SONA COLLEGE OF ARTS AND SCIENCE
Affiliated to Periyar University, Salem -11

DEPARTMENT OF COMPUTER APPLICATIONS

PRACTICAL RECORD

Name : _____

Register Number : _____

Subject Code : **21UCASP03** _____

Subject Title : **SBEC III: MOBILE APPLICATION DEVELOPMENT**

Year / Sem : **III / V** _____

ACADEMIC YEAR: 2023– 2024

SONA COLLEGE OF ARTS AND SCIENCE
Affiliated to Periyar University, Salem

Certificate

This is to certify that the practical record "**SBEC III: MOBILE APPLICATION DEVELOPMENT"** is a bonafide work done by _____

Reg. No._____submitted to the Department of Computer Applications, during the academic year **2023-2024.**

SUBJECT IN-CHARGE **HEAD OF THE DEPARTMENT**

Submitted for University Practical Examination held on _____

INTERNAL EXAMINER **EXTERNAL EXAMINER**

INDEX

Ex. No: 01	ANDROID RESOURCES

AIM:

To create a android application to understand the use of android resources

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File ->New -> New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex1"** and click next.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and click Next, Finally click Finish. It will take some time to build andload the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on app → res → layout → values → **colors.xml** and create necessary colors using resources.
7. Click on → res → layout → values → **strings.xml** and create necessary string resources.
8. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
9. Stop the Program.

PROGRAM:

```
<?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"
    android:background="@color/green"
    tools:context=".MainActivity">

    <TableLayout
        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/textView1"
            android:layout_width="match_parent"
            android:layout_height="200dp" />

        <TextView
            android:id="@+id/textView2"
            android:layout_width="match_parent"
            android:layout_height="250dp"
            android:text="@string/welcome"
            android:textAlignment="center"
            android:textColor="@color/Brown"
            tools:layout_editor_absoluteX="100dp"
            tools:layout_editor_absoluteY="200dp" />
```

```
        <TextView
            android:id="@+id/textView3"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="@string/college"
            android:textAlignment="center"
            android:textAppearance="@style/TextAppearance.AppCompat.Large"
            android:textColor="@color/blue"
            tools:layout_editor_absoluteX="200dp"
            tools:layout_editor_absoluteY="200dp" />
        <TextView
            android:id="@+id/textView4"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="@string/place"
            android:textAlignment="center"
            android:textColor="@color/purple_700"
            tools:layout_editor_absoluteX="134dp"
            tools:layout_editor_absoluteY="253dp" />
        <TextView
            android:id="@+id/textView5"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="@string/department"
            android:textAlignment="center"
            android:textColor="@color/color1"
            tools:layout_editor_absoluteX="199dp"
            tools:layout_editor_absoluteY="300dp" />

    </TableLayout>

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

colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="Brown"> #FFBC7B1C</color>
    <color name="color1">#FF00FF</color>
   <color name="blue">#0048FF</color>
   <color name="green">#00FF04</color>
</resources>
```

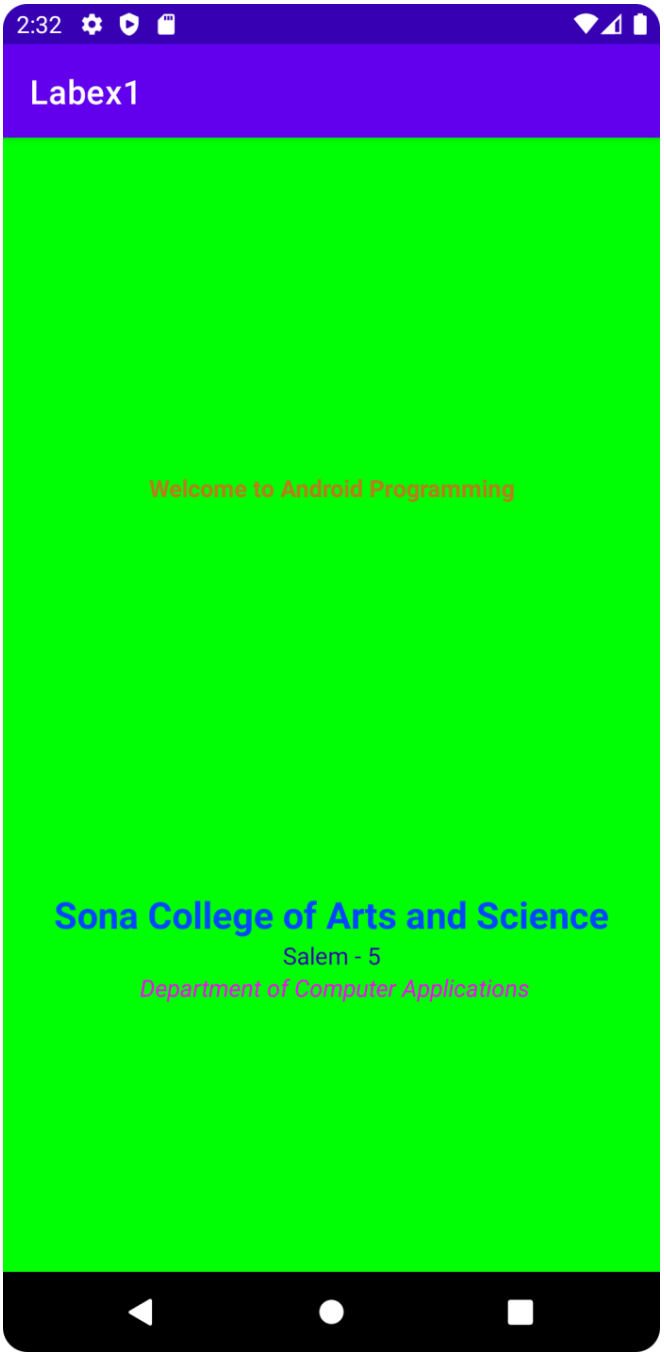
strings.xml

```
<resources>
    <string name="app_name">ED01</string>
    <string name="welcome"><b>Welcome to Android Programming</b></string>
    <string name="college"><b>Sona College of Arts and Science </b></string>
    <string name="place"> Salem - 5 </string>
    <string name="department"><i> Department of Computer science </i></string>
</resources>
```

