**NAME** :

**REGISTER NO**. :

# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

# III YEAR / VI SEMESTER

# CS8662 – MOBILE APPLICATION DEVELOPMENT LABORATORY

# JUNE 2022

# Certificate

**Register No.**

Certified that this is the Bonafide Record of work done by Mr./Ms._____ in the

**B.E**   Degree Course   **COMPUTER SCIENCE AND ENGINEERING**   in  the   **MOBILE APPLICATION DEVELOPMENT** laboratory during the academic year  **2021-2022**.

Station        : Chennai – 600 044

Date           :

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

Submitted for University Practical Examination  held  on _____ at **Sri Sai Ram Engineering College**, Chennai – 600 044.

**INTERNAL EXAMINER**                                          **EXTERNAL EXAMINER**

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| **Ex No: 1** | **DEVELOP AN APPLICATION THAT USES GUI COMPONENTS, FONT AND COLOURS** |
|---|---|

**AIM:**

To write an Android application program that uses GUI Components, Fonts, and Colors.

**PROCEDURE:**

1.  Open eclipse or android studio
2.  Create a new android project
3.  Select and double click your project name
4.  Then, go to res folder and select layout double click the activity_main.xml file
5.  Enter your activity_main.xml code
6.  Then, go to src folder and double click your MainActivity.java file
7.  Enter your MainActivity.java code
8.  Finally go to run configuration select your avd and run your android program.

**PROGRAM:**

**activity_main.xml**

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent" android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

    <TextView android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="23dp"
        android:text="SECCSE-CS8662"
        android:textStyle="bold"
        android:textSize="20sp"/>
```

```xml
    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="31dp"
        android:text="Change Colour"
        android:textSize="20sp"/>

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button2"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="35dp"
        android:text="Change Font"
        android:textSize="20sp" />

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="23dp"
        android:text="Change Font Size"
        android:textSize="20sp" />

</RelativeLayout>
```

**MainActivity.java**

```java
import android.os.Bundle; import
android.app.Activity; import
android.view.Menu; import
android.view.View; import
android.widget.Button; import
android.widget.TextView; import
android.graphics.Color;
import android.graphics.Typeface;

public class MainActivity extends Activity {
        float font=24;
        int i=1;
        int j=1;
```

```java
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final TextView t1=(TextView) findViewById(R.id.textView1);
        Button b1 = (Button) findViewById(R.id.button1);
        b1.setOnClickListener(new View.OnClickListener() {
                    public void onClick(View view1) {
                            t1.setTextSize(font);
                    font=font+4;
                    if(font==40)
                    font=20;

                    }
            });
        Button b2 = (Button) findViewById(R.id.button2);
        b2.setOnClickListener(new View.OnClickListener() {
        public void onClick(View view) {
        switch(i)
        {
        case 1:
        t1.setTextColor(Color.parseColor("#0000FF"));
        break;
        case 2:
        t1.setTextColor(Color.parseColor("#00FF00"));
        break;
        case 3:
        t1.setTextColor(Color.parseColor("#FF0000"));
        break;
        case 4:
        t1.setTextColor(Color.parseColor("#800000"));
        break;
        }
        i++;
        if(i==5)
        i=1;
        }
        });
        Button b3 = (Button) findViewById(R.id.button3);
        b3.setOnClickListener(new View.OnClickListener() {
        public void onClick(View view) {
        switch(j)
        {
        case 1:
        t1.setTypeface(Typeface.SANS_SERIF);
        break;
        case 2: t1.setTypeface(Typeface.SERIF);
```

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```
        break;
        case
        3:
        t1.setTypeface(Typeface.MONOSPACE
        ); break;
        case 4:
        t1.setTypeface(Typeface.DEFAULT_BOLD);
        break;
        }
        j
        +
        +
        ;
        if(j=
        =5)
        j=1;
        }
        });
    }}
```
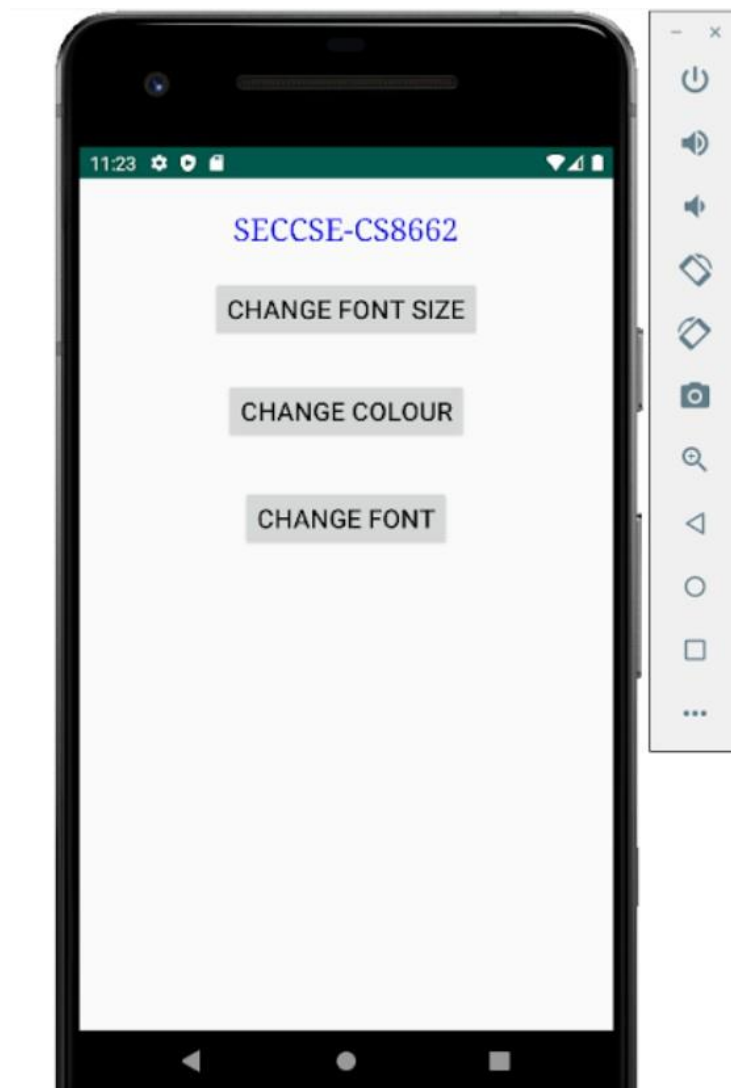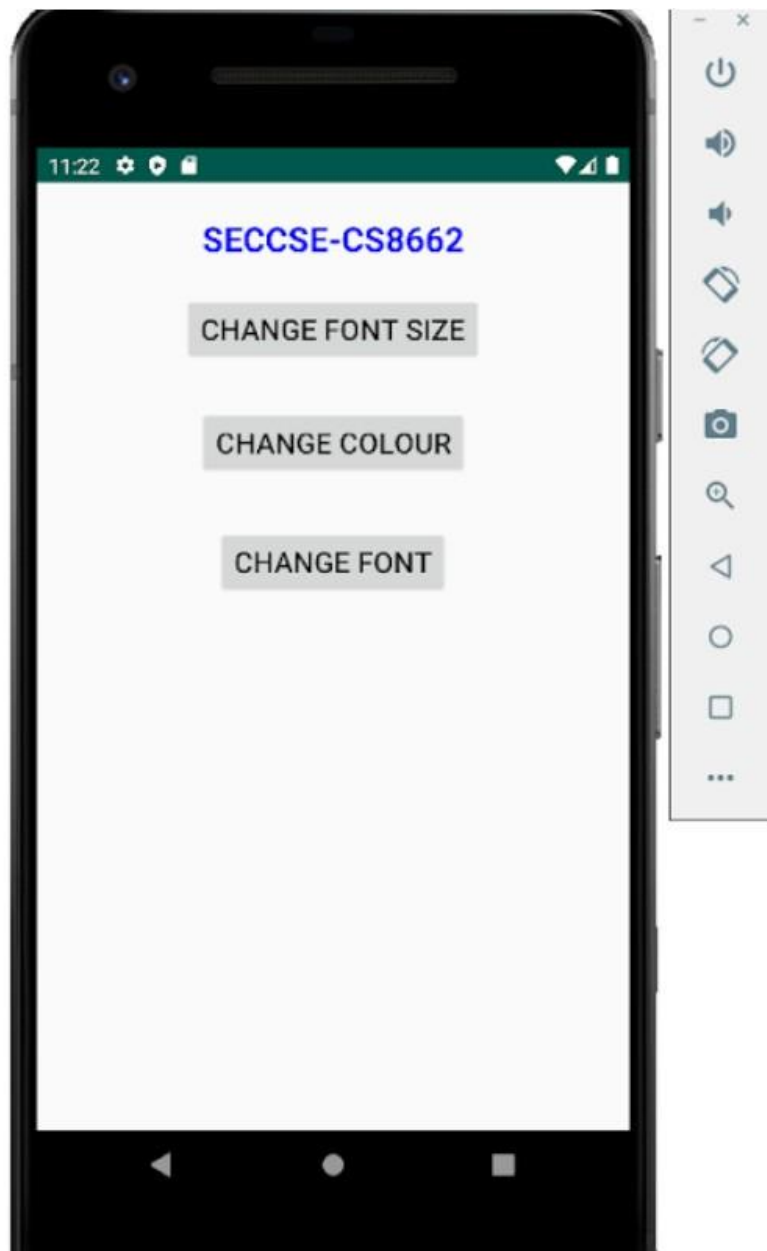**OUTPUT:**
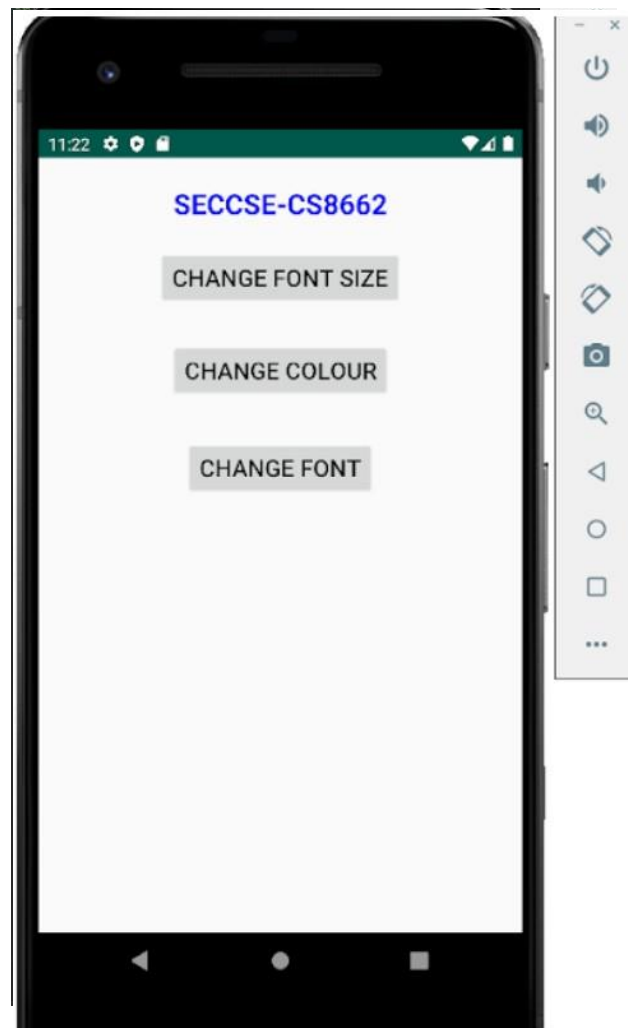


**Fig 1.1 – Change Color**

**Fig 1.2 – Change Font**

**Fig 1.3 – Change Font Size**

**RESULT:**

Thus, the Android application program was executed successfully and verified.

| Ex No: 2 | DEVELOP AN APPLICATION THAT USES LAYOUT MANAGERS AND EVENT LISTENERS |
|----------|---------------------------------------------------------------------|

### AIM:

      To write an Android application program that uses  Layout managers and Event listeners.

