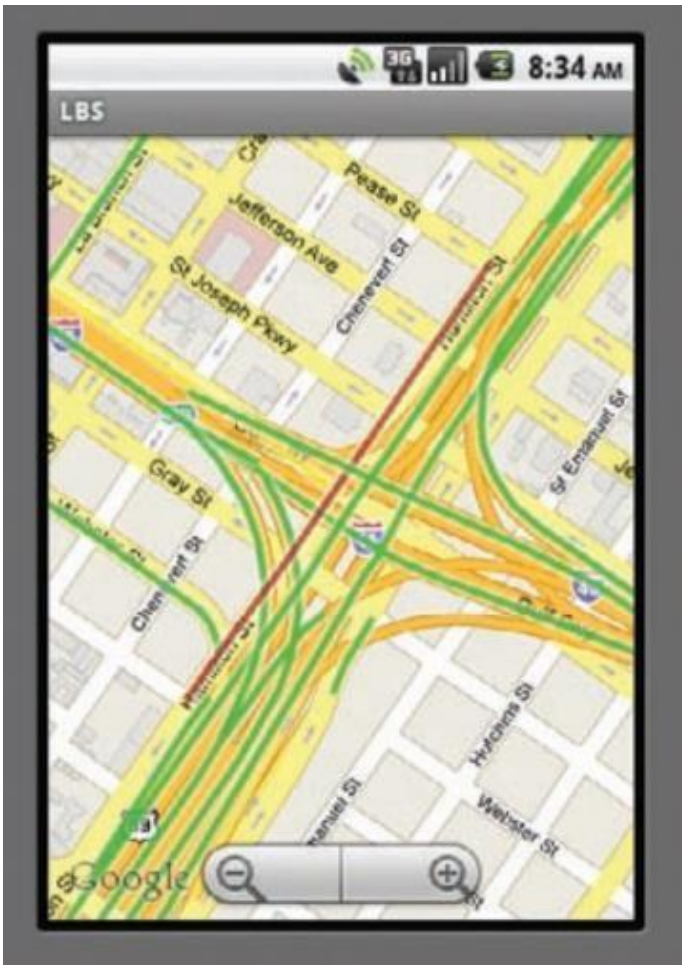
Step 5: Run the program.

CODE: MainActivity.java

```
package net.learn2develop.LBS; import

android.app.Activity; import

android.os.Bundle; import
android.view.KeyEvent; import
com.google.android.maps.MapActivity;
import
com.google.android.maps.MapController;
import com.google.android.maps.MapView;
import com.google.android.maps.GeoPoint;

public class MainActivity extends MapActivity {
MapView mapView;
MapController mc;

GeoPoint p;
/** Called when the activity is first created. */
@Override
public void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.main);

mapView = (MapView) findViewById(R.id.mapView);
mapView.setBuiltInZoomControls(true);
//mapView.setSatellite(true); mapView.setStreetView(true); mc =
mapView.getController();
```

```
String coordinates[] = {“1.352566007”,
“103.78921587”}; double lat =
Double.parseDouble(coordinates[0]); double lng =
Double.parseDouble(coordinates[1]); p = new
GeoPoint(
(int) (lat * 1E6),
(int) (lng * 1E6));
mc.animateTo(p);
mc.setZoom(13);
mapView.invalidate();
}
public boolean onKeyDown(int keyCode, KeyEvent event)
{
 MapController mc = mapView.getController();
switch (keyCode)
{
case KeyEvent.KEYCODE_3:
mc.zoomIn();
break;
case KeyEvent.KEYCODE_1:
mc.zoomOut();
br
ea
k;

}

return super.onKeyDown(keyCode, event);

}

@Override

protected boolean

isRouteDisplayed() { // TODO

Auto-generated method stub

return

false; }

}
```

OUTPUT



RESULT:

Thus, The Android Application has been developed and run successfully.