MainActivity.java

```
package com.example.Labex1;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {

    @Override

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

}
```

OUTPUT:


2:32
Labex1
Welcome to Android Programming
Sona College of Arts and Science
Salem - 5
Department of Computer Applications

RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 02	ANDROID LAYOUTS

AIM:

To create a android application to understand the use of layouts

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File -> New -> New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex2"** and click Next.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and Choose Java as language, finally click Finish. It will take some time to build and load the project.
5. Click on app -> res -> layout -> **activity_main.xml.** Create the necessary layout components according to the user interface.
6. Copy an image and paste it in to the app -> res ->drawable folder.
7. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
8. Stop the Program.

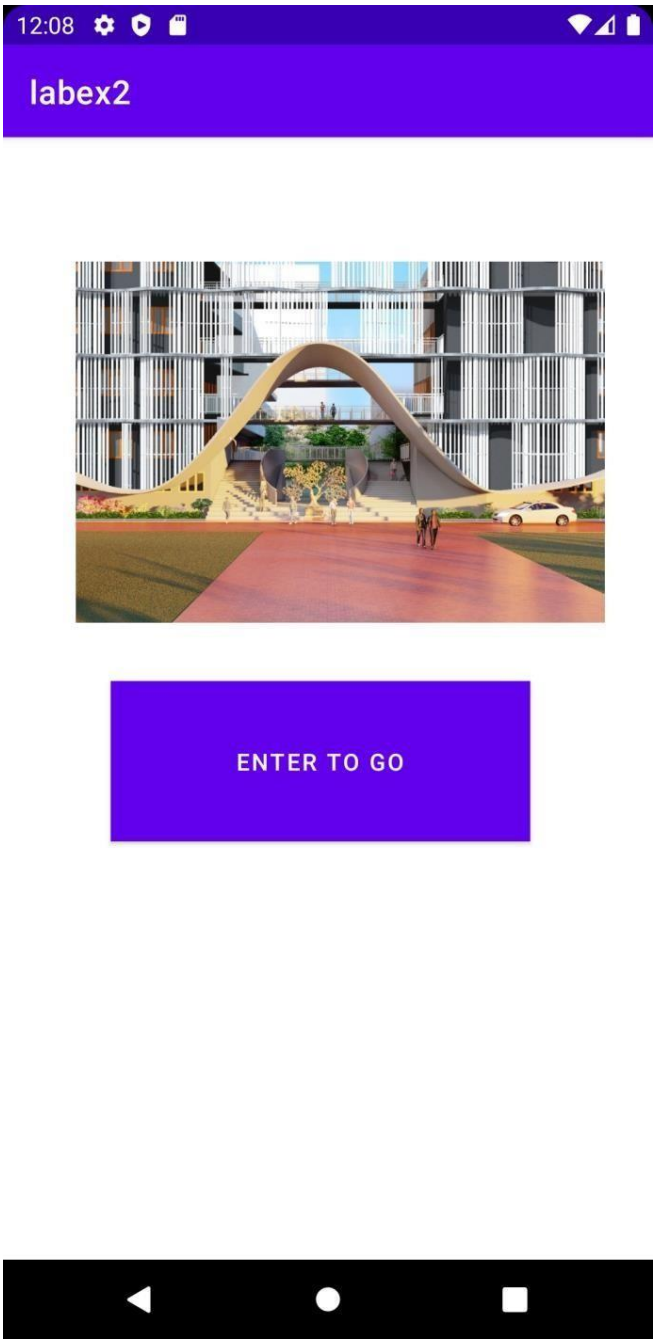
PROGRAM:

activity_main.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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent">
    <ImageView
        android:id="@+id/imageView"
        android:layout_width="338dp"
        android:layout_height="309dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="44dp"
```