### PROCEDURE:

1. Open eclipse or android  studio
2. Create a new android  project
3. Select and double click your project name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java  file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

### PROGRAM:

**activity_main.xml**

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity" >

    <LinearLayout android:id="@+id/linearLayout1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentRight="true">

        <TextView android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="LAYOUT and EVENT"
```

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```
                android:textSize="20dp" />

    </LinearLayout>
    <LinearLayout
            android:id="@+id/linearLayout2" android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentLeft="true"
            android:layout_alignParentRight="true"
            android:layout_below="@+id/linearLayout1" >
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content" android:text="ENTER
                NO 1 :" >
            </TextView>

            <EditText
                android:id="@+id/edittext1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="0.19"
                android:inputType="number" >

            </EditText>
    </LinearLayout>
    <LinearLayout
            android:id="@+id/linearLayout3" android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentLeft="true"
            android:layout_alignParentRight="true"
            android:layout_below="@+id/linearLayout2" >
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content" android:text="ENTER NO
                2 :" >
            </TextView>
            <EditText
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="0.20"
                android:id="@+id/edittext2"
                android:inputType="number">
            </EditText>
    </LinearLayout>
    <LinearLayout
            android:id="@+id/linearLayout4" android:layout_width="wrap_content"
            android:layout_height="wrap_content"
```

```xml
                android:layout_alignParentLeft="true"
                android:layout_alignParentRight="true"
                android:layout_below="@+id/linearLayout3" >
                <Button
                        android:layout_width="wrap_content"
                        android:id="@+id/button1"
                        android:layout_height="wrap_content"
                        android:text="ADD"
                        android:layout_weight="0.50" />
                <Button
                        android:layout_width="wrap_content"
                        android:id="@+id/button3"
                        android:layout_height="wrap_content"
                        android:text="SUB"
                        android:layout_weight="0.50" />
                <Button
                        android:layout_width="wrap_content"
                        android:id="@+id/button2"
                        android:layout_height="wrap_content"
                        android:text="CLEAR"
                        android:layout_weight="0.50" />
        </LinearLayout>
        <View
                android:layout_height="2px"
                android:layout_width="fill_parent"
                android:layout_below="@+id/linearLayout4"
                android:background="#DDFFDD"/>
</RelativeLayout>
```

**MainActivity.java**

```java
package com.example.second;

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

public class MainActivity extends Activity {
        /** Called when the activity is first created. */ EditText
        txtData1,txtData2;
        float num1,num2,result1,result2;

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

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```java
super.onCreate(savedInstanceState);  setContentView(R.layout.activity_main);

Button add = (Button) findViewById(R.id.button1);
add.setOnClickListener(new OnClickListener() {
public void onClick(View v) {
try
{
txtData1 = (EditText) findViewById(R.id.edittext1); txtData2
= (EditText) findViewById(R.id.edittext2); num1 =
Float.parseFloat(txtData1.getText().toString()); num2 =
Float.parseFloat(txtData2.getText().toString());
result1=num1+num2;
Toast.makeText(getBaseContext()," YOUR ANSWER is : "+result1,
Toast.LENGTH_SHORT).show();
}
catch(Exception e)
{
Toast.makeText(getBaseContext(), e.getMessage(),
Toast.LENGTH_SHORT).show();
}
}
});

Button sub = (Button) findViewById(R.id.button3);
sub.setOnClickListener(new OnClickListener() { public
void onClick(View v) {
try
{
txtData1 = (EditText) findViewById(R.id.edittext1); txtData2
= (EditText) findViewById(R.id.edittext2); num1 =
Float.parseFloat(txtData1.getText().toString()); num2 =
Float.parseFloat(txtData2.getText().toString()); result2=num1-
num2;
Toast.makeText(getBaseContext()," YOUR ANSWER is : "+result2,
Toast.LENGTH_SHORT).show();
}
catch(Exception e)
{
Toast.makeText(getBaseContext(), e.getMessage(),
Toast.LENGTH_SHORT).show();
}
}
});

Button clear = (Button) findViewById(R.id.button2);
clear.setOnClickListener(new OnClickListener() { public
void onClick(View v) {
try
```

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```
        {
        txtData1.setText("");
        txtData2.setText("");
        }
        catch(Exception e)
        {
        Toast.makeText(getBaseContext(), e.getMessage(),
        Toast.LENGTH_SHORT).show();
        }
        }
        });
    }
```
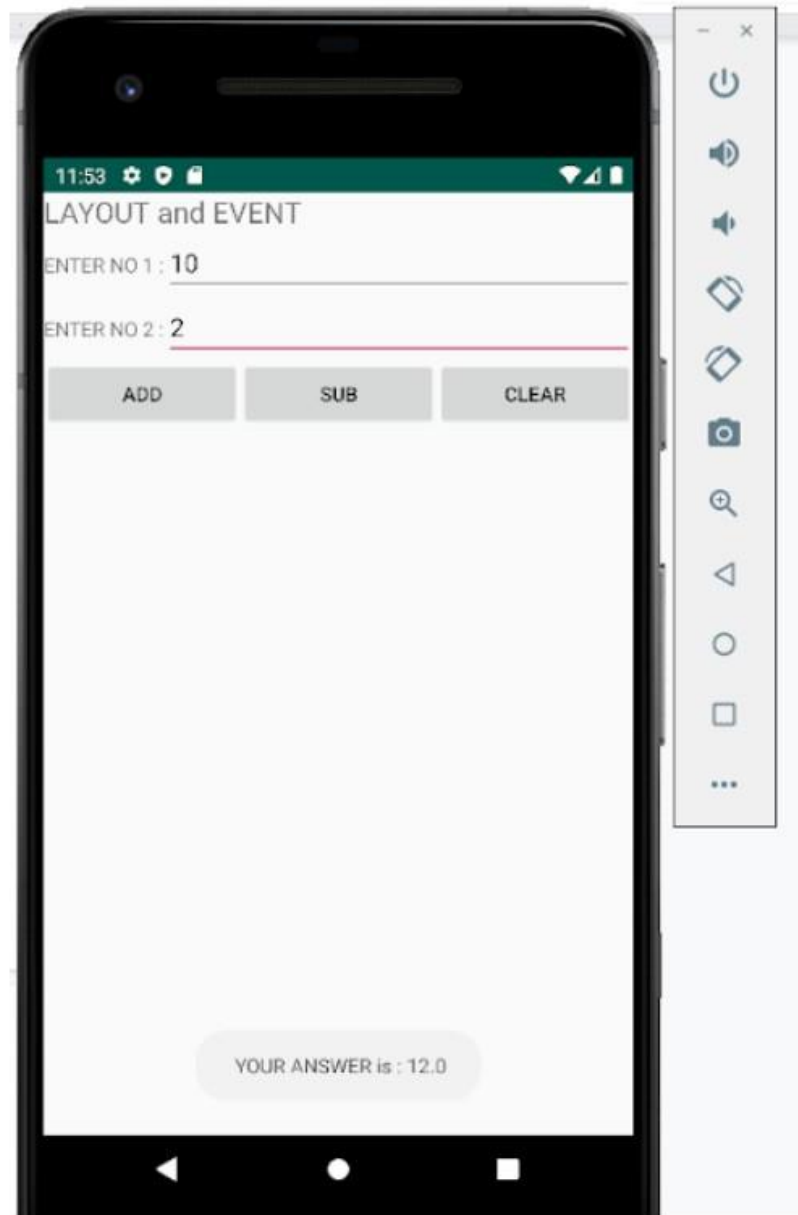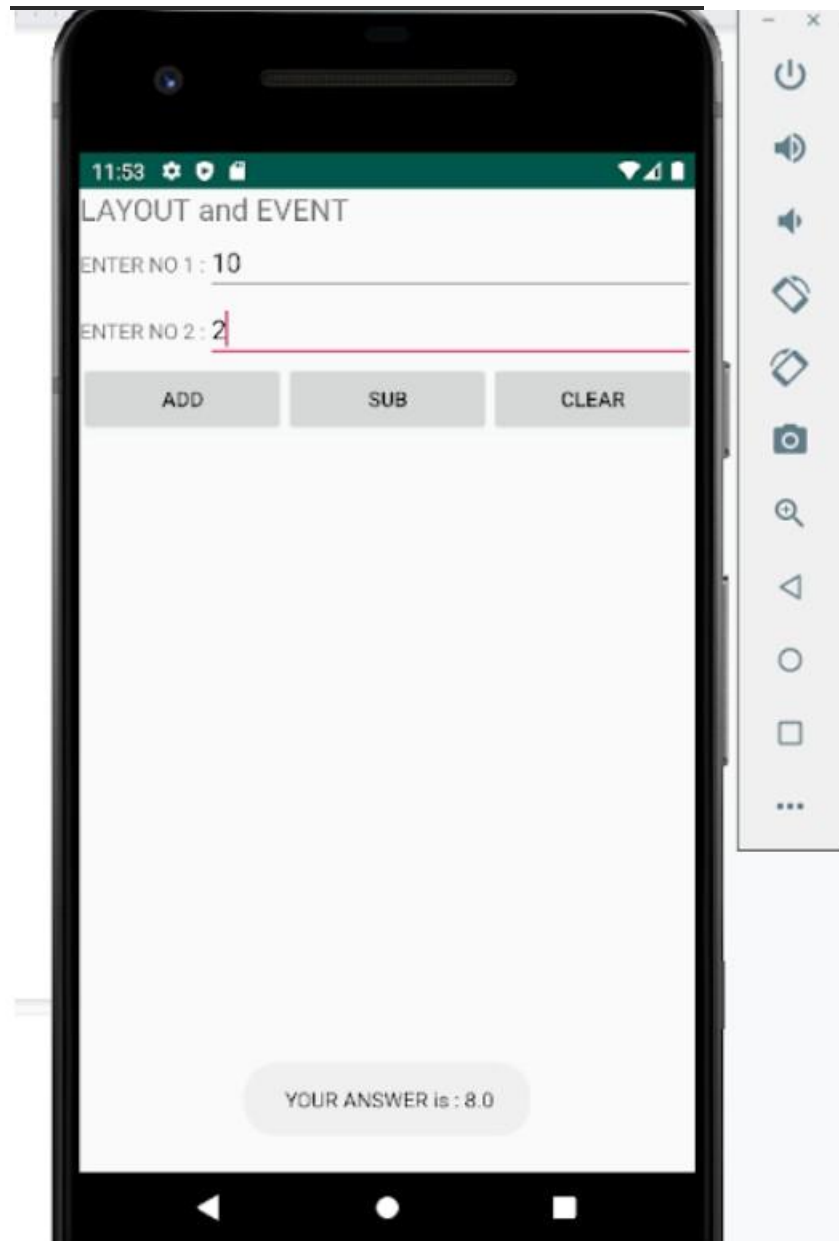
**OUTPUT:**
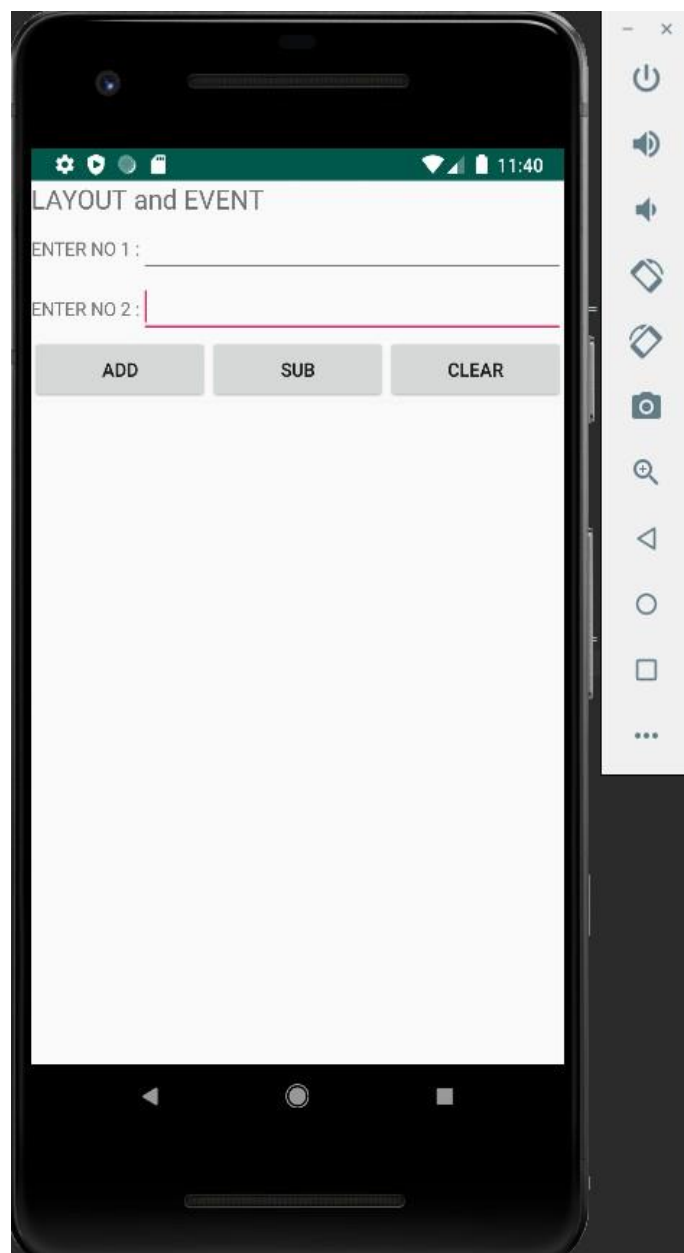


**Fig 2.1**

**Fig 2.2 - Addition**

**Fig 2.3 - Subtraction**

**RESULT:**

Thus, the Android application program was executed successfully and verified

| **Ex No : 3** | **AN APPLICATION THAT DRAWS BASIC GRAPHICAL PRIMITIVES ON THE SCREEN** |
|---|---|

**AIM :**

To write an Android application program that draws basic graphical primitives on the screen.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new android project
3. Select and double click your project name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

**PROGRAM :**

**activity_main.xml**

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:paddingBottom="@dimen/activity_vertical_margin"
   android:paddingLeft="@dimen/activity_horizontal_margin"
   android:paddingRight="@dimen/activity_horizontal_margin"
   android:paddingTop="@dimen/activity_vertical_margin"
   tools:context="${relativePackage}.${activityClass}">

</RelativeLayout>
```

**MainActivity.java**

```
package com.example.three;
import android.os.Bundle;
import android.app.Activity;
import sundroid.view.Menu;
import android.content.Context;
```

