

SSN College of Engineering
Department of Computer Science and Engineering

UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

Ex-1: Personal Information Page using GUI Controls, Fonts and Colours

Ex2: Buttons and Event Listeners

Name: **Abhay Kumar Tiwari**

Register Number: **195001005**

Aim:

To Develop an android application using GUI controls for creating personal information page

Program:

(MainActivity.java)

```
package com.greedy.ex1_personal_info;

import androidx.appcompat.app.AppCompatActivity;

import android.app.DatePickerDialog;
import android.content.Context;
import android.os.Bundle;
import android.text.InputType;
import android.view.View;
import android.view.inputmethod.InputMethodManager;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText editTextTextPersonName;
    EditText editTextDate;
    EditText editTextTextPersonName2;
    EditText editTextTextEmailAddress;
    EditText editTextPhone;
    RadioGroup gender;
    CheckBox checkBox;
    CheckBox checkBox2;
    Button button2;
    Button button3;

    public void disp(View v){
        DatePickerDialog datePickerDialog = new DatePickerDialog(MainActivity.this,
```

```

        new DatePickerDialog.OnDateSetListener() {
            EditText editTextDate = (EditText) findViewById(R.id.editTextDate);
            @Override
            public void onDateSet(DatePicker datePicker, int year, int month, int day) {
                editTextDate.setText(day + "-" + (month+1) + "-" + year);
            }
        }, 2001, 0, 0);
    datePickerDialog.show();
}

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    editTextTextPersonName = (EditText) findViewById(R.id.editTextTextPersonName);
    editTextDate = (EditText) findViewById(R.id.editTextDate);
    editTextTextPersonName2 = (EditText) findViewById(R.id.editTextTextPersonName2);
    editTextTextEmailAddress = (EditText) findViewById(R.id.editTextTextEmailAddress);
    editTextPhone = (EditText) findViewById(R.id.editTextPhone);
    gender = (RadioGroup) findViewById(R.id.gender);
    checkBox = (CheckBox) findViewById(R.id.checkBox);
    checkBox2 = (CheckBox) findViewById(R.id.checkBox2);
    button2 = (Button) findViewById(R.id.button2);
    button2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            editTextTextPersonName.getText().clear();
            editTextDate.getText().clear();
            editTextTextPersonName2.getText().clear();
            editTextTextEmailAddress.getText().clear();
            editTextPhone.getText().clear();
            gender.clearCheck();
            checkBox.setChecked(false);
            checkBox2.setChecked(false);
            Toast.makeText(MainActivity.this, "Details Submitted!",
Toast.LENGTH_SHORT).show();
        }
    });
    button3 = (Button) findViewById(R.id.button3);
    button3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            editTextTextPersonName.getText().clear();
            editTextDate.getText().clear();
            editTextTextPersonName2.getText().clear();
            editTextTextEmailAddress.getText().clear();
            editTextPhone.getText().clear();
            gender.clearCheck();
            checkBox.setChecked(false);
            checkBox2.setChecked(false);

```

```

        Toast.makeText(MainActivity.this, "Details Cleared!",
        Toast.LENGTH_SHORT).show();
    }
});

}
}

```

(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"
android:background="@drawable/bg"
tools:context=".MainActivity">

    <Button
        android:id="@+id/button"
        android:layout_width="362dp"
        android:layout_height="707dp"
        android:layout_marginStart="20dp"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="10dp"
        android:layout_marginEnd="20dp"
        android:layout_marginRight="20dp"
        android:layout_marginBottom="10dp"
        android:alpha="0.1"
        android:autoText="false"
        android:clickable="false"
        android:textAllCaps="true"
        android:textColorHighlight="#E10000"
        android:textStyle="normal|bold"
        app:backgroundTint="#BCB8B8"
        app:cornerRadius="30px"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button3"
        android:layout_width="131dp"
        android:layout_height="63dp"
        android:layout_marginStart="210dp"
        android:layout_marginLeft="210dp"
        android:layout_marginTop="623dp"

```

```

android:layout_marginEnd="20dp"
android:layout_marginRight="20dp"
android:layout_marginBottom="21dp"
android:clickable="true"
android:text="RESET"
app:cornerRadius="20px"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

<Button

```

android:id="@+id/button2"
android:layout_width="131dp"
android:layout_height="63dp"
android:layout_marginStart="25dp"
android:layout_marginLeft="25dp"
android:layout_marginTop="623dp"
android:layout_marginEnd="206dp"
android:layout_marginRight="206dp"
android:layout_marginBottom="21dp"
android:clickable="true"
android:onClick="submit"
android:text="Submit"
app:cornerRadius="20px"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

<TextView

```

android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="19dp"
android:layout_marginLeft="19dp"
android:layout_marginTop="73dp"
android:layout_marginEnd="258dp"
android:layout_marginRight="258dp"
android:alpha="1"
android:text="Name : "
android:textColor="#230068"
android:textSize="22sp"
android:textStyle="bold|italic"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

<EditText

```

android:id="@+id/editTextTextPersonName"

```

```

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="128dp"
android:layout_marginLeft="128dp"
android:layout_marginTop="73dp"
android:layout_marginEnd="24dp"
android:layout_marginRight="24dp"
android:layout_marginBottom="589dp"
android:ems="10"
android:hint="Your Name Here..."
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintHorizontal_bias="1.0"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

```

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="25dp"
    android:layout_marginLeft="25dp"
    android:layout_marginTop="152dp"
    android:layout_marginEnd="272dp"
    android:layout_marginRight="272dp"
    android:layout_marginBottom="523dp"
    android:text="DOB : "
    android:textColor="#230068"
    android:textSize="22sp"
    android:textStyle="bold|italic"
    android:windowSoftInputMode="stateHidden"
    app:layout_constraintBottom_toBottomOf="@+id/button"
    app:layout_constraintEnd_toEndOf="@+id/button"
    app:layout_constraintStart_toStartOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/button" />

```

```

<EditText
    android:id="@+id/editTextDate"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="130dp"
    android:layout_marginLeft="130dp"
    android:layout_marginTop="151dp"
    android:layout_marginEnd="22dp"
    android:layout_marginRight="22dp"
    android:layout_marginBottom="511dp"
    android:ems="10"
    android:hint="DD-MM-YYYY"
    android:inputType="none|datetime"

```