```
        android:layout_marginTop="56dp"
        android:layout_marginEnd="29dp"
        android:layout_marginBottom="366dp"
        android:src="@drawable/sonacas" />

    <Button
            android:id="@+id/button"
            android:layout_width="272dp"
            android:layout_height="97dp"
            android:layout_alignParentStart="true"
            android:layout_alignParentEnd="true"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="65dp"
            android:layout_marginEnd="74dp"
            android:layout_marginBottom="253dp"
            android:text="ENTER TO GO"
            android:background="#3f76ff"
            android:textColor="#ffff" />
      </RelativeLayout>


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

OUTPUT:



RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 03	INTENTS

AIM:

To create an android application to understand the linking activities using Intents.

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File -> New -> New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex3"** and click Next.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and Choose Java as language, finally click Finish. It will take some time to build and load the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on app →java →com.example.labex3-> **MainActivity.java.** Make the necessary changes in the coding appropriately.
7. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
8. Stop the Program.

PROGRAM:

activity_main.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:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="Hello World!"
 app:layout_constraintBottom_toBottomOf="parent"
 app:layout_constraintLeft_toLeftOf="parent"
 app:layout_constraintRight_toRightOf="parent"
 app:layout_constraintTop_toTopOf="parent" />
 <EditText
 android:id="@+id/editText"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginEnd="8dp"
 android:layout_marginStart="8dp"
 android:layout_marginTop="60dp"
 android:ems="10"
```

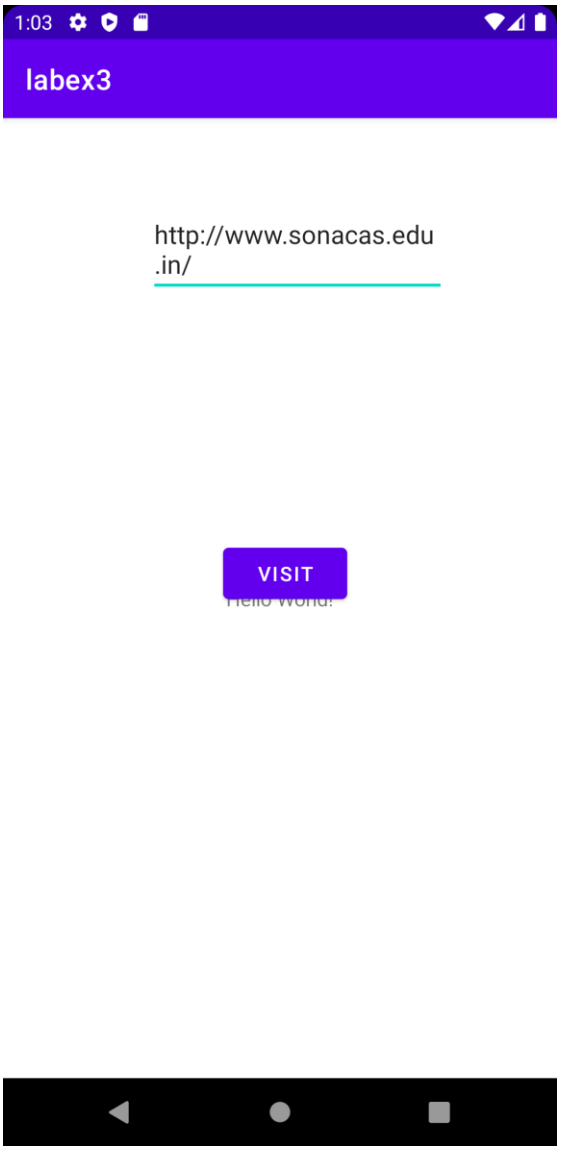
```
 app:layout_constraintEnd_toEndOf="parent"
 app:layout_constraintHorizontal_bias="0.575"
 app:layout_constraintStart_toStartOf="parent"
 app:layout_constraintTop_toTopOf="parent" />
 <Button
 android:id="@+id/button"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:layout_marginRight="8dp"
 android:layout_marginLeft="156dp"
 android:layout_marginTop="172dp"
 android:text="Visit"
 app:layout_constraintEnd_toEndOf="parent"
 app:layout_constraintHorizontal_bias="0.0"
 app:layout_constraintStart_toStartOf="parent"
 app:layout_constraintTop_toBottomOf="@+id/editText" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