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```java
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends Activity {
    myview mv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mv = new myview(this);
        setContentView(mv);
    }
    private class myview extends View
    {
    public myview(Context context)
    {
    super(context);
    }
    @Override
    protected void onDraw(Canvas canvas)
    {
    super.onDraw(canvas);
    Paint  paint=new  Paint();
    paint.setTextSize(20);
    paint.setColor(Color.GREEN);
    canvas.drawText("Circle", 55, 30, paint);
    paint.setColor(Color.RED);
    canvas.drawCircle(100, 150,100, paint);
    paint.setColor(Color.GREEN);
    canvas.drawText("Rectangle", 255, 30, paint);
    paint.setColor(Color.YELLOW);
    canvas.drawRect(250, 50,400,350, paint);
    paint.setColor(Color.GREEN);
    canvas.drawText("SQUARE", 55, 430, paint);
    paint.setColor(Color.BLUE);
    canvas.drawRect(50, 450,150,550, paint);
    paint.setColor(Color.GREEN);
    canvas.drawText("LINE", 255, 430, paint);
    paint.setColor(Color.BLACK);
    canvas.drawLine(250, 500, 350, 500, paint);
    }
    }
```

**OUTPUT:**
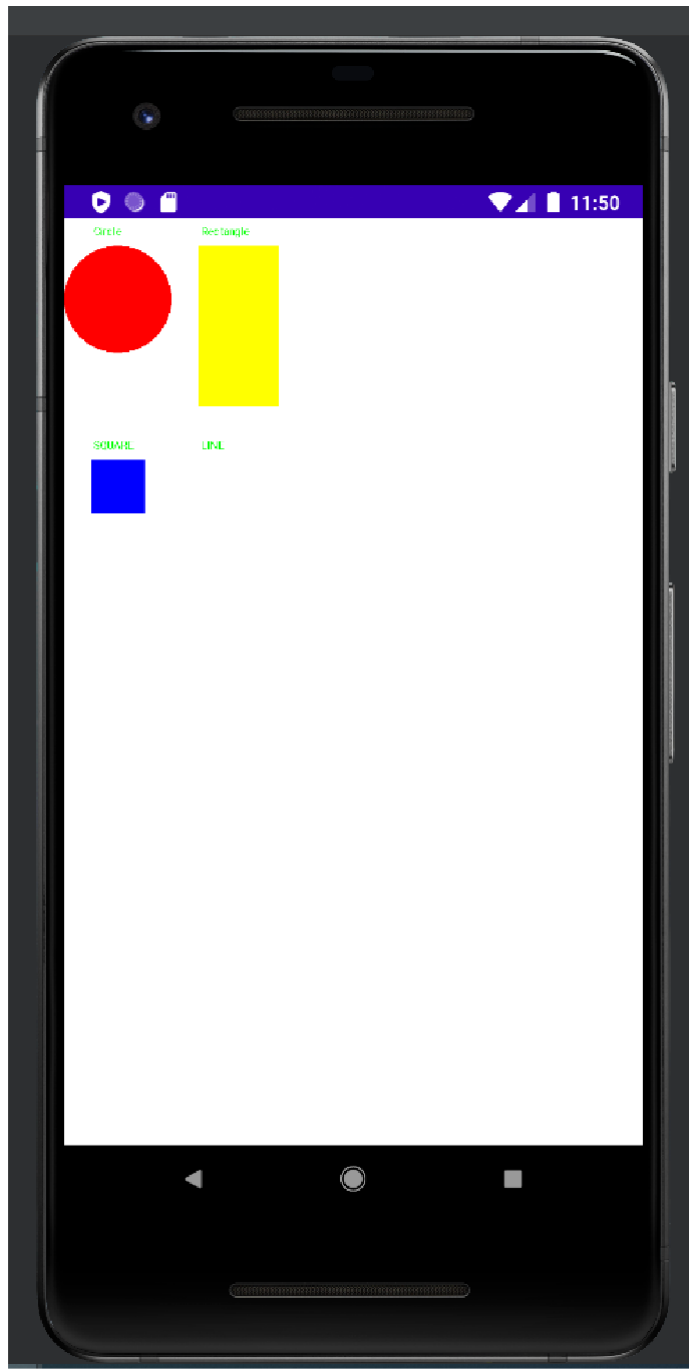


**RESULT :**

Thus, the Android application program was executed successfully and verified.

| Ex No : 4 | IMPLEMENT AN APPLICATION THAT USES MULTI - THREADING |
|---|---|

## AIM :

To write an Android application program that implements Multi-threading.

## PROCEDURE :

1. Open eclipse or android studio
2. Create a new android project
3. Select and double click your project name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

## PROGRAM :

**activity_main.xml**

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:text="SECCSE - CS8662"
        android:textStyle="bold"
        android:textSize="10pt" />
```

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```java
        threaD2.start();
        thread3.start();
        }
    Thread thread1 = new Thread(new Runnable() {
        @Override
        public void run()  {
        for (int i = 0; i < 5; i++)
        {
        try {
        Thread.sleep(1005);
        }
        catch (InterruptedException e) {
        e.printStackTrace();
        }
        handler.sendEmptyMessage(t1);
        }
        }
        });
    Thread thread2 = new Thread(new Runnable() {
        @Override
        public void run()  {
        for (int i = 0; i < 5; i++)
        {
        try {
        Thread.sleep(1002);
        }
        catch (InterruptedException e) {
        e.printStackTrace();
        }
        handler.sendEmptyMessage(t2);
        }
        }
        });
    Thread thread3 = new Thread(new Runnable() {
        @Override
        public void run()  {
        for (int i = 0; i < 5; i++)
        {
        try {
        Thread.sleep(1000);
        } catch (InterruptedException e) {
        e.printStackTrace();
        }
        handler.sendEmptyMessage(t3);
        }
        }
        });
    Handler handler = new Handler() {
        public void handleMessage(android.os.Message msg)
```

```
if(msg.what == t1) {
        tvOutput.append("\nIn  SECCSE - thread 1");
        }
        if(msg.what == t2)  {
        tvOutput.append("\nIn  SECCSE - thread 2");
        }
        if(msg.what == t3) {
        tvOutput.append("\nIn SECCSE - thread 3");
        }
        }
        };
```

OUTPUT :
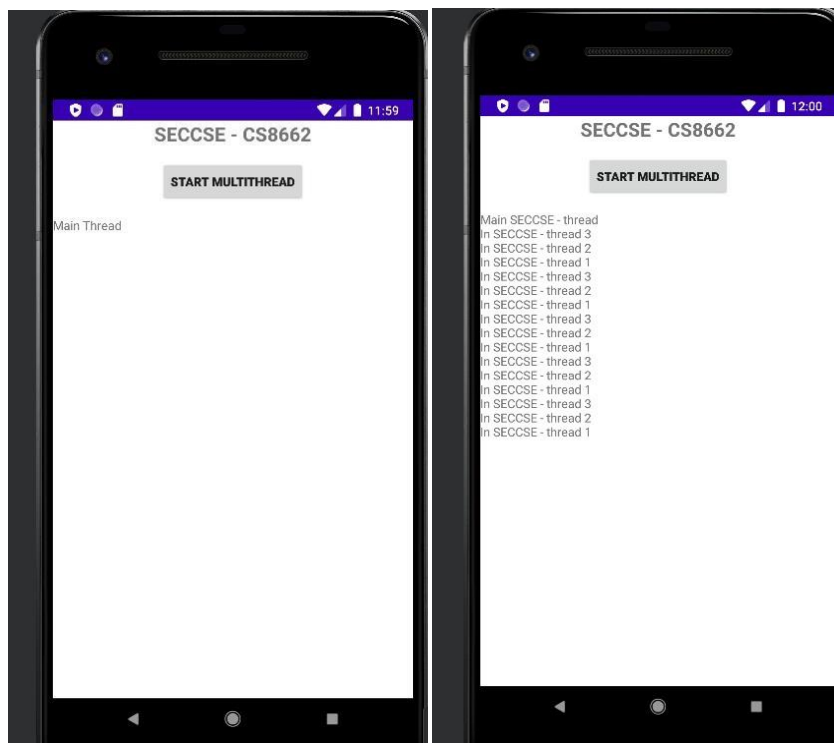


**RESULT :**

        Thus, the Android application program was executed successfully and
verified.

| Ex No : 5 | DEVELOP AN APPLICATION THAT MAKES USE OF DATABASE |
|-----------|---------------------------------------------------|

**AIM :**

　　　　To write an Android application program that makes use of database.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new Android project
3. Select and double click our project Name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter our activity_main.xml code
6. Then, go to res folder and select values double click the string.xml file
7. Enter our string.xml code
8. Then, go to src folder and double click our MainActivity.java file
9. Enter our MainActivity.java code.
10. 　　Finally go to run configuration select our AVD and run our Android program.

**PROGRAM :**

**activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout
xmlns:android="http://schemas.android.com/apk/res/android"
android:id="@+id/myLayout"
android:stretchColumns="0"
android:layout_width="fill_parent"
android:layout_height="fill_parent">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="17dp"
        android:text="@string/SECCSE_student_form
        " android:textSize="10pt"
        android:textStyle="bold" />
```

```xml
<TextView
    android:layout_width="wrap_content"
    android:layout_height="30dp"
    android:layout_x="19dp"
    android:layout_y="60dp"
    android:text="Registration No" />

<EditText
    android:id="@+id/editRegistrationNo"
    android:layout_width="170dp"
    android:layout_height="wrap_content"
    android:layout_x="122dp"
    android:layout_y="55dp"
    android:ems="10"
    android:inputType="number" >
<requestFocus />
</EditText>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="30dp"
    android:layout_x="17dp"
    android:layout_y="112dp"
    android:text="Student Name"
    android:textAlignment="center" />

<EditText
    android:id="@+id/editStudentName"
    android:layout_width="170dp"
    android:layout_height="wrap_content"
    android:layout_x="119dp"
    android:layout_y="109dp"
    android:ems="10"
    android:inputType="text" />

<TextView
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_x="19dp"
    android:layout_y="164dp"
    android:text="Year" />

<EditText
    android:id="@+id/editYear"
    android:layout_width="170dp"
    android:layout_height="wrap_content"
    android:layout_x="119dp"
    android:layout_y="160dp"
    android:ems="10"
```

```xml
        android:inputType="text" />

    <Button
        android:id="@+id/butAdd"
        android:layout_width="122dp"
        android:layout_height="wrap_content"
        android:layout_x="14dp"
        android:layout_y="207dp"
        android:text="ADD"
        android:textStyle="bold" />

    <Button
        android:id="@+id/butDelete"
        android:layout_width="122dp"
        android:layout_height="wrap_content"
        android:layout_x="150dp"
        android:layout_y="207dp"
        android:text="DELETE"
        android:textStyle="bold" />

    <Button
        android:id="@+id/butModify"
        android:layout_width="122dp"
        android:layout_height="wrap_content"
        android:layout_x="17dp"
        android:layout_y="264dp"
        android:text="MODIFY"
        android:textStyle="bold" />

    <Button
        android:id="@+id/butView"
        android:layout_width="122dp"
        android:layout_height="wrap_content"
        android:layout_x="150dp"
        android:layout_y="264dp"
        android:text="VIEW"
        android:textStyle="bold" />

    <Button
        android:id="@+id/butViewAll"
        android:layout_width="122dp"
        android:layout_height="wrap_content"
        android:layout_x="81dp"
        android:layout_y="324dp"
        android:text="VIEW ALL"
        android:textStyle="bold" />

</AbsoluteLayout>
```

**MainActivity.java**

```java
package  com.example.five;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener {
    EditText editRegistrationNo,editStudentName,editYear;
    Button butAdd,butDelete,butModify,butView,butViewAll;
    SQLiteDatabase db;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        editRegistrationNo=(EditText)findViewById(R.id.editRegistrationNo);
        editStudentName=(EditText)findViewById(R.id.editStudentName);
        editYear=(EditText)findViewById(R.id.editYear);
        butAdd=(Button)findViewById(R.id.butAdd);
        butDelete=(Button)findViewById(R.id.butDelete);
        butModify=(Button)findViewById(R.id.butModify);
        butView=(Button)findViewById(R.id.butView);
        butViewAll=(Button)findViewById(R.id.butViewAll);

        butAdd.setOnClickListener(this);
        butDelete.setOnClickListener(this);
        butModify.setOnClickListener(this);
        butView.setOnClickListener(this);
        butViewAll.setOnClickListener(this);

        db=openOrCreateDatabase("studentDB", Context.MODE_PRIVATE,
null);
        db.execSQL("CREATE    TABLE    IF    NOT    EXISTS    student(regno
VARCHAR,studname VARCHAR,year VARCHAR);");
    }
    public void onClick(View view)
    {
```

```java
if(view==butAdd)
{
        if(editRegistrationNo.getText().toString().trim().length()==0 ||
                editStudentName.getText().toString().trim().length()==0 ||
                editYear.getText().toString().trim().length()==0)
{
        showMessage("SECCSE - Error", "Please enter All Details");
        return;
}
        db.execSQL("INSERT INTO student
VALUES('"+editRegistrationNo.getText()+"','"+editStudentName.getText()+
    "','"+editYear.getText()+"');");
        showMessage("Success", "Record added");
        clearText();
}

if(view==butDelete)
{
        if(editRegistrationNo.getText().toString().trim().length()==0)
        {
                showMessage("SECCSE - Error", "Please enter Registration
No");
                return;
        }
        Cursor   c=db.rawQuery("SELECT    *   FROM   student   WHERE
regno='"+editRegistrationNo.getText()+"'", null);
        if(c.moveToFirst())
        {
                db.execSQL("DELETE        FROM       student       WHERE
regno='"+editRegistrationNo.getText()+"'");
                showMessage("Success", "Record Deleted");
        }
        else
        {
                showMessage("SECCSE - Error", "Invalid Registration No");
        }
        clearText();
}

if(view==butModify)
{
        if(editRegistrationNo.getText().toString().trim().length()==0)
        {
                showMessage("SECCSE - Error", "Please enter Registration
No");
                return;
        }
        Cursor    c=db.rawQuery("SELECT    *   FROM   student   WHERE
regno='"+editRegistrationNo.getText()+"'", null);
```

```java
                if(c.moveToFirst())
                {
                        db.execSQL("UPDATE                student                SET
studname='"+editStudentName.getText()+"',year='"+editYear.getText()+         "'
WHERE regno='"+editRegistrationNo.getText()+"'");
                        showMessage("Success", "Record Modified");
                }
                else
                {
                        showMessage("SECCSE - Error", "Invalid  Rollno");
                }
                clearText();
        }

        if(view==butView)
        {
                if(editRegistrationNo.getText().toString().trim().length()==0)
                {
                        showMessage("SECCSE - Error", "Please enter Registration
No");
                        return;
                }
                Cursor   c=db.rawQuery("SELECT    *  FROM  student   WHERE
regno='"+editRegistrationNo.getText()+"'", null);
                if(c.moveToFirst())
                {
                        editStudentName.setText(c.getString(1));
                        editYear.setText(c.getString(2));
                }
                else
                {
                        showMessage("SECCSE - Error", "Invalid Registration No");
                        clearText();
                }
        }

        if(view==butViewAll)
        {
                Cursor c=db.rawQuery("SELECT * FROM student", null);
                if(c.getCount()==0)
                {
                        showMessage("SECCSE - Error", "No records found");
                        return;
                }
                StringBuffer buffer=new StringBuffer();
                while(c.moveToNext())
                {
                        buffer.append("Registration No: "+c.getString(0)+"\n");
                        buffer.append("Student Name: "+c.getString(1)+"\n");
```