```
android:keepScreenOn="false"
android:onClick="disp"
android:selectAllOnFocus="false"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />
```

```
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="27dp"
    android:layout_marginLeft="27dp"
    android:layout_marginTop="232dp"
    android:layout_marginEnd="230dp"
    android:layout_marginRight="230dp"
    android:layout_marginBottom="443dp"
    android:text="Address : "
    android:textColor="#230068"
    android:textSize="22sp"
    android:textStyle="bold|italic"
    app:layout_constraintBottom_toBottomOf="@+id/button"
    app:layout_constraintEnd_toEndOf="@+id/button"
    app:layout_constraintStart_toStartOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/button" />
```

```
<EditText
    android:id="@+id/editTextTextPersonName2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="130dp"
    android:layout_marginLeft="130dp"
    android:layout_marginTop="232dp"
    android:layout_marginEnd="22dp"
    android:layout_marginRight="22dp"
    android:layout_marginBottom="430dp"
    android:ems="10"
    android:hint="Your Address Here..."
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="@+id/button"
    app:layout_constraintEnd_toEndOf="@+id/button"
    app:layout_constraintStart_toStartOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/button" />
```

```
<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="28dp"
```

```

android:layout_marginLeft="28dp"
android:layout_marginTop="310dp"
android:layout_marginEnd="264dp"
android:layout_marginRight="264dp"
android:layout_marginBottom="367dp"
android:text="Email : "
android:textColor="#230068"
android:textSize="22sp"
android:textStyle="bold|italic"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

<EditText

```

android:id="@+id/editTextEmailAddress"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="132dp"
android:layout_marginLeft="132dp"
android:layout_marginTop="313dp"
android:layout_marginEnd="20dp"
android:layout_marginRight="20dp"
android:layout_marginBottom="349dp"
android:ems="10"
android:hint="dummy@any.com"
android:inputType="textEmailAddress"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

<TextView

```

android:id="@+id/textView6"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="32dp"
android:layout_marginLeft="32dp"
android:layout_marginTop="396dp"
android:layout_marginEnd="237dp"
android:layout_marginRight="237dp"
android:layout_marginBottom="281dp"
android:text="Mob No : "
android:textColor="#230068"
android:textSize="22sp"
android:textStyle="bold|italic"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />

```

```
<EditText
    android:id="@+id/editTextPhone"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="132dp"
    android:layout_marginLeft="132dp"
    android:layout_marginTop="389dp"
    android:layout_marginEnd="20dp"
    android:layout_marginRight="20dp"
    android:layout_marginBottom="273dp"
    android:ems="10"
    android:hint="XX-XXXXXXXXXX"
    android:inputType="phone"
    app:layout_constraintBottom_toBottomOf="@+id/button"
    app:layout_constraintEnd_toEndOf="@+id/button"
    app:layout_constraintStart_toStartOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/button" />
```

```
<TextView
    android:id="@+id/textView7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="35dp"
    android:layout_marginLeft="35dp"
    android:layout_marginTop="471dp"
    android:layout_marginEnd="240dp"
    android:layout_marginRight="240dp"
    android:layout_marginBottom="206dp"
    android:text="Gender : "
    android:textColor="#230068"
    android:textSize="22sp"
    android:textStyle="bold|italic"
    app:layout_constraintBottom_toBottomOf="@+id/button"
    app:layout_constraintEnd_toEndOf="@+id/button"
    app:layout_constraintStart_toStartOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/button" />
```

```
<TextView
    android:id="@+id/textView8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="35dp"
    android:layout_marginLeft="35dp"
    android:layout_marginTop="549dp"
    android:layout_marginEnd="203dp"
    android:layout_marginRight="203dp"
    android:layout_marginBottom="102dp"
```



```
android:text="Language : \n Known"
android:textColor="#230068"
android:textSize="22sp"
android:textStyle="bold|italic"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />
```

<CheckBox

```
android:id="@+id/checkBox"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="177dp"
android:layout_marginLeft="177dp"
android:layout_marginTop="550dp"
android:layout_marginEnd="119dp"
android:layout_marginRight="119dp"
android:layout_marginBottom="109dp"
android:text="Tamil"
android:textStyle="bold|italic"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />
```

<CheckBox

```
android:id="@+id/checkBox2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="254dp"
android:layout_marginLeft="254dp"
android:layout_marginTop="550dp"
android:layout_marginEnd="30dp"
android:layout_marginRight="30dp"
android:layout_marginBottom="109dp"
android:text="English"
android:textStyle="bold|italic"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button" />
```

<RadioGroup

```
android:id="@+id/gender"
android:layout_width="218dp"
android:layout_height="74dp"
android:layout_marginStart="135dp"
android:layout_marginLeft="135dp"
android:layout_marginTop="454dp"
```

```
android:layout_marginEnd="9dp"
android:layout_marginRight="9dp"
android:layout_marginBottom="179dp"
app:layout_constraintBottom_toBottomOf="@+id/button"
app:layout_constraintEnd_toEndOf="@+id/button"
app:layout_constraintHorizontal_bias="1.0"
app:layout_constraintStart_toStartOf="@+id/button"
app:layout_constraintTop_toTopOf="@+id/button"
app:layout_constraintVertical_bias="0.0">
```

```
<RadioButton
    android:id="@+id/radioButton4"
    android:layout_width="69dp"
    android:layout_height="36dp"
    android:text="M"
    android:textSize="16sp"
    android:textStyle="bold" />
```

```
<RadioButton
    android:id="@+id/radioButton7"
    android:layout_width="71dp"
    android:layout_height="32dp"
    android:text="F"
    android:textSize="16sp"
    android:textStyle="bold" />
```

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

App snapshots:

10:36 PM | 0.0KB/s 4G+ 90%

Ex1-Personal-info

Name :

DOB :

Address :

Email :

Mob No :

Gender : ☐ M ☐ F

Language : Known ☐ Tamil ☐ English

10:37 PM | 0.0KB/s 4G+ 90%

Ex1-Personal-info

Name :

DOB :

Address :

Email :

Mob No :

Gender : ☒ M ☐ F

Language : Known ☒ Tamil ☒ English

10:37 PM | 0.0KB/s

4G

100

Ex1-Personal-info

Name :

Your Name Here...

DOB :

DD-MM-YYYY

Address :

Your Address Here...

Email :

dummy@any.com

Mob No :

XX-XXXXXXXXXX

Gender :

☐ M

☐ F

Language :
Known

☐ Tamil

☐ English

Details Submitted!

SUBMIT

RESET

10:37 PM | 0.0KB/s

4G+

100

Ex1-Personal-info

Name :

Your Name Here...

DOB :

DD-MM-YYYY

Address :

Your Address Here...

Email :

dummy@any.com

Mob No :

XX-XXXXXXXXXX

Gender :

☐ M

☐ F

Language :
Known

☐ Tamil

☐ English

Details Cleared!

SUBMIT

RESET

SSN College of Engineering
Department of Computer Science and Engineering

UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

Ex-3: Develop an application to simulate keyboard

Name: **Abhay Kumar Tiwari**

Register Number: **195001005**

Aim:

To Develop an android application to simulate a keyboard

Program:

(MainActivity.java)