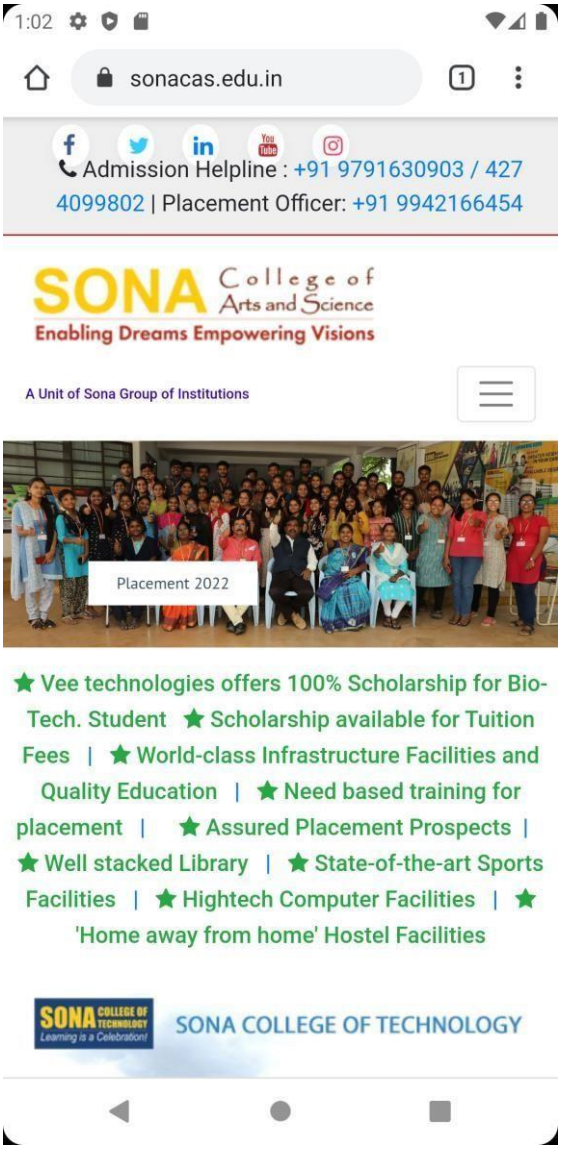
MainActivity.java

```
package com.example.labex3;
import android.content.Intent;
import android.net.Uri;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
```

```
public class MainActivity extends AppCompatActivity {
 Button button;
 EditText editText;

@Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
 button = findViewById(R.id.button);
 editText = findViewById(R.id.editText);
 button.setOnClickListener(new View.OnClickListener() {

 @Override
 public void onClick(View view) {
 String url=editText.getText().toString();
 Intent intent=new Intent(Intent.ACTION_VIEW, Uri.parse(url));
 startActivity(intent);
 }
 });
 }
}
```

OUTPUT:


1:03
labex3
http://www.sonacas.edu
.in/
VISIT


1:02
sonacas.edu.in
Admission Helpline : +91 9791630903 / 427
4099802 | Placement Officer: +91 9942166454
SONA College of Arts and Science
Enabling Dreams Empowering Visions
A Unit of Sona Group of Institutions
Placement 2022
★ Vee technologies offers 100% Scholarship for Bio-Tech. Student ★ Scholarship available for Tuition Fees | ★ World-class Infrastructure Facilities and Quality Education | ★ Need based training for placement | ★ Assured Placement Prospects | ★ Well stacked Library | ★ State-of-the-art Sports Facilities | ★ Hightech Computer Facilities | ★ 'Home away from home' Hostel Facilities
SONA COLLEGE OF TECHNOLOGY

RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 04	USER INTERFACES

AIM:

To create an android application for user interfaces.

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File → New → New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex4"** and click Next button.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and Choose Java as language, finally click Finish. It will take some time to build and load the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on app →java →com.example.labex4-> **MainActivity.java.** Make the necessary changes in the coding appropriately.
7. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
8. Stop the Program.

PROGRAM:

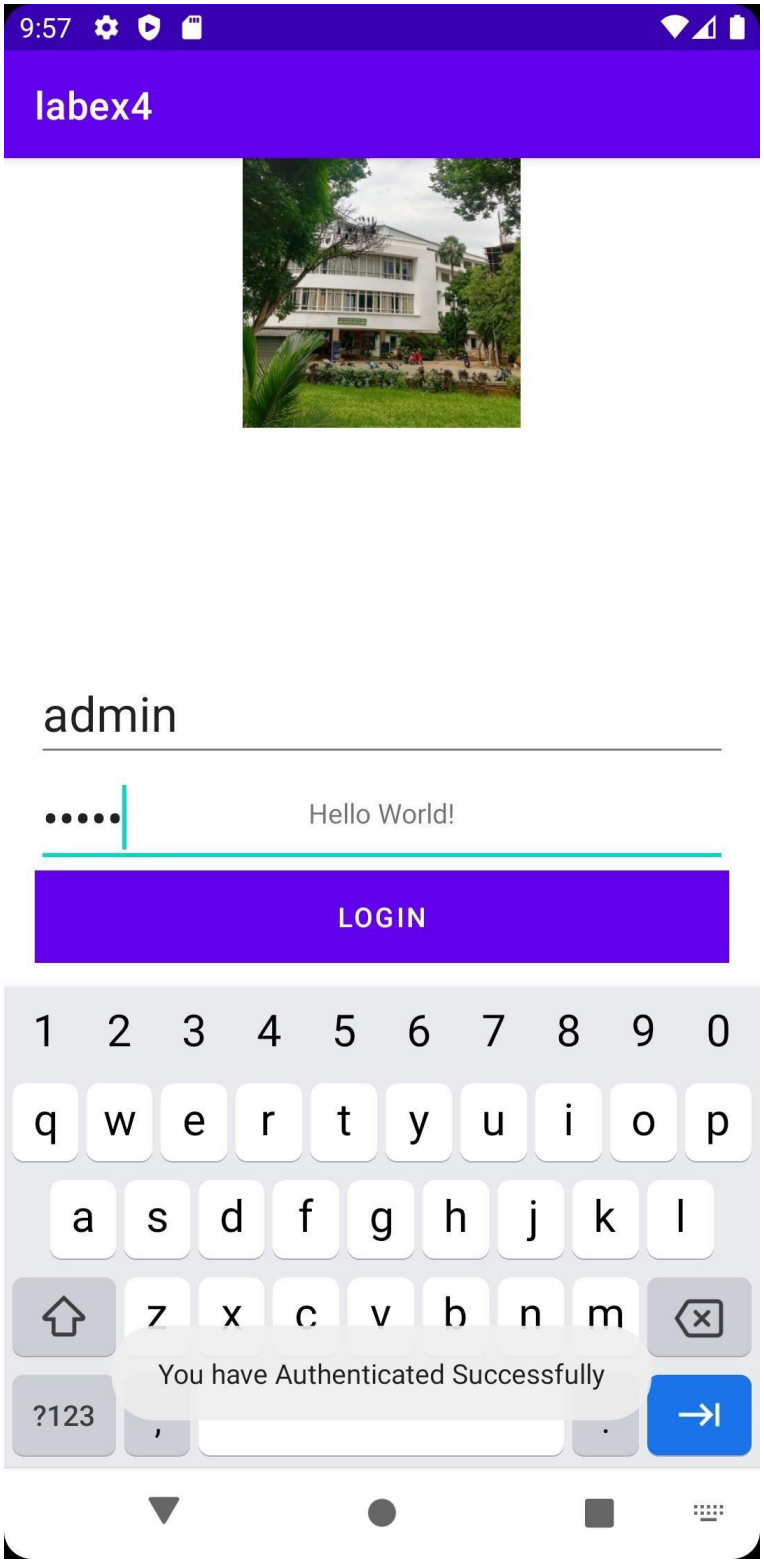
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
     <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">
    <LinearLayout android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:layout_marginLeft="16dp"
        android:layout_marginRight="16dp"
        android:layout_centerInParent="true">

        <EditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textColorHighlight="#ff7eff15"
```

```
        android:textColorHint="#ffff25e6"
        android:hint="User Name"
        android:id="@+id/username"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:textSize="25dp" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textColorHighlight="#ff7eff15"
        android:textColorHint="#ffff25e6"
        android:hint="Password"
        android:id="@+id/password"
        android:inputType="textPassword"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:textSize="25dp" />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login"
        android:background="#3f76ff"
        android:textColor="#fff"
        android:id="@+id/login" />
  </LinearLayout>
    <ImageView
        android:id="@+id/imageView"
        android:layout_width="150dp"
        android:layout_height="140dp"
        android:layout_centerHorizontal="true"
        android:src="@drawable/sona" />
</RelativeLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.Labex3;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import java.util.Objects;
public class MainActivity extends AppCompatActivity {
   EditText username,password;
   Button login;

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      username=findViewById(R.id.username);
      password=findViewById(R.id.password);
      login=findViewById(R.id.login);
      login.setOnClickListener(new View.OnClickListener(){
         @Override
         public void onClick(View view){
            if(Objects.equals(username.getText().toString(),"admin")&&Objects.equals
                  (password.getText().toString(),"admin"))
            {
               Toast.makeText(MainActivity.this,"You have Authenticated Successfully",
                     Toast.LENGTH_LONG).show();
            }
            else
            {
               Toast.makeText(MainActivity.this, "Authentication " +
                     "Failed",Toast.LENGTH_LONG).show();
            }
         }
      });
 }
```

OUTPUT:


9:57
labex4
admin
Hello World!
LOGIN
You have Authenticated Successfully

RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 05	ANIMATIONS

AIM:

To create an android application using animation.

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File →New → New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex5"** and click next.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and click Next, Finally click Finish. It will take some time to build and load the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on → res → layout → values → **strings.xml** and create necessary string resources.
7. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
8. Stop the Program.

PROGRAM:

activity_main.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">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent" >

        <ImageView
            android:id="@+id/imageView1"
            android:layout_width="fill_parent"
            android:layout_height="fill_parent"
            android:layout_alignParentTop="true"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="193dp"
            android:src="@drawable/android" />

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/imageView1"
            android:layout_marginLeft="200dp"
            android:layout_marginTop="-101dp"
            android:text="@string/Go" />
    </RelativeLayout>

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

MainActivity.java