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```
                buffer.append("Year: "+c.getString(2)+"\n\n");
        }
        showMessage("SECCSE  Student  Details", buffer.toString());
    }
  }

    public void showMessage(String title,String message) {
        Builder builder=new Builder(this);
        builder.setCancelable(true);
        builder.setTitle(title);
        builder.setMessage(message);
        builder.show();
    }

    public void clearText() {
        editRegistrationNo.setText("");
        editStudentName.setText("");
        editYear.setText("");
        editRegistrationNo.requestFocus();
    }
}
```

**string.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
   <string name="app_name">Student Detail</string>
   <string name="SECCSE_student_form">SECCSE - STUDENT
FORM</string>
      <string name="hello">Hello World, Student detail Activity!</string>
      <string name="title">Student Details</string>
      <string name="RegistrationNo">Enter Registration No: </string>
      <string name="StudentName">Enter Student Name: </string>
      <string name="Year">Enter Year:  </string>
      <string  name="Add">Add Student</string>
      <string name="Delete">Delete Student</string>
      <string name="Modify">Modify Student</string>
      <string name="View">View Student</string>
      <string name="ViewAll">View All Students</string>
</resources>
```

## OUTPUT:
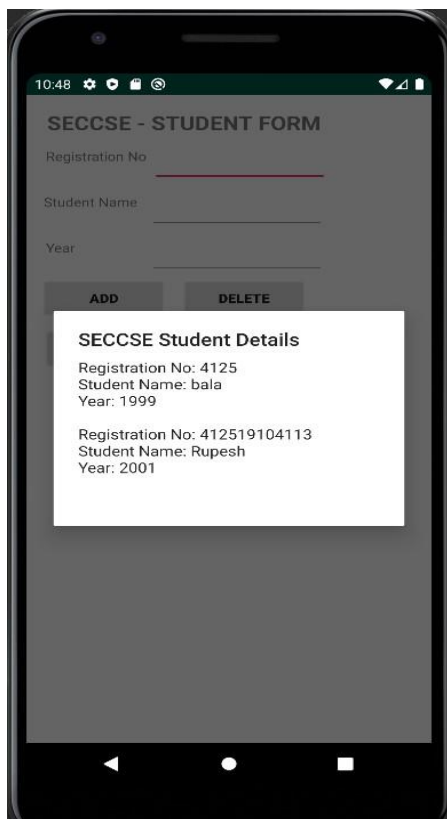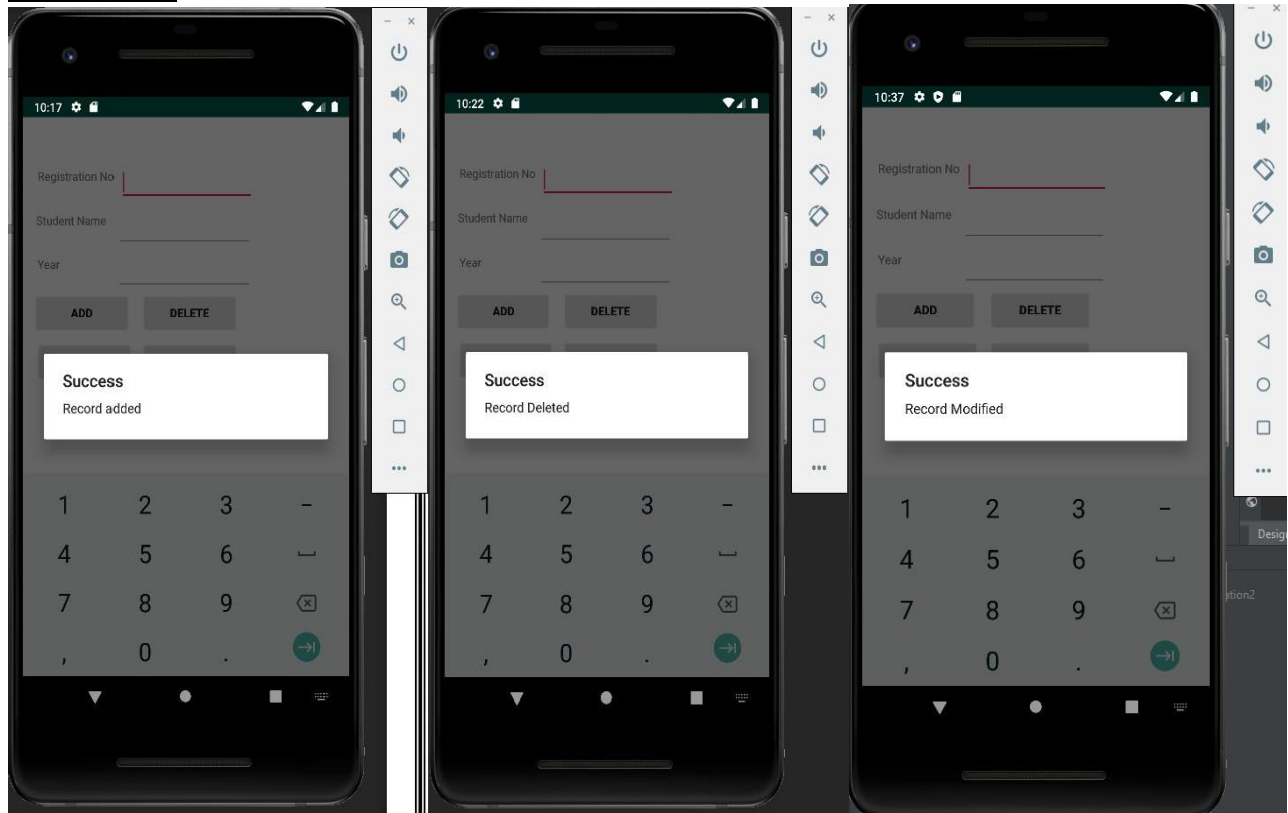




## RESULT :

Thus, the Android application program was executed successfully and verified.

| Ex No : 6 | DEVELOP A NATIVE APPLICATION THAT USES GPS LOCATION INFORMATION |
|-----------|---------------------------------------------------------------|

**AIM :**

To write an Android application program that uses GPS Location information.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new Android project
3. Select and double click our project Name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter our activity_main.xml code
6. Then, go to src folder and double click our MainActivity.java file
7. Enter our MainActivity.java code
8. Enter our AndroidManifest.xml file
9. Finally go to run configuration select our AVD and run our Android program.

**PROGRAM:**

**activity_main.xml**

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

<Button
    android:id="@+id/butShowLocation"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="154dp"
    android:text="SHOW LOCATION"
    android:textStyle="bold" />

</RelativeLayout>
```

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**MainActivity.java**

```java
package com.example.six;

import android.os.Bundle;
import android.app.Activity;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends Activity {
        Button butShowLocation;
        GPStrace gps;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        butShowLocation=(Button)findViewById(R.id.butShowLocation);
        butShowLocation.setOnClickListener(new View.OnClickListener() {
                    @Override
                    public void onClick(View argo) {
                            gps=new GPStrace(MainActivity.this);
                            if(gps.canGetLocation()){
                            double latitude=gps.getLatitude();
                            double  longitude=gps.getLongtiude();
                            Toast.makeText(getApplicationContext(),"Your
Location            is            \nLat:"+latitude+"\nLong:"+longitude,
Toast.LENGTH_LONG).show();
                            }
                            else
                            {
                            gps.showSettingAlert();
                            }
                    }
            });
    }
}
```

**GPStrace.java**

```java
package com.example.six;

import android.app.AlertDialog;
import android.app.Service;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.location.Location;
```

```
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import android.os.IBinder;
import android.provider.Settings;

public class GPStrace extends Service implements LocationListener{
        private final Context context;
                boolean isGPSEnabled=false;
                boolean canGetLocation=false;
                boolean isNetworkEnabled=false;
                Location location;
                double latitude;
                double longtitude;
                private               static               final               long
MIN_DISTANCE_CHANGE_FOR_UPDATES=10;
                private static final long MIN_TIME_BW_UPDATES=1000*60*1;
                protected LocationManager locationManager;
                public GPStrace(Context context)
                {
                        this.context=context;
                        getLocation();
                }
                public Location getLocation()
                {
                        try{
                                locationManager=(LocationManager)
context.getSystemService(LOCATION_SERVICE);

        isGPSEnabled=locationManager.isProviderEnabled(LocationManager.G
PS_PROVIDER);

        isNetworkEnabled=locationManager.isProviderEnabled(LocationManag
er.NETWORK_PROVIDER);
                                if(!isGPSEnabled && !isNetworkEnabled)
                                {
                                }
                                else{
                                        this.canGetLocation=true;
                                        if(isNetworkEnabled){

        locationManager.requestLocationUpdates(LocationManager.NETWORK
_PROVIDER,MIN_TIME_BW_UPDATES,MIN_DISTANCE_CHANGE_FOR_UPD
ATES,this);
                                        }
                                        if(locationManager!=null){

        location=locationManager.getLastKnownLocation(LocationManager.NE
TWORK_PROVIDER);
```

```
                                        if(location !=null){
                                                latitude=location.getLatitude();

        longtitude=location.getLongitude();
                                        }
                                }
                        }
                        if(isGPSEnabled){
                                if(location==null){

        locationManager.requestLocationUpdates(LocationManager.GPS_PRO
VIDER,MIN_TIME_BW_UPDATES,MIN_DISTANCE_CHANGE_FOR_UPDATES
, this);
                                        if(locationManager!=null){

        location=locationManager.getLastKnownLocation(LocationManager.GP
S_PROVIDER);
                                                if(location!=null){

        latitude=location.getLatitude();

        longtitude=location.getLongitude();
                                                        }
                                                }
                                        }
                                }
                        }
                catch(Exception e)
                {
                        e.printStackTrace();
                }
                return location;
        }

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

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

        public double getLongtiude(){
                if(location!=null){
```

```
                        longtitude=location.getLatitude();
                }
                return longtitude;
        }

        public boolean canGetLocation(){
                return this.canGetLocation;
        }

        public void showSettingAlert(){
                AlertDialog.Builder                    alertDialog=new
AlertDialog.Builder(context);
                alertDialog.setTitle("GPS is settings");
                alertDialog.setMessage("GPS is not enabled.Do you want to
go to setting menu?");
                alertDialog.setPositiveButton("settings",            new
DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface  dialog,int  which){
                        Intent                          intent=new
Intent(Settings.ACTION_LOCATION_SOURCE_SETTINGS);
                        context.startActivity(intent);
                }
                });
                alertDialog.setNegativeButton("cancel",            new
DialogInterface.OnClickListener() {
                        @Override
                        public void onClick(DialogInterface dialog, int which)
{
                                // TODO Auto-generated method stub
                                dialog.cancel();
                        }
                });
                alertDialog.show();
        }
        @Override
        public void onLocationChanged(Location location) {
                // TODO Auto-generated method stub
        }
@Override
     public void onProviderDisabled(String provider) {
     // TODO Auto-generated method stub
     }
     @Override
     public void onProviderEnabled(String provider) {
             // TODO Auto-generated method stub
     }
     @Override
```

```
        public void onStatusChanged(String provider, int status, Bundle extras)
{
        // TODO Auto-generated method stub
}
@Override
public IBinder onBind(Intent intent) {
        //TODO Auto-generated method stub
        return null;
}
}
```

**OUTPUT:**
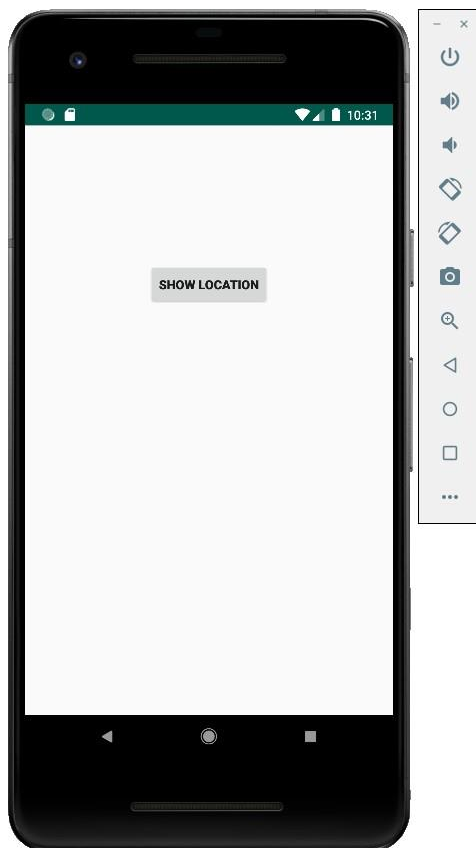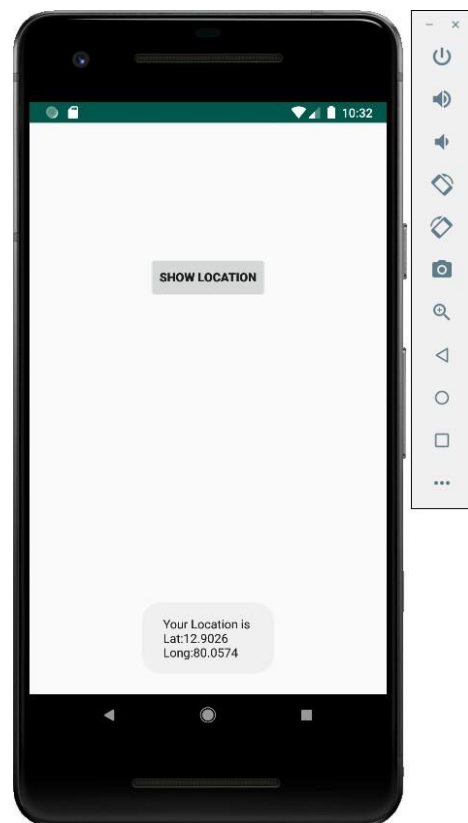


**Fig 1: Home  Screen**                                    **Fig 2: Location**

**RESULT :**
        Thus, the Android application program was executed successfully and
verified.

| Ex No : 7 | IMPLEMENT AN APPLICATION THAT WRITES DATA TO THE SD CARD |
|-----------|-----------------------------------------------------------|

**AIM :**

To write an Android application program that writes the data to the SD card.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new Android project
3. Select and double click our project Name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter our activity_main.xml code
6. Then, go to src folder and double click our MainActivity.java file
7. Enter our MainActivity.java code
8. Enter our AndroidManifest.xml file
9. Finally go to run configuration select our AVD and run our Android program.

**PROGRAM:**

**activity_main.xml**

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

   <EditText
      android:id="@+id/editText1"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:ems="10" />

   <Button
            android:id="@+id/button1"
            android:layout_width=" match_parent"
            android:layout_height="wrap_content"
            android:text="SAVE DATA"
            android:textStyle="bold" />
```