```
package com.greedy.ex2_virtual_keyboard;
```

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

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

```
import android.content.Context;
```

```
import android.graphics.Color;
```

```
import android.os.Bundle;
```

```
import android.text.TextUtils;
```

```
import android.view.View;
```

```
import android.view.inputmethod.InputMethodManager;
```

```
import android.widget.Button;
```

```
import android.widget.EdgeEffect;
```

```
import android.widget.EditText;
```

```
import android.widget.TableLayout;
```

```
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    @Override
```

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

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        AppCompatActivity.setDefaultNightMode(AppCompatActivity.MODE_NIGHT_NO);
```

```
        TableLayout table=findViewById(R.id.table);
```

```
        table.setVisibility(View.INVISIBLE);
```

```
        EditText nativeKB=findViewById(R.id.editText1);
```

```
        EditText myKB=findViewById(R.id.editText2);
```

```
        Button one=findViewById(R.id.one);
```

```
        Button two=findViewById(R.id.two);
```

```
        Button three=findViewById(R.id.three);
```

```
        Button four=findViewById(R.id.four);
```

```
        Button five=findViewById(R.id.five);
```

```
Button six=findViewById(R.id.six);
Button seven=findViewById(R.id.seven);
Button eight=findViewById(R.id.eight);
Button nine=findViewById(R.id.nine);
Button zero=findViewById(R.id.zero);
Button space=findViewById(R.id.space);
space.setBackgroundColor(Color.BLACK);
space.setTextColor(Color.WHITE);
Button clr=findViewById(R.id.clr);
clr.setBackgroundColor(Color.BLACK);
clr.setTextColor(Color.WHITE);
Button enter=findViewById(R.id.enter);
enter.setBackgroundColor(Color.BLACK);
enter.setTextColor(Color.WHITE);
Button comma=findViewById(R.id.comma);
Button period=findViewById(R.id.period);
Button cap=findViewById(R.id.cap);
cap.setBackgroundColor(Color.BLACK);
cap.setTextColor(Color.WHITE);
Button num=findViewById(R.id.num);
num.setBackgroundColor(Color.BLACK);
num.setTextColor(Color.WHITE);
Button a=findViewById(R.id.a);
Button b=findViewById(R.id.b);
Button c=findViewById(R.id.c);
Button d=findViewById(R.id.d);
Button e=findViewById(R.id.e);
Button f=findViewById(R.id.f);
Button g=findViewById(R.id.g);
Button h=findViewById(R.id.h);
Button i=findViewById(R.id.i);
Button j=findViewById(R.id.j);
Button k=findViewById(R.id.k);
Button l=findViewById(R.id.l);
Button m=findViewById(R.id.m);
Button n=findViewById(R.id.n);
Button o=findViewById(R.id.o);
Button p=findViewById(R.id.p);
Button q=findViewById(R.id.q);
Button r=findViewById(R.id.r);
Button s=findViewById(R.id.s);
Button t=findViewById(R.id.t);
Button u=findViewById(R.id.u);
Button v=findViewById(R.id.v);
Button w=findViewById(R.id.w);
Button x=findViewById(R.id.x);
Button y=findViewById(R.id.y);
Button z=findViewById(R.id.z);
nativeKB.setCursorVisible(false);
myKB.setOnClickListener(new View.OnClickListener() {
```

```

@Override
public void onClick(View v) {
    table.setVisibility(View.VISIBLE);
    closeKeyboard();
    myKB.setShowSoftInputOnFocus(false);
}
});
nativeKB.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        table.setVisibility(View.INVISIBLE);
    }
});
one.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("1");}
});

two.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("2");}
});

three.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("3");}
});

four.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("4");}
});

five.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("5");}
});

six.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("6");}
});

seven.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("7");}
});

eight.setOnClickListener(new View.OnClickListener() {

```

```
@Override
public void onClick(View v) {myKB.append("8");}
});

nine.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("9");}
});

zero.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("0");}
});

a.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("a");}
});

b.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("b");}
});

c.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("c");}
});

d.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("d");}
});

e.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("e");}
});

f.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("f");}
});

g.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append("g");}
});

h.setOnClickListener(new View.OnClickListener() {
```



```

        @Override
        public void onClick(View v) {myKB.append("h");}
    });

    i.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("i");}
    });

    j.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("j");}
    });

    k.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("k");}
    });

    l.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("l");}
    });

    m.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("m");}
    });

    n.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("n");}
    });

    o.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("o");}
    });

    p.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("p");}
    });

    q.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("q");}
    });

    r.setOnClickListener(new View.OnClickListener() {

```

```

        @Override
        public void onClick(View v) {myKB.append("r");}
    });

    s.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("s");}
    });

    t.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("t");}
    });

    u.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("u");}
    });

    v.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("v");}
    });

    w.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("w");}
    });

    x.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("x");}
    });

    y.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("y");}
    });

    z.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append("z");}
    });

    space.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {myKB.append(" ");}
    });

    clr.setOnClickListener(new View.OnClickListener() {

```

```

@Override
public void onClick(View v) {
    if(!TextUtils.isEmpty(myKB.getText())){
        String txt = myKB.getText().toString();
        txt = txt.substring(0,txt.length()-1);
        myKB.setText(txt);
    }
}
});
clr.setOnLongClickListener(new View.OnLongClickListener() {
    public boolean onLongClick(View v) {
        myKB.getText().clear();
        return true;
    }
});
comma.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append(",");}
});

period.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {myKB.append(".");}
});

enter.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Toast.makeText(getApplicationContext(),"LOL Nothing to
Submit",Toast.LENGTH_SHORT).show();
    }
});

cap.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Toast.makeText(getApplicationContext(),"Coming
Soon",Toast.LENGTH_SHORT).show();
    }
});

num.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Toast.makeText(getApplicationContext(),"Coming
Soon",Toast.LENGTH_SHORT).show();
    }
});