```
package com.example.labex5;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.animation.RotateAnimation;
import android.widget.Button;
import android.widget.ImageButton;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

    ImageView iv;
    Button b;
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        iv=(ImageView) findViewById(R.id.imageView1);
        b=(Button) findViewById(R.id.button1);
        b.setOnClickListener(new View.OnClickListener(){

            @Override
            public void onClick(View v){
                //TODO Auto-generated method stub
                RotateAnimation r=new RotateAnimation(0,360);
                r.setDuration(1000);
                iv.startAnimation(r);
            }
        });
    }
}
```

strings.xml

```
<resources>
    <string name="app_name">labex5</string>
    <string name="action_settings">Settings</string>
    <string name="hello_world">Hello World!</string>
    <string name="Go">Click to rotate</string>
</resources>
```

OUTPUT:

RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 06	SIMPLE CALCULATOR

AIM:

To create an android application for simple calculator.

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File → New → New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex6"** and click Next button.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and Choose Java as language, finally click Finish. It will take some time to build and load the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on app →java →com.example.labex6-> **MainActivity.java.** Make the necessary changes in the coding appropriately.
7. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
8. Stop the Program.

PROGRAM:

activity_main.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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Simple Calculator !"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <LinearLayout
        xmlns:android="http://schemas.android.com/apk/res/android"
        android:orientation="vertical"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="20dp">

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

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

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

</LinearLayout>

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

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

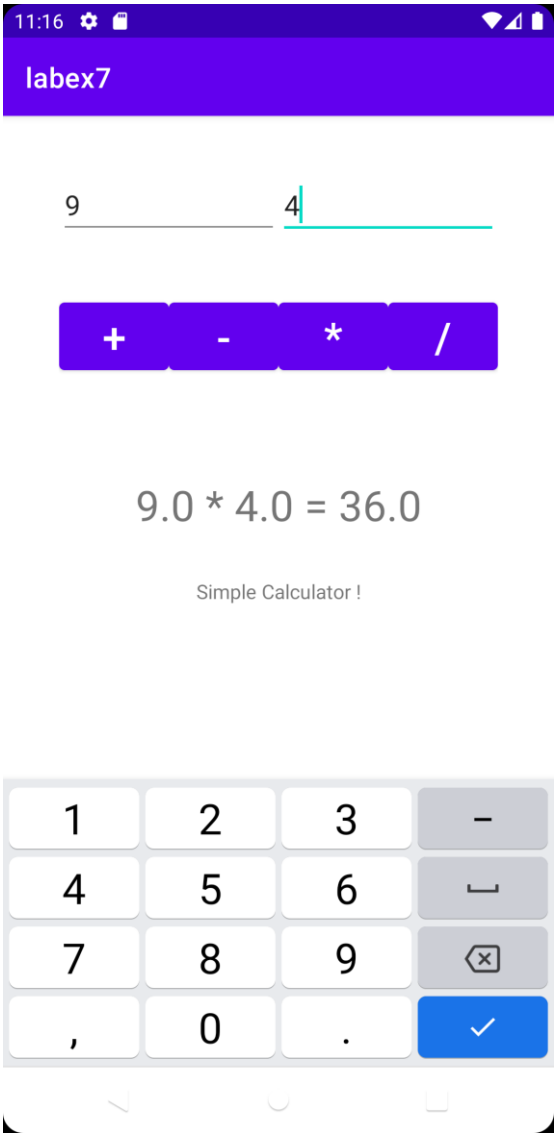
```
    <Button
        android:id="@+id/Sub"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="-"
        android:textSize="30sp"/>

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

    <Button
        android:id="@+id/Div"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="/"
        android:textSize="30sp"/>
    </LinearLayout>
    <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="50dp"
            android:text="Answer is"
            android:textSize="30sp"
            android:gravity="center"/>
     </LinearLayout>