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```xml
    <Button
            android:id="@+id/button2"
            android:layout_width=" match_parent"
            android:lay out_height="wrap_content"
            android:text="SHOW DATA"
            android:textStyle="bold" />

    <TextView
            android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:lay out_height="wrap_content" />

</LinearLayout>
```

**ActivityMain.java**

```java
package   com.example.sev en;

import android.os.Bundle;
import android.app.Activity;
import android.v iew.Menu;
import android.v iew.View;
import java.io.File;
import  java.io.FileInput St ream;
import java.io.FileNotFoundException;
import java.io.FileOutput St ream;
import java.io.IOException;
import java.io.Input StreamReader;
import java.io.OutputStreamWr iter;
import android.os.Env ironment;
import  android.widget.Button;
import android.widget.EditT ext;
import android.widget.T ext View;
import  android.widget.T oast;

public class MainActivity extends Activity {
        Button Save,Load;
        EditText  message;
        TextView t1;
        String Message1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Save=(Button)findViewById(R.id.button1);
        Load=(Button)findViewById(R.id.button2);
        message=(EditText)findViewById(R.id.editText1);
        t1=(TextView)findViewById(R.id.textView1);
```

```java
Save.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
                Message1=message.getText().toString();
                try{

                        //Create a new folder called MyDirectory in SDCar d
                        File
sdcard=Environment.getExternalStorageDirectory ();
                        File                            directory=new
File(sdcard.getAbsolutePat h()+"/My Direct ory");
                        directory.mkdir();

                //Create a new file name textfile.txt inside MyDirectory
                        File file=new File(directory,"textfile.txt");
                        //Create File Outputstream to read the file
                        FileOutputStream                    fou=new
FileOutputStream(file);

                        OutputStreamWriter                osw=new
OutputStreamWriter(fou);

                        try{
                                //write a user data to file
                                osw.append(Message1);
                                osw.flush();
                                osw.close();

     Toast.makeText(getBaseContext(),"SECCSE               -             Data
Saved",Toast.LENGTH_LONG).show();
                                }catch(IOException e){
                                e.printStackTrace();
                                }
                                }catch (FileNotFoundException e){
                                e.printStackTrace();
                                }
                        }
                });
        Load.setOnClickListener(new View.OnClickListener(){
         public void onClick(View v){
         try{
                File sdcard=Environment.getExternalStorageDirectory();
                File                                        directory=new
File(sdcard.getAbsolutePat h()+"/My Direct ory");
                File file=new File(directory,"textfile.txt");
                FileInputStream fis=new FileInputStream(file);
                InputStreamReader isr=new InputStreamReader(fis);
                char[] data=new char[100];
                String final_data="";
                int size;
                try{
```

```
                        while((size=isr .read(data))>0)
                        {
                                //read a data from file
                                String read_data=String.copyValueOf( data,0,size);
                                final_data+=read_data;
                                data=new char[100];
                        }
                        //display the data in output
                        Toast.makeText(getBaseContext(),"SECCSE      -  Message   :
"+final_data,Toast.LENGTH_LONG).show();
                }catch(IOException e){
                        e.printStackTrace();
                }
                }catch (FileNotFoundException e){
                        e.printStackTrace();
                }
                }
                });
        }
}
```

**AndroidManifest.xml**

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

<uses-sdk
        android:minSdkVersion=" 8"
        android:targetSdkVersion="18" />

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

<application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/ app_name"
        android:theme="@style/AppTheme" >

      <activity
        android:name="com.example.seven.MainActivity"
        android:label="@string/app_name" >

      <intent-filter>
          <action  android:name="android.intent.action.MAIN" />
          <category  android:name="android.intent.category.LAUNCHER"   />
```

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```
        </intent-filter>

      </activity>

    </application>

  </manifest>
```
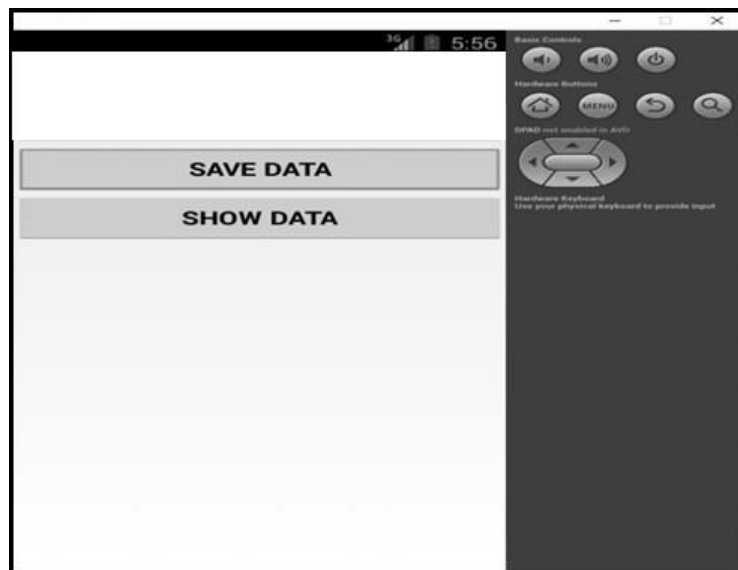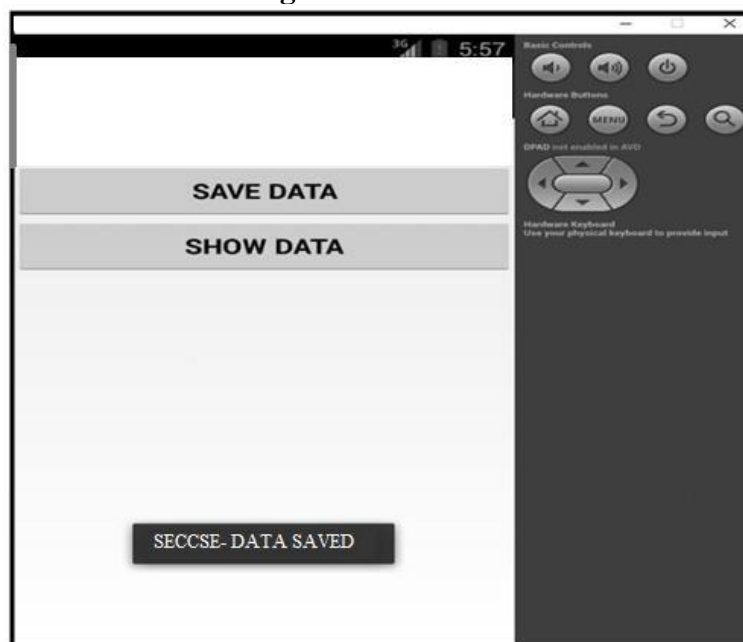
**OUTPUT:**



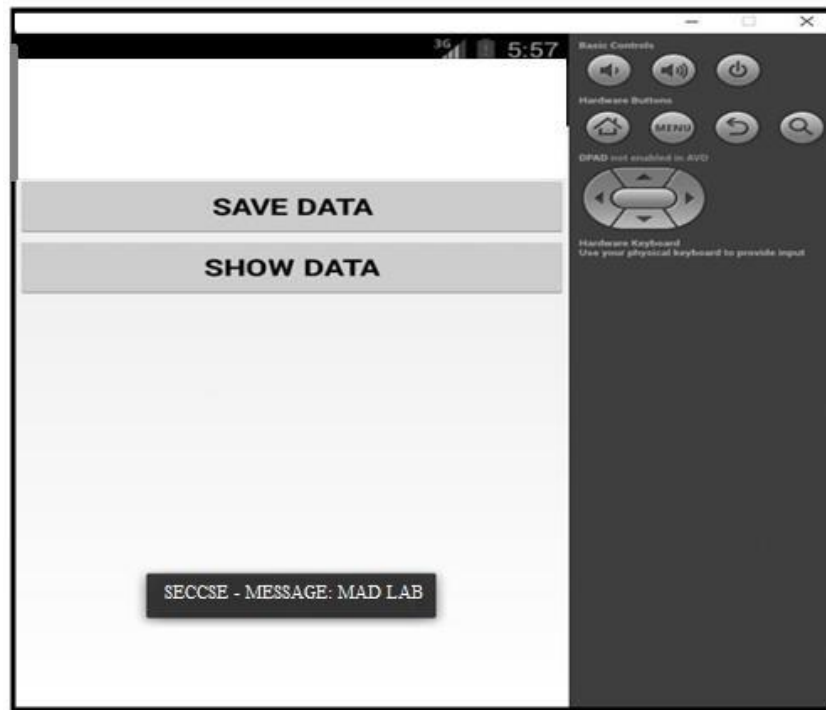**Fig 1: Home Screen**



**Fig 2: Save Data**

**Fig 3: Show Data**

**RESULT :**

Thus, the Android application program was executed successfully and verified.

| Ex No : 8 | IMPLEMENT AN APPLICATION THAT CREATES AN ALERT UPON RECEIVING A MESSAGE |
|-----------|--------------------------------------------------------------------------------|

**AIM :**

To write an Android application program that creates an alert upon receiving a message.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new android project
3. Select and double click your project name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

**PROGRAM :**

**activity_main.xml**

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity" >

<Button
    android:id="@+id/button"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_alignParentLeft="true"
    android:layout_below="@+id/text"
    android:layout_marginTop="32dp"
    android:text="SHOW ALERT BOX"
    android:textSize="20sp" />

<TextView
    android:id="@+id/text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
```

```
        android:layout_centerHorizontal="true"
        android:layout_marginTop="21DP"
        android:text="SECCSE - CS8662"
        android:textSize="30sp"
            android:textStyle="bold" />
```

```
</RelativeLayout>
```

**MainActivity.java**

package com.example.eight;

import android.os.Bundle;
import android.app.Activity;
import android.app.AlertDialog;
import android.content.DialogInterface;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.Toast;

```java
        public class MainActivity extends Activity {
                private Button mainBtn;
                @Override
                protected void onCreate(Bundle savedInstanceState) {
                        super.onCreate(savedInstanceState);
                        setContentView(R.layout.activity_main);
                        mainBtn = (Button) findViewById(R.id.button);
                        mainBtn.setOnClickListener(new OnClickListener() {
                                @Override
                                public void onClick(View v) {
                                        //TODOAuto-generatedmethod stub
                                        openAlert(v);
                                }
                        });
                }
                private void openAlert(View view) {
                        AlertDialog.Builder        alertDialogBuilder        =        new
        AlertDialog.Builder(MainActivity.this);
                        alertDialogBuilder.setTitle("SECCSE - CS8662");
                        alertDialogBuilder.setMessage("Are you sure?");

                        // set positive button: Yes message
                        alertDialogBuilder.setPositiveButton("YES",new
        DialogInterface.OnClickListener() {
                                public void onClick(DialogInterface dialog,int id){
                                        // go to a new activity of the app
                                        Toast.makeText(getApplicationContext(),
        "WELCOME TO SECCSE - Android APP..!",
```

```
                              Toast.LENGTH_LONG).show();
                        }
                });

                        // set negative button: No message
                alertDialogBuilder.setNegativeButton("NO",new
    DialogInterface.OnClickListener() {
                        public void onClick(DialogInterface dialog,int id) {
                                // cancel the alert box and put a Toast to the
    user
                                dialog.cancel();
                                Toast.makeText(getApplicationContext(), "You
    choose a Negative answer..!",
                                        Toast.LENGTH_LONG).show();
                        }
                });

                        // set neutral button: Exit the app message
                alertDialogBuilder.setNeutralButton("Exit ( ).?",new
    DialogInterface.OnClickListener() {
                        public void onClick(DialogInterface dialog,int id) {
                                // exit the app and go to the HOME
                                MainActivity.this.finish();
                        }
                });
                AlertDialog alertDialog =  alertDialogBuilder.create();
                // show alert
                alertDialog.show();
        }
    }
```
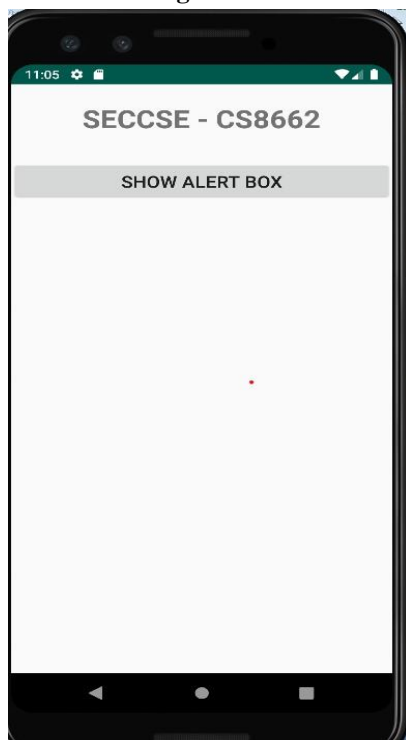
**OUTPUT:**   **Fig 1: Home Screen**                                    **Fig 2:Pop up**
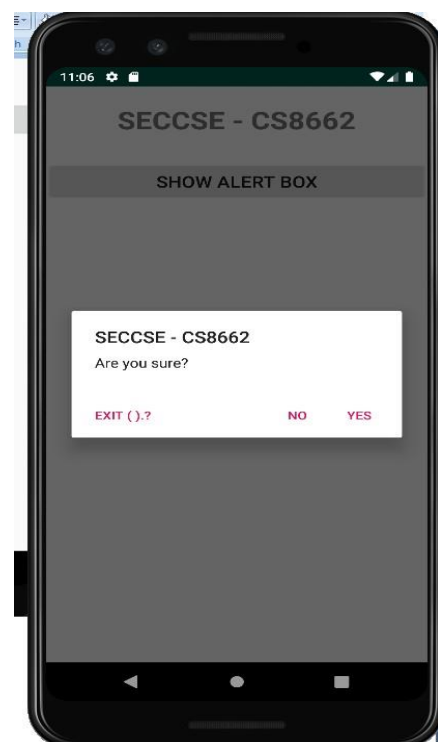
**Fig 3: Yes Button**