```

```

    }

    private void closeKeyboard() {
        View view = this.getCurrentFocus();
        if (view != null) {
            InputMethodManager imm = (InputMethodManager)
getSystemService(Context.INPUT_METHOD_SERVICE);
            imm.hideSoftInputFromWindow(view.getWindowToken(), 0);
        }
    }
}

```

(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">

    <EditText
        android:id="@+id/editText1"
        android:layout_width="331dp"
        android:layout_height="66dp"
        android:layout_marginStart="40dp"
        android:layout_marginTop="203dp"
        android:layout_marginEnd="40dp"
        android:layout_marginBottom="462dp"
        android:ems="10"
        android:hint="Native Keyboard...."
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="331dp"
        android:layout_height="66dp"
        android:layout_marginStart="40dp"
        android:layout_marginTop="278dp"
        android:layout_marginEnd="40dp"
        android:layout_marginBottom="387dp"
        android:ems="10"
        android:hint="My Keyboard....."
        app:layout_constraintBottom_toBottomOf="parent"

```

```
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.0"
app:layout_constraintStart_toStartOf="parent"
android:focusableInTouchMode="false"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.0"
android:imeOptions="flagNoExtractUi"
android:inputType="textNoSuggestions"/>
```

```
<TableLayout
    android:id="@+id/table"
    android:layout_width="409dp"
    android:layout_height="300dp"
    android:layout_alignParentRight="true"
    android:layout_marginTop="431dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent">
```

```
<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
    android:id="@+id/one"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="1"
    android:textAllCaps="false"
```

```
tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/two"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="2"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/three"
    android:layout_width="wrap_content"
```

```
android:layout_height="60dp"
android:layout_marginLeft="1dp"
android:layout_marginRight="1dp"
android:layout_weight="1"
android:backgroundTint="@color/cardview_dark_background"
android:text="3"
android:textAllCaps="false"
tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/four"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="4"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/five"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="5"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/six"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="6"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/seven"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
```

```
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="7"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/eight"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="8"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/nine"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="9"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/zero"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="0"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
</TableRow>
```

```
<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
    android:id="@+id/q"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
```

```
android:layout_weight="1"
android:backgroundTint="@color/cardview_dark_background"
android:text="q"
android:textAllCaps="false"
```

```
tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/w"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="w"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/e"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="e"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/r"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="r"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/t"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
```



```
android:backgroundTint="@color/cardview_dark_background"
android:text="t"
android:textAllCaps="false"
tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/y"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="y"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/u"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="u"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/i"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="i"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/o"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="o"
```

```
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/p"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="p"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
</TableRow>
```

```
<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
    android:id="@+id/a"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="a"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/s"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="s"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/d"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="d"
```

```
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/f"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="f"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/g"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="g"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/h"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="h"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/j"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="j"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```

<Button
    android:id="@+id/k"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="k"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />

<Button
    android:id="@+id/l"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="l"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
</TableRow>

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

    <Button
        android:id="@+id/cap"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"
        android:text="↑"
        android:textAllCaps="false"
        android:textColor="#101010"
        android:textSize="16sp"
        app:cornerRadius="30px"
        tools:ignore="TouchTargetSizeCheck" />

    <Button
        android:id="@+id/z"
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:layout_marginLeft="1dp"
        android:layout_marginRight="1dp"
        android:layout_weight="1"

```

```
android:backgroundTint="@color/cardview_dark_background"
android:text="z"
android:textAllCaps="false"
tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/x"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="x"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/c"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="c"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/v"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="v"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/b"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="b"
```

```
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/n"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="n"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/m"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="0.8"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="m"
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/clr"
    android:layout_width="wrap_content"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="0.7"
    android:text="□"
    android:textAllCaps="false"
    android:textColor="#000000"
    android:textSize="18sp"
    app:cornerRadius="30px"
    tools:ignore="TouchTargetSizeCheck" />
```

```
</TableRow>
```

```
<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
    android:id="@+id/comma"
    android:layout_width="0dp"
```

```
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text=", "
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/period"
    android:layout_width="0dp"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/cardview_dark_background"
    android:text="."
    android:textAllCaps="false"
    tools:ignore="TouchTargetSizeCheck" />
```

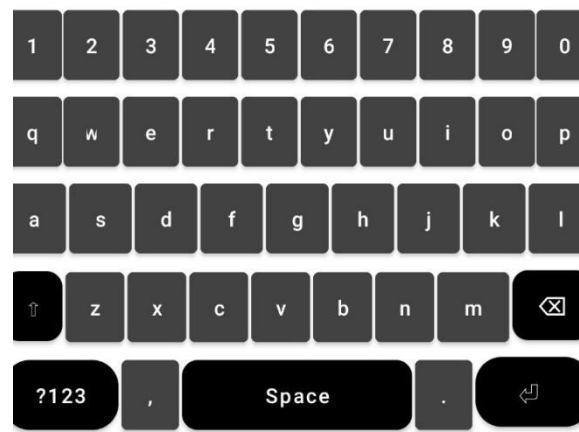
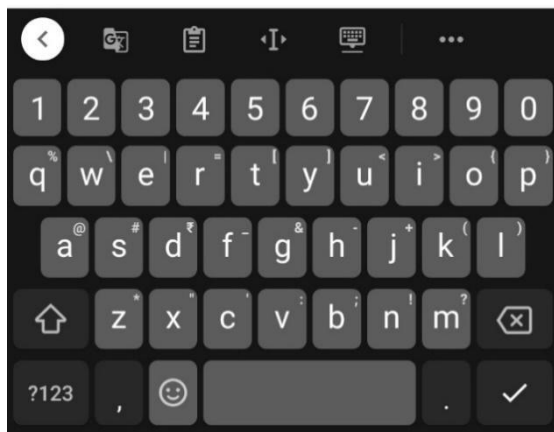
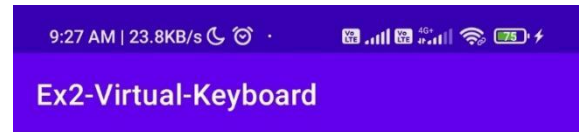
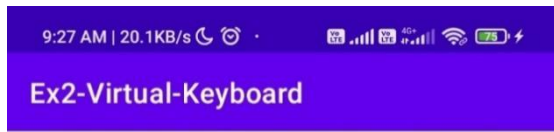
```
<Button
    android:id="@+id/enter"
    android:layout_width="0dp"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="2"
    android:text="↵"
    android:textAllCaps="false"
    android:textColor="#090909"
    android:textSize="20sp"
    app:cornerRadius="50px"
    tools:ignore="TouchTargetSizeCheck" />
```