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

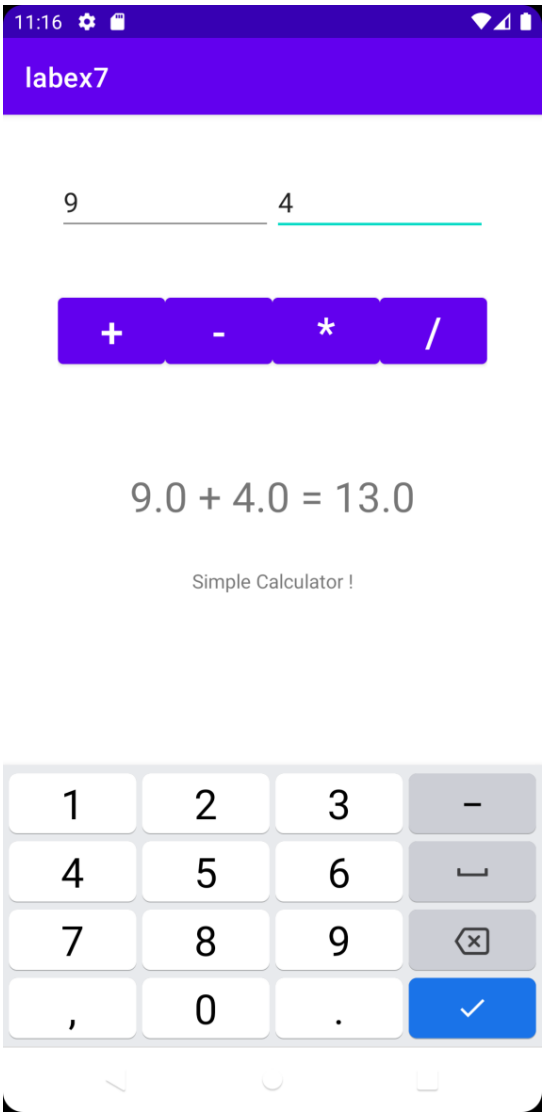
MainActivity.java

```
package com.example.labex6;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity implements OnClickListener
{
   //Defining the Views
   EditText Num1;
   EditText Num2;
   Button Add;
   Button Sub;
   Button Mul;
   Button Div;
   TextView Result;
   @Override
   public void onCreate(Bundle savedInstanceState)
   {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
//Referring the Views

      Num1 = (EditText) findViewById(R.id.editText1);
      Num2 = (EditText) findViewById(R.id.editText2);
      Add = (Button) findViewById(R.id.Add);
      Sub = (Button) findViewById(R.id.Sub);
      Mul = (Button) findViewById(R.id.Mul);
      Div = (Button) findViewById(R.id.Div);
      Result = (TextView) findViewById(R.id.textView);
// set a listener
      Add.setOnClickListener(this);
      Sub.setOnClickListener(this);
      Mul.setOnClickListener(this);
      Div.setOnClickListener(this);
   }
   @Override
   public void onClick (View v)
   {
      float num1 = 0;
      float num2 = 0;
      float result = 0;
      String oper = "";
```

```
// check if the fields are empty
        if (TextUtils.isEmpty(Num1.getText().toString()) ||
            TextUtils.isEmpty(Num2.getText().toString()))
            return;
// read EditText and fill variables with numbers
        num1 = Float.parseFloat(Num1.getText().toString());
        num2 = Float.parseFloat(Num2.getText().toString());
// defines the button that has been clicked and performs the corresponding operation

switch (v.getId())
        {

            case R.id.Add:
                oper = "+";
                result = num1 + num2;
                break;
            case R.id.Sub:
                oper = "-";
                result = num1 - num2;
                break;
            case R.id.Mul:
                oper = "*";
                result = num1 * num2;
                break;
            case R.id.Div:
                oper = "/";
                result = num1 / num2;
                break;
                default:
                    break;
            }
    // form the output line
            Result.setText(num1 + " " + oper + " " + num2 + " = " + result);
        }
    }
```

OUTPUT:


11:16
labex7
9
4
+
-
*
/
9.0 * 4.0 = 36.0
Simple Calculator !
1
2
3
4
5
6
7
8
9
,
0
.


11:16
labex7
9
4
+
-
*
/
9.0 + 4.0 = 13.0
Simple Calculator !
1
2
3
4
5
6
7
8
9
,
0
.

RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 07	CAMERA APPLICATION

AIM:

To create a simple android camera application.

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File → New → New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex7"** and click Next button.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and Choose Java as language, finally click Finish. It will take some time to build and load the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on app →java →com.example.labex4-> **MainActivity.java.** Make the necessary changes in the coding appropriately.
7. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
8. Stop the Program.

PROGRAM:

activity_main.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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <RelativeLayout
        xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:paddingLeft="10dp"
        android:paddingRight="10dp">
    <Button
        android:id="@+id/btnTakePicture"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Take a Photo"
        android:textStyle="bold"
        android:layout_centerHorizontal="true"
        android:layout_alignParentBottom="true" />
```

```
 <ImageView
      android:layout_width="fill_parent"
      android:layout_height="fill_parent"
      android:id="@+id/capturedImage"
      android:layout_above="@+id/btnTakePicture"/>

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

MainActivity.java

```
package com.example.Labex7;
import android.content.Intent;
import android.graphics.Bitmap;
import android.provider.MediaStore;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
   private Button btnCapture;
   private ImageView imgCapture;
   private static final int Image_Capture_Code = 1;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      btnCapture =(Button)findViewById(R.id.btnTakePicture);
      imgCapture = (ImageView) findViewById(R.id.capturedImage);
      btnCapture.setOnClickListener(new View.OnClickListener() {
   @Override
    public void onClick(View v) {
      Intent cInt = new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
      startActivityForResult(cInt,Image_Capture_Code);
         }
      });
   }
```

```
@Override
    protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if (requestCode == Image_Capture_Code) {
            if (resultCode == RESULT_OK) {
                Bitmap bp = (Bitmap) data.getExtras().get("data");
                imgCapture.setImageBitmap(bp);
            } else if (resultCode == RESULT_CANCELED) {
                Toast.makeText(this, "Cancelled", Toast.LENGTH_LONG).show();
            }
        }
    }
}
```

OUTPUT:

RESULT:

Thus the program has been executed and verified successfully.