**Fig 4: No Button**

**RESULT :**

      Thus, the Android application program was executed successfully and verified.
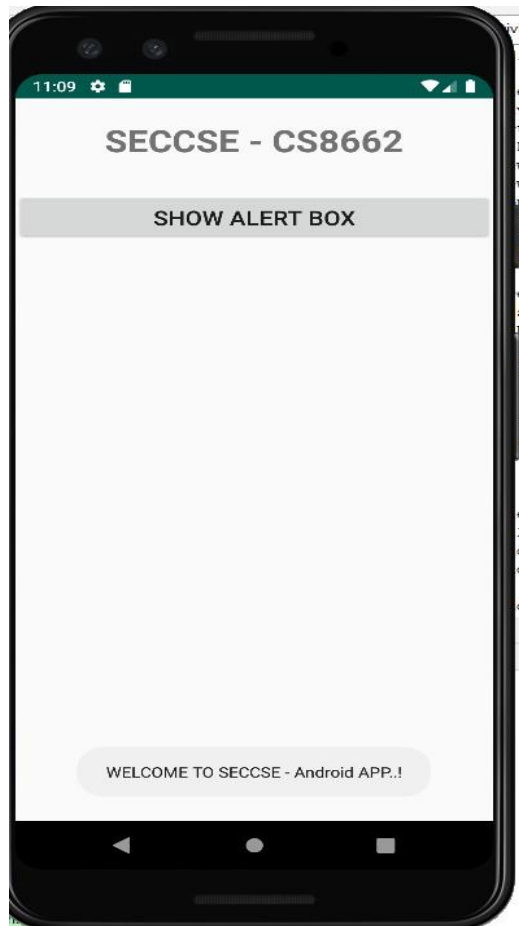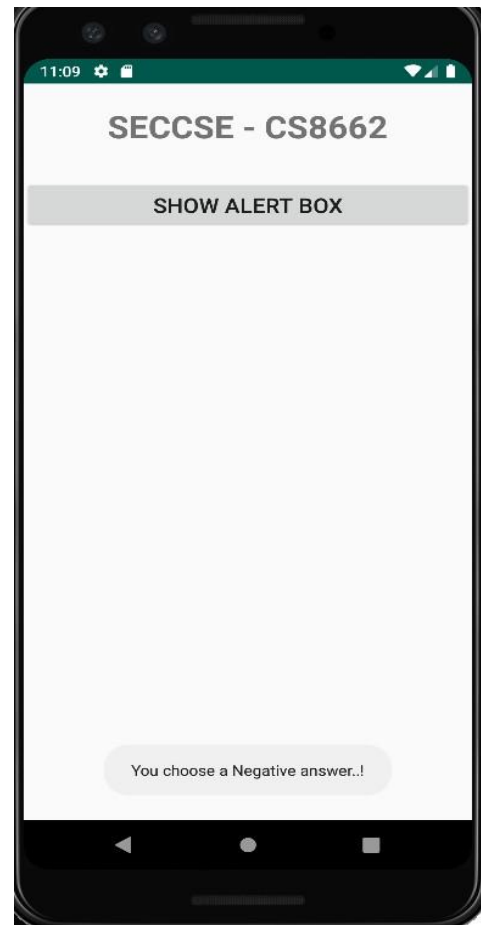
| Ex No : 9 | DEVELOP A MOBILE APPLICATION TO SEND AN e-MAIL |
|-----------|-----------------------------------------------|

**AIM :**

To write an Android application program to send an e-Mail.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new android project
3. Select and double click your project name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

**PROGRAM :**

**activity_main.xml**

```
<LinearLayout
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:orientation="vertical"
   android:paddingBottom="@dimen/activity_vertical_margin"
   android:paddingLeft="@dimen/activity_horizontal_margin"
   android:paddingRight="@dimen/activity_horizontal_margin"
   android:paddingTop="@dimen/activity_vertical_margin"
   tools:context=".MainActivity" >

   <EditText
      android:id="@+id/et_email"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:ems="10"
      android:inputType="textEmailAddress"
      android:hint="E-mail">
      <requestFocus />
   </EditText>

   <EditText
```

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```
        android:id="@+id/et_subject"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="textPersonName"
        android:ems="10"
        android:hint="Subject"
        android:layout_marginTop="10dp" />

    <EditText
        android:id="@+id/et_message"
        android:layout_width="match_parent"
        android:layout_height="200dp"
        android:layout_marginTop="10dp"
        android:inputType="textMultiLine"
        android:ems="10"
        android:hint="Message"
        android:gravity="left" />

    <Button
        android:id="@+id/b_send"
        android:layout_width="282dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="SEND"
        android:textSize="20sp" />

</LinearLayout>
```

**MainActivity.java**

```
package com.example.nine;

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

public class MainActivity extends Activity {
    EditText et_email,et_subject,et_message;
    Button b_send;

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

```
et_email=(EditText)findViewById(R.id.et_email);
et_subject=(EditText)findViewById(R.id.et_subject);
et_message=(EditText)findViewById(R.id.et_message);

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

        @Override
        public void onClick(View view) {
                String to=et_email.getText().toString();
                String subject=et_subject.getText().toString();
                String message=et_message.getText().toString();

                Intent intent=new Intent(Intent.ACTION_SEND);
                intent.putExtra(Intent.EXTRA_EMAIL,new
String[]{to});

                intent.putExtra(Intent.EXTRA_SUBJECT, subject);
                intent.putExtra(Intent.EXTRA_TEXT,  message);

                intent.setType("message/rfc822");

                startActivity(Intent.createChooser(intent, "SECCSE -
Select Email App"));

        }
    });

    }
}
```
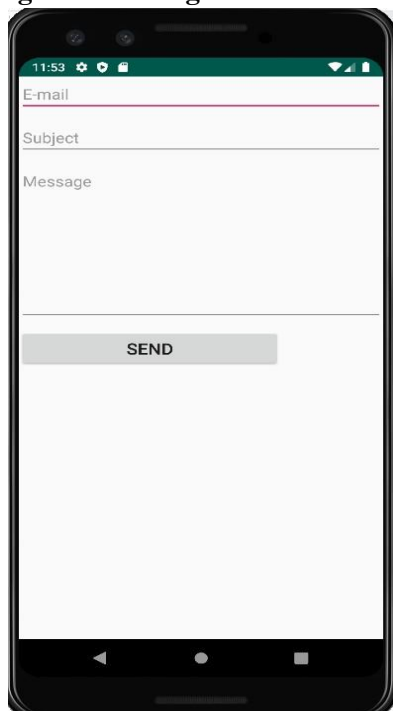
**Fig 1: Home Page**                              **Fig 2: Message**
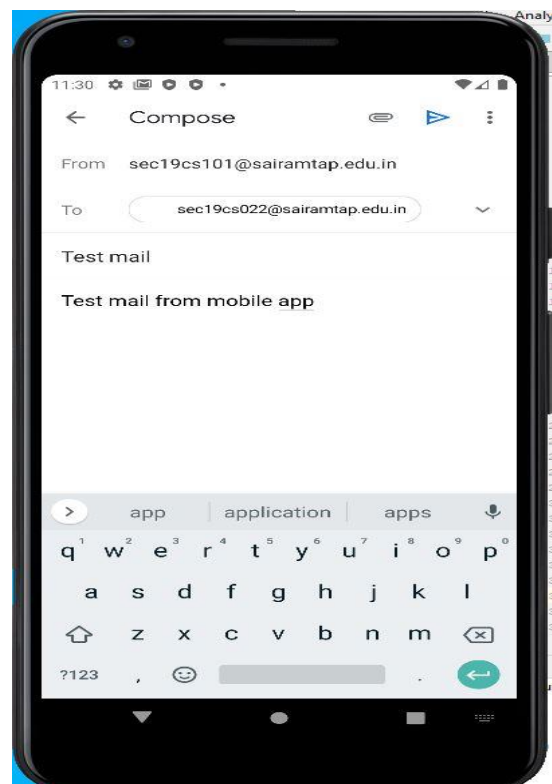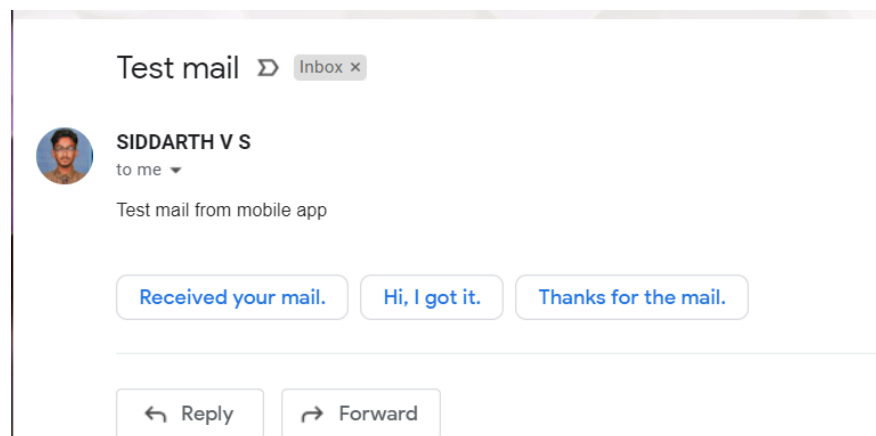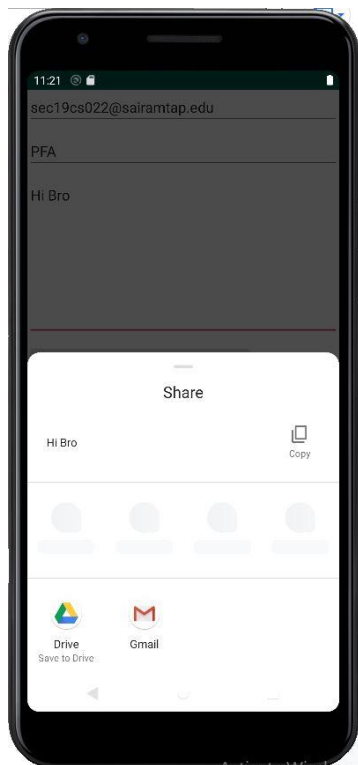
**Fig 3: App selection**

**RESULT :**

       Thus, the Android application program was executed successfully and verified.

| Ex No : 10 | DEVELOP AN APPLICATION THAT MAKES USE OF NOTIFICATION MANAGER |
|---|---|

**AIM :**

To write an Android application program that makes use of Notification Manager.