```
</TableRow>
```

```
</TableLayout>
```

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

App screenshots:



SSN College of Engineering
Department of Computer Science and Engineering

UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

Ex-4: Android Application using Graphics

Name: **Abhay Kumar Tiwari**

Register Number: **195001005**

Aim:

To Develop an android application using Graphics

Program:

(MainActivity.java)

```
package com.greedy.ex4_graphics;
```

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

```
import android.os.Bundle;  
import android.view.View;  
import android.view.animation.Animation;  
import android.view.animation.AnimationUtils;  
import android.widget.Button;  
import android.widget.ImageView;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
        AppCompatActivity.setDefaultNightMode(AppCompatActivity.MODE_NIGHT_NO);
```

```
    }
```

```
    public void nextPage(View view){  
        setContentView(R.layout.graphicslayout);
```

```
    }
```

```
    public void homePage(View view){  
        setContentView(R.layout.activity_main);
```

```
    }
```

```
    public void move(View view){  
        ImageView image = (ImageView)findViewById(R.id.imageView);  
        Animation animation = AnimationUtils.loadAnimation(getApplicationContext(),  
        R.anim.move);
```

```

        image.startAnimation(animation);
    }

    public void rotate(View view){
        ImageView image = (ImageView)findViewById(R.id.imageView);
        Animation animation = AnimationUtils.loadAnimation(getApplicationContext(),
R.anim.rotate);
        image.startAnimation(animation);
    }

    public void blink(View view){
        ImageView image = (ImageView)findViewById(R.id.imageView);
        Animation animation
=AnimationUtils.loadAnimation(getApplicationContext(),R.anim.blink);
        image.startAnimation(animation);
    }

    public void zoom(View view){
        ImageView image = (ImageView)findViewById(R.id.imageView);
        Animation animation =
AnimationUtils.loadAnimation(getApplicationContext(),R.anim.zoom);
        image.startAnimation(animation);
    }
}

```

(blink.xml)

```

<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <alpha android:fromAlpha="0.0"
        android:toAlpha="1.0"
        android:interpolator="@android:anim/accelerate_interpolator"
        android:duration="500"
        android:repeatMode="reverse"
        android:repeatCount="3"/>
</set>

```

(move.xml)

```

<?xml version="1.0" encoding="utf-8"?>
<set
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:interpolator="@android:anim/linear_interpolator"
    android:fillAfter="true">

    <translate
        android:fromXDelta="0%p"
        android:toYDelta="15%p"
        android:duration="2000"
    />
</set>

```

(rotate.xml)

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

    <rotate xmlns:android="http://schemas.android.com/apk/res/android"
        android:fromDegrees="0"
        android:toDegrees="360"
        android:pivotX="50%"
        android:pivotY="50%"
        android:duration="3000" >
    </rotate>
</set>
```

(zoom.xml)

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <scale xmlns:android="http://schemas.android.com/apk/res/android"
        android:fromXScale="1.0"
        android:fromYScale="1.0"
        android:toXScale="1.2"
        android:toYScale="1.2"
        android:duration="3000"
        android:pivotX="50%"
        android:pivotY="50%"/>
</set>
```

(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:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="177dp"
        android:layout_marginTop="356dp"
        android:layout_marginEnd="179dp"
        android:layout_marginBottom="356dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="413dp"
    android:layout_height="48dp"
    android:layout_marginTop="667dp"
    android:layout_marginBottom="16dp"
    android:onClick="nextPage"
    android:text="Next >>>"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<ImageView
    android:id="@+id/imageView1"
    android:layout_width="343dp"
    android:layout_height="505dp"
    android:layout_marginStart="34dp"
    android:layout_marginTop="113dp"
    android:layout_marginEnd="34dp"
    android:layout_marginBottom="49dp"
    app:layout_constraintBottom_toTopOf="@+id/button"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:srcCompat="@drawable/shapes" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="399dp"
    android:layout_height="34dp"
    android:layout_marginStart="6dp"
    android:layout_marginTop="41dp"
    android:layout_marginEnd="6dp"
    android:layout_marginBottom="38dp"
    android:onClick="nextPage"
    android:text="1 - SHAPES"
    android:textAlignment="center"
    android:textColor="#F40404"
    android:textSize="30sp"
    app:layout_constraintBottom_toTopOf="@+id/imageView1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

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

(graphicslayout.xml)

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

```
<Button
    android:id="@+id/button1"
    android:layout_width="413dp"
    android:layout_height="48dp"
    android:layout_marginTop="667dp"
    android:layout_marginBottom="16dp"
    android:onClick="homePage"
    android:text="<<< Back"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TableLayout
    android:id="@+id/tableLayout"
    android:layout_width="366dp"
    android:layout_height="47dp"
    android:layout_marginStart="22dp"
    android:layout_marginTop="619dp"
    android:layout_marginEnd="22dp"
    android:layout_marginBottom="1dp"
    app:layout_constraintBottom_toTopOf="@+id/button1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent">
```

```
<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
    android:id="@+id/blink"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="blink"
    android:text="Blink"
    android:layout_marginRight="2dp"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
```

```
    android:id="@+id/move"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="move"
    android:text="move"
    android:layout_marginRight="2dp"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/rotate"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="rotate"
    android:text="rotate"
    android:layout_marginRight="2dp"
    tools:ignore="TouchTargetSizeCheck" />
```

```
<Button
    android:id="@+id/zoom"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="zoom"
    android:text="zoom"
    tools:ignore="TouchTargetSizeCheck" />
```