Ex. No: 08	BASIC LIST VIEW

AIM:

To create an android application for basic list view.

ALGORITHM:

1. Start the Program.
2. Creating a New project: Open Android Studio and then click on File → New → New project.
3. Select the Empty Activity and click Next, Then type the Application name as **"labex8"** and click Next button.
4. Then select the language Java and Minimum API Level Android 5.1 (Lollipop) and Choose Java as language, finally click Finish. It will take some time to build and load the project.
5. Click on app → res → layout → **activity_main.xml.** Create a user interface using layout and make the necessary changes in the coding appropriately.
6. Click on app → res → layout → **activity_listview.xml.** Create a new user interface using layout and make the necessary changes in the coding appropriately.
7. Click on app →java →com.example.labex4-> **MainActivity.java.** Make the necessary changes in the coding appropriately.
8. Create an Android Virtual Device using emulator and run the project. The emulator will display the output screen.
9. Stop the Program.

PROGRAM:

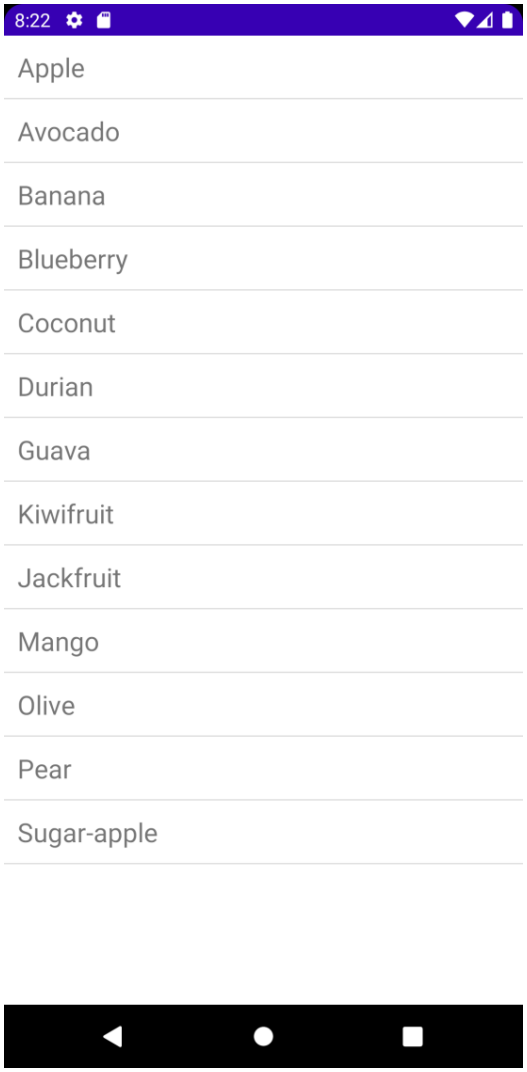
activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="fill_parent"
   android:layout_height="fill_parent"
   android:padding="10dp"
   android:textSize="20sp" >
</TextView>
```

MainActivity.java

```
package com.example.ex7ki68;

import android.app.ListActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import android.widget.TextView;

import android.widget.Toast;

import android.widget.AdapterView.OnItemClickListener;

public class MainActivity extends ListActivity {
   static final String[] FRUITS = new String[] { "Apple", "Avocado", "Banana",
         "Blueberry", "Coconut", "Durian", "Guava", "Kiwifruit",
         "Jackfruit", "Mango", "Olive", "keerthi", "Sugar-apple" };
   @Override
   public void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setListAdapter(new ArrayAdapter<String>(this, R.layout.activity_main,FRUITS));
      ListView listView = getListView();
      listView.setTextFilterEnabled(true);
      listView.setOnItemClickListener(new OnItemClickListener() {
         public void onItemClick(AdapterView<?> parent, View view,int position, long id) {
            // When clicked, show a toast with the TextView text
            Toast.makeText(getApplicationContext(),
                  ((TextView) view).getText(), Toast.LENGTH_SHORT).show();
         }
    });
   }
}
```

OUTPUT:


8:22
Apple
Avocado
Banana
Blueberry
Coconut
Durian
Guava
Kiwifruit
Jackfruit
Mango
Olive
Pear
Sugar-apple

RESULT:

Thus the program has been executed and verified successfully