**PROCEDURE :**

1. Open eclipse or android studio
2. Create a new android project
3. Select and double click your project name
4. Then, go to res folder and select layout double click the activity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

**PROGRAM :**

**activity_main.xml**

```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

  <TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="32dp"
    android:text="SECCSE - CS8662"
    android:textStyle="bold"
    android:textSize="30sp" />
```

```xml
    <Button
        android:id="@+id/bt_notification"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="65dp"
        android:text="NOTIFICATION"
        android:textSize="20sp"
        android:textStyle="bold" />

</RelativeLayout>
```

**activity_notification.xml**

```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=".NotificationActivity" >

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/notifymessagetextview"
        android:textSize="25sp"
        android:gravity="center" />

</RelativeLayout>
```

**MainActivity.java**

```java
package com.example.ten;

import android.os.Bundle;
import android.app.Activity;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.support.v4.app.NotificationCompat;
import android.view.View;
import android.widget.*;

public class MainActivity extends Activity {
        Button btNotification;
```

```java
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btNotification=(Button)findViewById(R.id.bt_notification);

        btNotification.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View view) {
                String message="This is a SECCSE -  CS8662 Notification Demo";
                NotificationCompat.Builder builder=new NotificationCompat.Builder
                    (MainActivity.this)
                    .setSmallIcon(R.drawable.ic_launcher)
                    .setContentTitle("SECCSE - New  Notification")
                    .setContentText(message)
                    .setAutoCancel(true);

                Intent intent=new Intent(MainActivity.this,NotificationActivity.class);

     intent.addFlags(Intent.FLAG_ACTIVITY_CLEAR_TOP);
                intent.putExtra("message", message);

                PendingIntent pendingIntent=PendingIntent.getActivity(MainActivity.this, 0, intent, PendingIntent.FLAG_UPDATE_CURRENT);
                builder.setContentIntent(pendingIntent);
                NotificationManager notificationmanager=(NotificationManager)getSystemService(Context.NOTIFICATION_SERVICE);
                notificationmanager.notify(0,builder.build());
            }
        });
    }
}
```

**NotificationActivity.java**

```java
package com.example.ten;

import android.os.Bundle;
import android.widget.TextView;
import android.app.Activity;

public class NotificationActivity extends Activity{
```

```
    TextView textview;
     @Override
 protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity_notification);

     textview=(TextView)findViewById(R.id.notifymessagetextview);

     String message=getIntent().getStringExtra("message");
     textview.setText(message);
      }
}
```

**OUTPUT:**
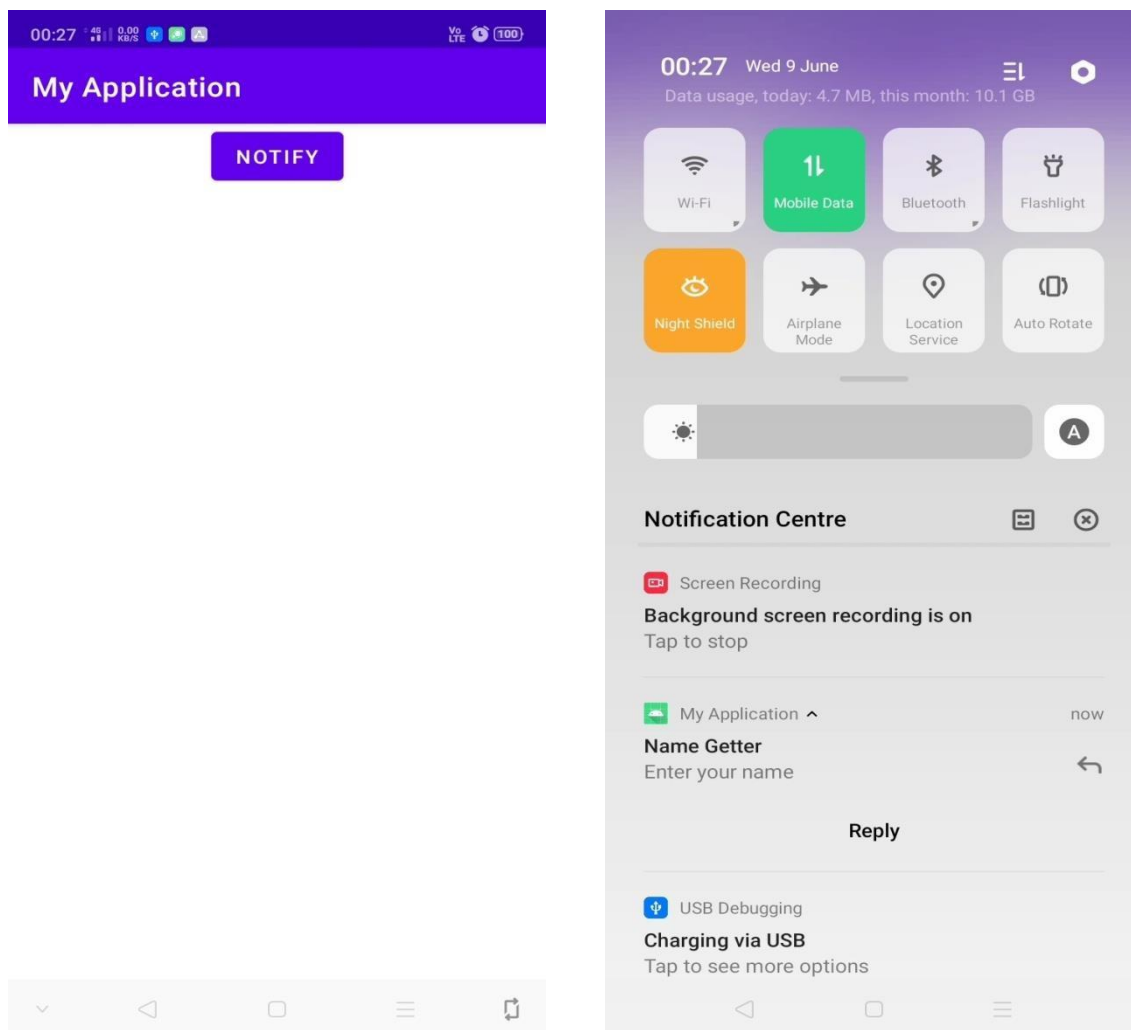


**FIG 1: NOTIFICATION CREATED ON BUTTONCLICK**
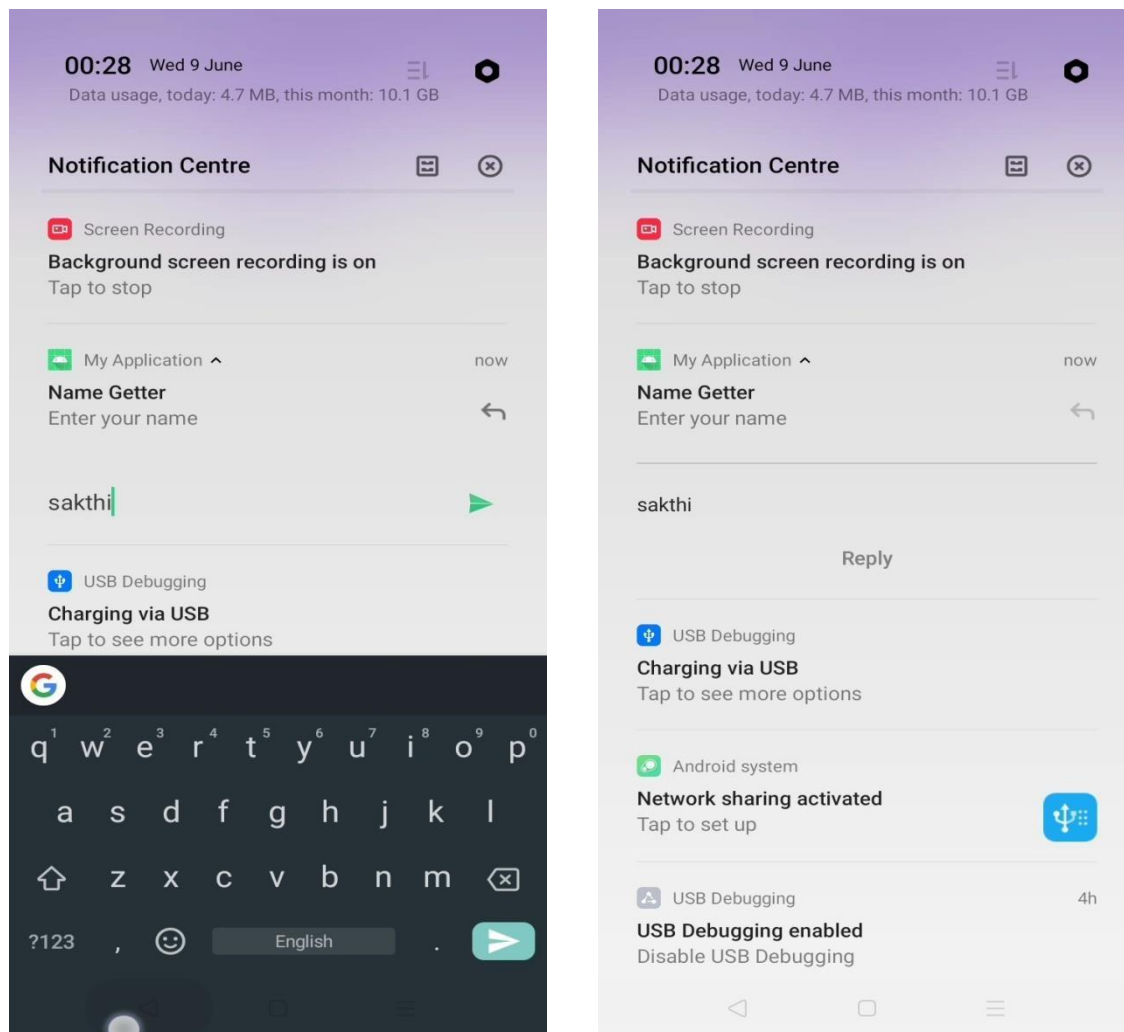
**FIG 2:  ENTERING REPLY DATA INNOTIFICATION**

**RESULT :**

Thus, the Android application program was executed successfully and verified

| **Ex No: 11** | **MINI PROJECT – ONLINE ATTENDANCE MANAGEMENT APP** |
|---|---|

## AIM:

To write an Android application program that can generate random number in a dice.

## PROCEDURE:

1. Open eclipse or android studio
2. Create a new android project
3. Select and double click your project name
4. Then, go to res folder and select layout double click theactivity_main.xml file
5. Enter your activity_main.xml code
6. Then, go to src folder and double click your MainActivity.java file
7. Enter your MainActivity.java code
8. Finally go to run configuration select your avd and run your android program.

## PROGRAM:

### AttendanceSessionActivity.java

package com.android.attendance.activity;

import java.util.ArrayList;
import java.util.Calendar;

import com.android.attendance.bean.AttendanceBean;
import com.android.attendance.bean.AttendanceSessionBean;
import com.android.attendance.bean.FacultyBean;
import com.android.attendance.bean.StudentBean;
import com.android.attendance.context.ApplicationContext;
import com.android.attendance.db.DBAdapter;
import com.example.androidattendancesystem.R;

import android.app.Activity;
import android.app.DatePickerDialog;
import android.app.Dialog;
import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.AdapterView;

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```java
import android.widget.AdapterView.OnItemSelectedListener;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;

public class AddAttandanceSessionActivity<AddAttandanceActivity> extends Activity {

        private ImageButton date;
        private Calendar cal;
        private int day;
        private int month;
        private int dyear;
        private EditText dateEditText;
        Button submit;
        Button viewAttendance;
        Button viewTotalAttendance;
        Spinner spinnerbranch,spinneryear,spinnerSubject;
        String branch = "cse";
        String year = "SE";
        String subject = "SC";

        private String[] branchString = new String[] { "cse"};
        private String[] yearString = new String[] {"SE","TE","BE"};
        private String[] subjectSEString = new String[] {"SC","MC"};
        private String[] subjectTEString = new String[] {"GT","CN"};
        private String[] subjectBEString = new String[] {"DS","NS"};

        private String[] subjectFinal = new String[] {"M3","DS","M4","CN","M5","NS"};
        AttendanceSessionBean attendanceSessionBean;

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

                //Assume subject will be SE
                //subjectFinal = subjectSEString;

                spinnerbranch=(Spinner)findViewById(R.id.spinner1);
                spinneryear=(Spinner)findViewById(R.id.spinneryear);
                spinnerSubject=(Spinner)findViewById(R.id.spinnerSE);

                ArrayAdapter<String> adapter_branch = new
ArrayAdapter<String>(this,android.R.layout.simple_spinner_item, branchString);

        adapter_branch.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
                spinnerbranch.setAdapter(adapter_branch);
                spinnerbranch.setOnItemSelectedListener(new OnItemSelectedListener() {
                        @Override
                        public void onItemSelected(AdapterView<?> arg0, View view,
                                        int arg2, long arg3) {
                                // TODO Auto-generated method stub
                                ((TextView) arg0.getChildAt(0)).setTextColor(Color.WHITE);
                                branch =(String) spinnerbranch.getSelectedItem();
                        }
```

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```
                                @Override
                                public void onNothingSelected(AdapterView<?> arg0) {
                                        // TODO Auto-generated method stub
                                }
                });

                ///.....................spinner2
                ArrayAdapter<String> adapter_year = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, yearString);

        adapter_year.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
                spinneryear.setAdapter(adapter_year);
                spinneryear.setOnItemSelectedListener(new OnItemSelectedListener() {
                        @Override
                        public void onItemSelected(AdapterView<?> arg0, View view,
                                        int arg2, long arg3) {
                                // TODO Auto-generated method stub
                                ((TextView) arg0.getChildAt(0)).setTextColor(Color.WHITE);
                                year =(String) spinneryear.getSelectedItem();
                                Toast.makeText(getApplicationContext(), "year:"+year,
Toast.LENGTH_SHORT).show();

                                /*if(year.equalsIgnoreCase("se"))
                                {
                                        subjectFinal = subjectSEString;
                                }
                                else if(year.equalsIgnoreCase("te"))
                                {
                                        subjectFinal = subjectTEString;
                                }
                                else if(year.equalsIgnoreCase("be"))
                                {
                                        subjectFinal = subjectBEString;
                                }*/

                        }

                        @Override
                        public void onNothingSelected(AdapterView<?> arg0) {
                                // TODO Auto-generated method stub
                        }
                });

                ArrayAdapter<String> adapter_subject = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, subjectFinal);

        adapter_subject.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
                spinnerSubject.setAdapter(adapter_subject);
                spinnerSubject.setOnItemSelectedListener(new OnItemSelectedListener() {
                        @Override
                        public void onItemSelected(AdapterView<?> arg0, View view,
                                        int arg2, long arg3) {
                                // TODO Auto-generated method stub
                                ((TextView) arg0.getChildAt(0)).setTextColor(Color.WHITE);
                                subject =(String) spinnerSubject.getSelectedItem();

                        }

                        @Override
```

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```java
                        public void onNothingSelected(AdapterView<?> arg0) {
                                // TODO Auto-generated method stub
                        }
                });


                date = (ImageButton) findViewById(R.id.DateImageButton);
                cal = Calendar.getInstance();
                day = cal.get(Calendar.DAY_OF_MONTH);
                month = cal.get(Calendar.MONTH);
                dyear = cal.get(Calendar.YEAR);
                dateEditText = (EditText) findViewById(R.id.DateEditText);
                date.setOnClickListener(new OnClickListener() {

                        @Override
                        public void onClick(View arg0) {
                                showDialog(0);


                        }
                });