```
</TableRow>
```

```
</TableLayout>
```

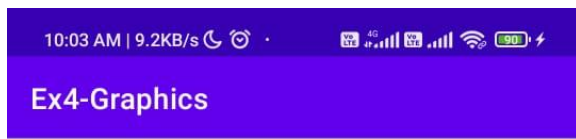
```
<ImageView
    android:id="@+id/imageView"
    android:layout_width="306dp"
    android:layout_height="384dp"
    android:layout_marginStart="36dp"
    android:layout_marginTop="101dp"
    android:layout_marginEnd="59dp"
    android:layout_marginBottom="124dp"
    app:layout_constraintBottom_toTopOf="@+id/tableLayout"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="1.0"
    app:srcCompat="@drawable/cj" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="399dp"
    android:layout_height="48dp"
    android:layout_marginStart="6dp"
    android:layout_marginTop="41dp"
    android:layout_marginEnd="6dp"
```

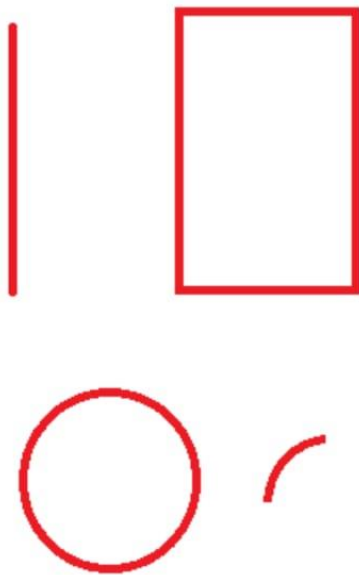
```
android:layout_marginBottom="36dp"
android:onClick="homePage"
android:text="2,3 - GRAPHICS"
android:textAlignment="center"
android:textColor="#588A1E"
android:textSize="30sp"
app:layout_constraintBottom_toTopOf="@+id/imageView"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

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

App snapshots:

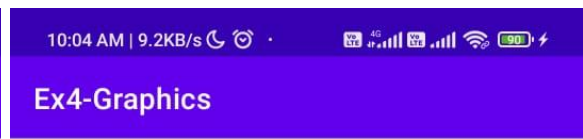


1 - SHAPES



NEXT >>

Shapes



2,3 - GRAPHICS



BLINK

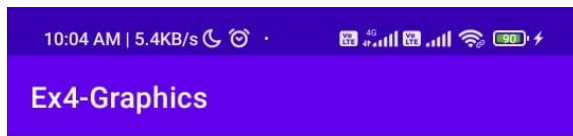
MOVE

ROTATE

ZOOM

<< BACK

Blink



2,3 - GRAPHICS



BLINK

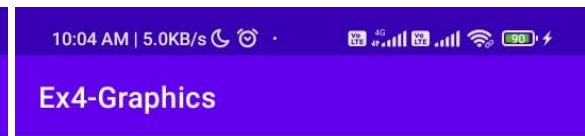
MOVE

ROTATE

ZOOM

⏪ BACK

Move



2,3 - GRAPHICS



BLINK

MOVE

ROTATE

ZOOM

⏪ BACK

Rotate

10:04 AM | 6.4KB/s



Ex4-Graphics

2,3 - GRAPHICS



BLINK

MOVE

ROTATE

ZOOM

◀◀ BACK

Zoom

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Ex-5: Database Operation

Name: **Abhay Kumar Tiwari**
Register Number: **195001005**

Aim:

To Develop an android application to perform Database operation

Program:

(MainActivity.java)

```
package com.example.ex4_database;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Spinner;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    DBHelper db;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        AppCompatActivity.setDefaultNightMode(AppCompatActivity.MODE_NIGHT_NO);
        db=new DBHelper(this);
        Button insert=findViewById(R.id.insert);
        insert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                setContentView(R.layout.activity_insert);
                EditText name= findViewById(R.id.name);
                RadioGroup gender= findViewById(R.id.gender);
```

```

Spinner department= findViewById(R.id.department);
EditText salary= findViewById(R.id.salary);
EditText employee_code= findViewById(R.id.employee_code);
Button insert=findViewById(R.id.insert);
insert.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (TextUtils.isEmpty(name.getText())) {
            Toast.makeText(MainActivity.this, "Enter your
name ", Toast.LENGTH_SHORT).show();
        } else if (TextUtils.isEmpty(salary.getText())) {
            Toast.makeText(MainActivity.this, "Enter your
salary ", Toast.LENGTH_SHORT).show();
        } else if (!((RadioButton)
findViewById(R.id.male)).isChecked() || ((RadioButton)
findViewById(R.id.female)).isChecked())) {
            Toast.makeText(MainActivity.this, "Select Your
Gender ", Toast.LENGTH_SHORT).show();
        } else if
(TextUtils.isEmpty(employee_code.getText())) {
            Toast.makeText(MainActivity.this, "Enter your
employee code", Toast.LENGTH_SHORT).show();
        } else {
            String name_value = name.getText().toString();
            String department_value =
department.getSelectedItem().toString();
            String employee_code_value =
employee_code.getText().toString();
            String gender_value = ((RadioButton)
findViewById(gender.getCheckedRadioButtonId())).getText().toString();
            Double salary_value =
Double.parseDouble(String.valueOf(salary.getText()));
            Boolean checkInsertData =
db.insertUserdata(employee_code_value, name_value, gender_value,
department_value, salary_value);
            if (checkInsertData == true)
            {
                Toast.makeText(MainActivity.this, "New Entry
Inserted", Toast.LENGTH_SHORT).show();
                Intent i = new
Intent(MainActivity.this,MainActivity.class);
                finish();
                startActivity(i);
            }
            else
                Toast.makeText(MainActivity.this, "New Entry
Not Inserted", Toast.LENGTH_SHORT).show();
        }
    }
});
Button back=findViewById(R.id.back);
back.setOnClickListener(new View.OnClickListener() {
    @Override

```

```

        public void onClick(View v) {
            Intent i = new
Intent(MainActivity.this,MainActivity.class);
            finish();
            startActivity(i);
        }
    });
}
});
Button update=findViewById(R.id.update);
update.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        setContentView(R.layout.activity_update);
        EditText name = findViewById(R.id.name);
        EditText salary = findViewById(R.id.salary);
        EditText employee_code = findViewById(R.id.employee_code);
        Button back = findViewById(R.id.back);
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i = new Intent(MainActivity.this,
MainActivity.class);
                finish();
                startActivity(i);
            }
        });
        Button get = findViewById(R.id.get);
        get.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (TextUtils.isEmpty(employee_code.getText())) {
                    Toast.makeText(MainActivity.this, "Enter your
employee code ", Toast.LENGTH_SHORT).show();
                } else {
                    String employee_code_value =
employee_code.getText().toString();
                    Cursor res =
db.getUserdata(employee_code_value);
                    if (res.getCount() == 0) {
                        Toast.makeText(MainActivity.this, "No Entry
Exists", Toast.LENGTH_SHORT).show();
                        return;
                    } else {
                        res.moveToNext();
                        String name_value = res.getString(1);
                        Double salary_value = res.getDouble(4);
                        name.setText(name_value);
                        salary.setText(salary_value.toString());
                    }
                }
            }
        });
    }
});

```

```

        Button update = findViewById(R.id.update);
        update.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name_value = name.getText().toString();
                String employee_code_value =
employee_code.getText().toString();
                Double salary_value =
Double.parseDouble(String.valueOf(salary.getText()));

                Boolean checkUpdateData =
db.updateUserdata(employee_code_value, name_value, salary_value);
                if (checkUpdateData == true)
                    Toast.makeText(MainActivity.this, "Entry
Updated", Toast.LENGTH_SHORT).show();
                else
                    Toast.makeText(MainActivity.this, "New Entry Not
Updated", Toast.LENGTH_SHORT).show();
            }
        });

        Button delete = findViewById(R.id.delete);
        delete.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                setContentView(R.layout.activity_delete);
                Button back=findViewById(R.id.back);
                back.setOnClickListener(new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        Intent i = new
Intent(MainActivity.this,MainActivity.class);
                        finish();
                        startActivity(i);
                    }
                });

                Button delete=findViewById(R.id.delete);
                delete.setOnClickListener(new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        EditText employee_code =
findViewById(R.id.employee_code);
                        String employee_code_value =
employee_code.getText().toString();
                        Boolean checkDeleteData =
db.deleteUserdata(employee_code_value);
                        if (checkDeleteData == true)
                            Toast.makeText(MainActivity.this, "Entry
Deleted", Toast.LENGTH_SHORT).show();
                        else

```

```

        Toast.makeText(MainActivity.this, "Entry Not
Deleted", Toast.LENGTH_SHORT).show();
        employee_code.setText("");
    }
});

}

});
Button delete_all = findViewById(R.id.delete_all);
delete_all.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Boolean checkDeleteData = db.deleteAll();
        if (checkDeleteData == true)
            Toast.makeText(MainActivity.this, "Table Deleted",
Toast.LENGTH_SHORT).show();
        else
            Toast.makeText(MainActivity.this, "Table Not Deleted",
Toast.LENGTH_SHORT).show();
    }
});
Button retrieve = findViewById(R.id.retrieve_id);
retrieve.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        setContentView(R.layout.activity_retrieve);
        EditText name = findViewById(R.id.name);
        EditText department = findViewById(R.id.department);
        EditText gender = findViewById(R.id.gender);
        EditText salary = findViewById(R.id.salary);
        EditText employee_code = findViewById(R.id.employee_code);

        Button back = findViewById(R.id.back);
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i = new Intent(MainActivity.this,
MainActivity.class);
                finish();
                startActivity(i);
            }
        });
        Button view = findViewById(R.id.view);
        view.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (TextUtils.isEmpty(employee_code.getText())) {
                    Toast.makeText(MainActivity.this, "Enter your
employee code ", Toast.LENGTH_SHORT).show();
                } else {
                    String employee_code_value =
employee_code.getText().toString();

```

```

        Cursor res =
db.getUserdata(employee_code_value);
        if (res.getCount() == 0) {
            Toast.makeText(MainActivity.this, "No Entry
Exists", Toast.LENGTH_SHORT).show();
            return;
        } else {
            res.moveToNext();
            String name_value = res.getString(1);
            String gender_value= res.getString(2);
            String department_value = res.getString(3);
            Double salary_value = res.getDouble(4);
            name.setText(name_value);
            gender.setText(gender_value.toString());

department.setText(department_value.toString());
            salary.setText(salary_value.toString());
        }
    }
});
}
});
Button retrieve_dept=findViewById(R.id.retrieve_dept);
retrieve_dept.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        setContentView(R.layout.activity_retrieve_department);
        Spinner department= findViewById(R.id.department);
        EditText txt = findViewById(R.id.txt);
        Button back = findViewById(R.id.back);
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i = new Intent(MainActivity.this,
MainActivity.class);
                finish();
                startActivity(i);
            }
        });
        Button view = findViewById(R.id.view);
        view.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String department_value =
department.getSelectedItem().toString();
                Cursor res = db.getUserdataDept(department_value);
                if (res.getCount() == 0) {
                    txt.setText("");
                    Toast.makeText(MainActivity.this, "No Entry
Exists", Toast.LENGTH_SHORT).show();
                    return;
                } else {

```



```

        if(result==-1)
            return false;
        else
            return true;
    }
    public Boolean updateUserdata(String employee_code,String name,Double
salary)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues cv=new ContentValues();
        cv.put("name",name);
        cv.put("salary",salary);
        Cursor cursor=db.rawQuery("SELECT * FROM Userdata WHERE
employee_code=?",new String[] {employee_code});
        if(cursor.getCount()>0) {
            long result = db.update("Userdata", cv, "employee_code=?", new
String[]{employee_code});
            if (result == -1)
                return false;
            else
                return true;
        }else
        {
            return false;
        }
    }
    public Boolean deleteUserdata(String employee_code)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues cv=new ContentValues();

        Cursor cursor=db.rawQuery("SELECT * FROM Userdata WHERE
employee_code=?",new String[] {employee_code});
        if(cursor.getCount()>0) {
            long result = db.delete("Userdata", "employee_code=?", new
String[]{employee_code});
            if (result == -1)
                return false;
            else
                return true;
        }else
        {
            return false;
        }
    }
    public Cursor getUserdata (String employee_code)
    {
        SQLiteDatabase db = this.getWritableDatabase();
        Cursor cursor=db.rawQuery("SELECT * FROM Userdata WHERE
employee_code=?",new String[] {employee_code});
        return cursor;
    }
    public Cursor getUserdataDept (String department)