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

                        @Override
                        public void onClick(View arg0) {

                                AttendanceSessionBean attendanceSessionBean = new
AttendanceSessionBean();
                                FacultyBean
bean=((ApplicationContext)AddAttandanceSessionActivity.this.getApplicationContext()).getFacultyBean();


        attendanceSessionBean.setAttendance_session_faculty_id(bean.getFaculty_id());

        attendanceSessionBean.setAttendance_session_department(branch);
                                attendanceSessionBean.setAttendance_session_class(year);

        attendanceSessionBean.setAttendance_session_date(dateEditText.getText().toString());
                                attendanceSessionBean.setAttendance_session_subject(subject);

                                DBAdapter dbAdapter = new
DBAdapter(AddAttandanceSessionActivity.this);
                                int sessionId=
                dbAdapter.addAttendanceSession(attendanceSessionBean);

                                ArrayList<StudentBean>
studentBeanList=dbAdapter.getAllStudentByBranchYear(branch, year);

        ((ApplicationContext)AddAttandanceSessionActivity.this.getApplicationContext()).setStudentBean
List(studentBeanList);


                                Intent intent = new
Intent(AddAttandanceSessionActivity.this,AddAttendanceActivity.class);
                                intent.putExtra("sessionId", sessionId);
                                startActivity(intent);
                        }
                });
```

```java
viewAttendance=(Button)findViewById(R.id.viewAttendancebutton);
viewAttendance.setOnClickListener(new OnClickListener() {

        @Override
        public void onClick(View arg0) {

                AttendanceSessionBean attendanceSessionBean = new
AttendanceSessionBean();
                FacultyBean
bean=((ApplicationContext)AddAttandanceSessionActivity.this.getApplicationContext()).getFacultyBean();


        attendanceSessionBean.setAttendance_session_faculty_id(bean.getFaculty_id());

        attendanceSessionBean.setAttendance_session_department(branch);
                attendanceSessionBean.setAttendance_session_class(year);

        attendanceSessionBean.setAttendance_session_date(dateEditText.getText().toString());
                attendanceSessionBean.setAttendance_session_subject(subject);

                DBAdapter dbAdapter = new
DBAdapter(AddAttandanceSessionActivity.this);

                ArrayList<AttendanceBean> attendanceBeanList =
dbAdapter.getAttendanceBySessionID(attendanceSessionBean);

        ((ApplicationContext)AddAttandanceSessionActivity.this.getApplicationContext()).setAttendanceB
eanList(attendanceBeanList);

                Intent intent = new
Intent(AddAttandanceSessionActivity.this,ViewAttendanceByFacultyActivity.class);
                startActivity(intent);


        }
});

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

        @Override
        public void onClick(View arg0) {
                AttendanceSessionBean attendanceSessionBean = new
AttendanceSessionBean();
                FacultyBean
bean=((ApplicationContext)AddAttandanceSessionActivity.this.getApplicationContext()).getFacultyBean();


        attendanceSessionBean.setAttendance_session_faculty_id(bean.getFaculty_id());

        attendanceSessionBean.setAttendance_session_department(branch);
                attendanceSessionBean.setAttendance_session_class(year);
                attendanceSessionBean.setAttendance_session_subject(subject);

                DBAdapter dbAdapter = new
DBAdapter(AddAttandanceSessionActivity.this);

                ArrayList<AttendanceBean> attendanceBeanList =
dbAdapter.getTotalAttendanceBySessionID(attendanceSessionBean);
```

```
        ((ApplicationContext)AddAttandanceSessionActivity.this.getApplicationContext()).setAttendanceB
eanList(attendanceBeanList);

                                        Intent intent = new
Intent(AddAttandanceSessionActivity.this,ViewAttendanceByFacultyActivity.class);
                                        startActivity(intent);


                                }
                        });
                }
        @Override
        @Deprecated
        protected Dialog onCreateDialog(int id) {
                        return new DatePickerDialog(this, datePickerListener, dyear, month, day);
        }
        private DatePickerDialog.OnDateSetListener datePickerListener = new
DatePickerDialog.OnDateSetListener() {
                        public void onDateSet(DatePicker view, int selectedYear,
                                        int selectedMonth, int selectedDay) {
                                dateEditText.setText(selectedDay + " / " + (selectedMonth + 1) + " / "
                                                + selectedYear);
                        }
        };

}
```

**Loginactivity.java**
```
package com.android.attendance.activity;

import android.app.Activity;
import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemSelectedListener;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;

import com.android.attendance.bean.FacultyBean;
import com.android.attendance.context.ApplicationContext;
import com.android.attendance.db.DBAdapter;
import com.example.androidattendancesystem.R;

public class LoginActivity extends Activity {

        Button login;
        EditText username,password;
        Spinner spinnerloginas;
        String userrole;
        private String[] userRoleString = new String[] { "admin", "faculty"};
```

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

                login =(Button)findViewById(R.id.buttonlogin);
                username=(EditText)findViewById(R.id.editTextusername);
                password=(EditText)findViewById(R.id.editTextpassword);
                spinnerloginas=(Spinner)findViewById(R.id.spinnerloginas);

                spinnerloginas.setOnItemSelectedListener(new OnItemSelectedListener() {
                        @Override
                        public void onItemSelected(AdapterView<?> arg0, View view,
                                        int arg2, long arg3) {
                                // TODO Auto-generated method stub
                                ((TextView) arg0.getChildAt(0)).setTextColor(Color.WHITE);
                                userrole =(String) spinnerloginas.getSelectedItem();

                        }

                        @Override
                        public void onNothingSelected(AdapterView<?> arg0) {
                                // TODO Auto-generated method stub
                        }
                });

                ArrayAdapter<String> adapter_role = new ArrayAdapter<String>(this,
                                android.R.layout.simple_spinner_item, userRoleString);
                adapter_role
                .setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
                spinnerloginas.setAdapter(adapter_role);

                login.setOnClickListener(new OnClickListener() {

                        @Override
                        public void onClick(View v) {
                                // TODO Auto-generated method stub

                                if(userrole.equals("admin"))
                                {

                                        String user_name = username.getText().toString();
                                        String pass_word = password.getText().toString();

                                        if (TextUtils.isEmpty(user_name))
                                        {
                                                username.setError("Invalid User Name");
                                        }
                                        else if(TextUtils.isEmpty(pass_word))
                                        {
                                                password.setError("enter password");
                                        }
                                        else
                                        {
                                                if(user_name.equals("admin") &
pass_word.equals("admin123")){

                                                Intent intent =new
Intent(LoginActivity.this,MenuActivity.class);

                                                startActivity(intent);
```

```java
                                                        Toast.makeText(getApplicationContext(),
"Login successful", Toast.LENGTH_SHORT).show();
                                                        }else{

        Toast.makeText(getApplicationContext(), "Login failed", Toast.LENGTH_SHORT).show();
                                                        }
                                                }

                                        else
                                        {
                                                String user_name = username.getText().toString();
                                                String pass_word = password.getText().toString();

                                                if (TextUtils.isEmpty(user_name))
                                                {
                                                        username.setError("Invalid User Name");
                                                }
                                                else if(TextUtils.isEmpty(pass_word))
                                                {
                                                        password.setError("enter password");
                                                }
                                                DBAdapter dbAdapter = new
DBAdapter(LoginActivity.this);

                                                FacultyBean facultyBean =
dbAdapter.validateFaculty(user_name, pass_word);

                                                if(facultyBean!=null)
                                                {
                                                        Intent intent = new
Intent(LoginActivity.this,AddAttandanceSessionActivity.class);

                                                        startActivity(intent);

        ((ApplicationContext)LoginActivity.this.getApplicationContext()).setFacultyBean(facultyBean);
                                                        Toast.makeText(getApplicationContext(),
"Login successful", Toast.LENGTH_SHORT).show();
                                                }
                                                else
                                                {
                                                        Toast.makeText(getApplicationContext(),
"Login failed", Toast.LENGTH_SHORT).show();
                                                }
                                        }

                                }
                        });


        }

        @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;
        }

}
```

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**Login.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"
    android:background="@drawable/clg"
    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="82dp"
        android:layout_marginTop="43dp"
        android:text="Login here.."
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <EditText
        android:id="@+id/editTextpassword"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView3"
        android:layout_below="@+id/textView3"
        android:layout_marginTop="15dp"
        android:background="@drawable/roundedtextview"
        android:ems="10"
        android:inputType="textPassword" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editTextusername"
        android:layout_below="@+id/editTextusername"
        android:layout_marginTop="14dp"
        android:text="Password"
        android:textAppearance="?android:attr/textAppearanceMedium" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/editTextusername"
        android:layout_below="@+id/textView1"
        android:layout_marginTop="110dp"
        android:text="Username"
        android:textAppearance="?android:attr/textAppearanceMedium" />

    <EditText
        android:id="@+id/editTextusername"
```

```xml
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="20dp"
    android:background="@drawable/roundedtextview"
    android:ems="10" >

    <requestFocus />
</EditText>

<Spinner
    android:id="@+id/spinnerloginas"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignBottom="@+id/textView2"
    android:layout_alignLeft="@+id/textView2"
    android:layout_alignParentRight="true"
    android:layout_marginBottom="32dp" />

<Button
    android:id="@+id/buttonlogin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_alignParentBottom="true"
    android:layout_alignRight="@+id/spinnerloginas"
    android:layout_marginBottom="34dp"
    android:text="Login" />

</RelativeLayout>
```
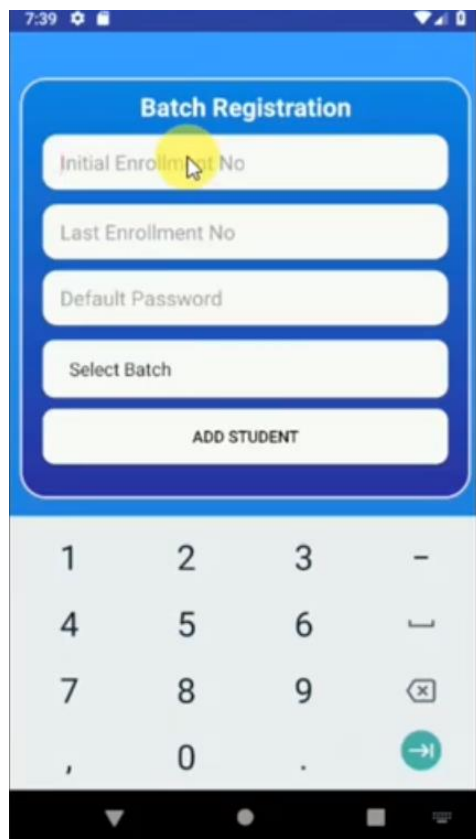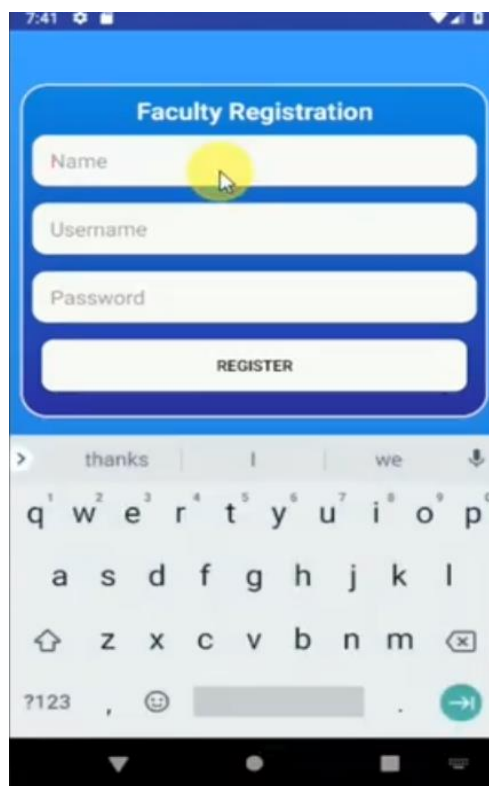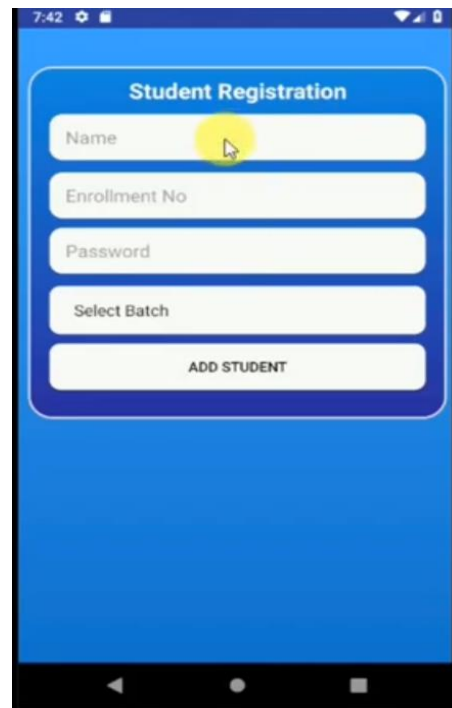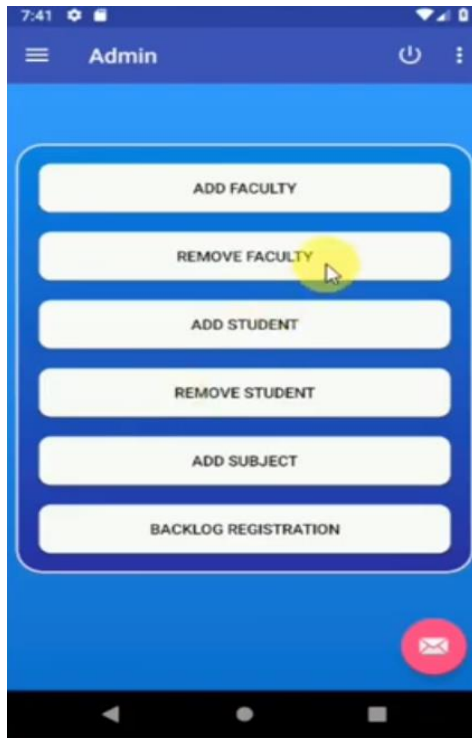
## **OUTPUT** :

## RESULT :

Thus the Android application program was executed successfully and verified.