```

```

{
    SQLiteDatabase db = this.getWritableDatabase();
    Cursor cursor=db.rawQuery("SELECT * FROM Userdata WHERE
department=?",new String[] {department});
    return cursor;
}
public Boolean deleteAll()
{
    SQLiteDatabase db=this.getWritableDatabase();
    db.delete("Userdata",null,null);
    return true;
}
}

```

(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">
    <Button
        android:id="@+id/insert"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Insert"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.508"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.104" />
    <Button
        android:id="@+id/delete"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Delete"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.377" />
    <Button
        android:id="@+id/update"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Update"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.501"

```

```

        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.238" />
<Button
    android:id="@+id/retrieve_id"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Retrieve by id"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.642" />
<Button
    android:id="@+id/delete_all"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Delete All"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.499" />
<Button
    android:id="@+id/retrieve_dept"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Retrieve by Department"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.52"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.772" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

activity_insert.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"
    android:background="#DDFFFF"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/salary_label"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Salary"
        android:textColor="#0066CC"
        android:textStyle="bold"
    >

```

```

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.144"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.632" />
<TextView
    android:id="@+id/heading"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Insert"
    android:textColor="#336600"
    android:textSize="25sp"
    android:typeface="sans"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.047"/>
<Button
    android:id="@+id/insert"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Insert"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.75"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.832" />
<Button
    android:id="@+id/back"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Back"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.281"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.832" />
<EditText
    android:id="@+id/employee_code"
    android:layout_width="196dp"
    android:layout_height="41dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text=""
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.827"
    app:layout_constraintStart_toStartOf="parent"

```

```

        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.407" />
<TextView
    android:id="@+id/gender_label"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Gender"
    android:textColor="#0066CC"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.144"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/name_label"
    app:layout_constraintVertical_bias="0.1" />
<TextView
    android:id="@+id/name_label"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Name"
    android:textColor="#0066CC"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.14"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.18" />
<RadioGroup
    android:id="@+id/gender"
    android:layout_width="179dp"
    android:layout_height="52dp"
    android:orientation="horizontal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.771"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/name"
    app:layout_constraintVertical_bias="0.071">
    <RadioButton
        android:id="@+id/male"
        android:layout_width="93dp"
        android:layout_height="match_parent"
        android:text="Male" />
    <RadioButton
        android:id="@+id/female"
        android:layout_width="89dp"
        android:layout_height="match_parent"
        android:text="Female" />
</RadioGroup>
<EditText
    android:id="@+id/salary"
    android:layout_width="184dp"

```

```
    android:layout_height="41dp"
    android:ems="10"
    android:inputType="numberDecimal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.789"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.639" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

App snapshots:

Ex4_database

INSERT

UPDATE

DELETE

DELETE ALL

RETRIEVE BY ID

RETRIEVE BY DEPARTMENT

Ex4_database

Insert

Name

Sivaguru

Gender

☒ Male ☐ Female

Employee Code

153

Department

Software Engineer

Salary

75000

BACK

INSERT

Ex4_database

Update

Employee Code

153

Name

Sivaguru R

Salary

75000.0

BACK

GET DATA

UPDATE

Ex4_database

Delete

Employee Code

180

BACK

DELETE

Ex4_database

View By Id

Employee Code

153

Name

Sivaguru R

Gender

Male

Department

Software Engineer

Salary

75000.0

BACK

VIEW

Ex4_database

View By Department

Department

Software Engineer

Name : Sivaguru R

Employee Code : 153

Gender : Male

Salary : 75000.0

BACK

VIEW

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UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

Ex-6: Android Application using multi-threading

Name: **Abhay Kumar Tiwari**

Register Number: **195001005**

Aim:

To Implement Android Application that uses Multithreading.

Program:

(MainActivity.java)

```
package com.example.multithread;
```

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

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import android.widget.TextView;
```

```
public class MainActivity extends AppCompatActivity {  
    private TextView banner, coord, counter_text;
```

```
    private Button counter;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
        banner = (TextView) findViewById(R.id.banner);  
        counter_text = (TextView) findViewById(R.id.counter);  
        coord = (TextView) findViewById(R.id.coord);  
        counter = (Button) findViewById(R.id.button);
```

```
        counter.setOnClickListener(new View.OnClickListener() {
```

```
            @Override
```

```
            public void onClick(View v) {  
                int current = Integer.parseInt(counter_text.getText().toString());  
                current++;
```

```
        counter_text.setText(String.valueOf(current));
    }));
```

//Ways to convert from integer to string and back and forth

//from integer to string :- Integer.toString(num)

//String.valueOf(num)

//from string to int :- Integer.valueOf(str)

//Integer.parseInt(str)

/*

To create a new thread, either create a class that extends Thread and override void run() function

To start the thread, do thread.start()

Or another way to create thread is,

*/

```
new Thread(new Runnable() {
    public void run() {
        int i = 0;
        while (i++ < 100) {
            try {
                Thread.sleep(100);
            } catch (InterruptedException e) {
                e.printStackTrace();
            }
            runOnUiThread(new Runnable() {
                @Override
                public void run() {
                    banner.animate().translationXBy(20f);
                    coord.animate().translationXBy(20f);
                    int[] location = new int[2];
                    banner.getLocationOnScreen(location);
                    coord.setText("Location: (" + location[0] + ", " + location[1] + ")");
                }
            });
        }
    }
}).start();
```

```

new Thread(new Runnable() {
    @Override
    public void run() {
        int i=0;
        while(i++ < 100)
        {
            try {
                Thread.sleep(100);
            }
            catch(Exception e)
            {
                e.printStackTrace();
            }

            runOnUiThread(new Runnable() {
                @Override
                public void run() {
                    banner.animate().rotationXBy(45);
                }
            });
        }
    }
}).start();

}
}

//UI changes can only be done by the main thread
//if a background thread has to update the UI then inside the thread
//It has to create a runOnUiThread(new Runnable(){
//
//        void run(){
//
//        }
//
//

```

```

//For animating - translateXBy 20
//To get the coordinates use .. getLocation.onScreen();

```

(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:id="@+id/banner"
    android:layout_width="133dp"
    android:layout_height="45dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="204dp"
    android:background="#FFEB3B"
    android:backgroundTint="#FFC107"
    android:text="Sample Text"
    android:textSize="20sp"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

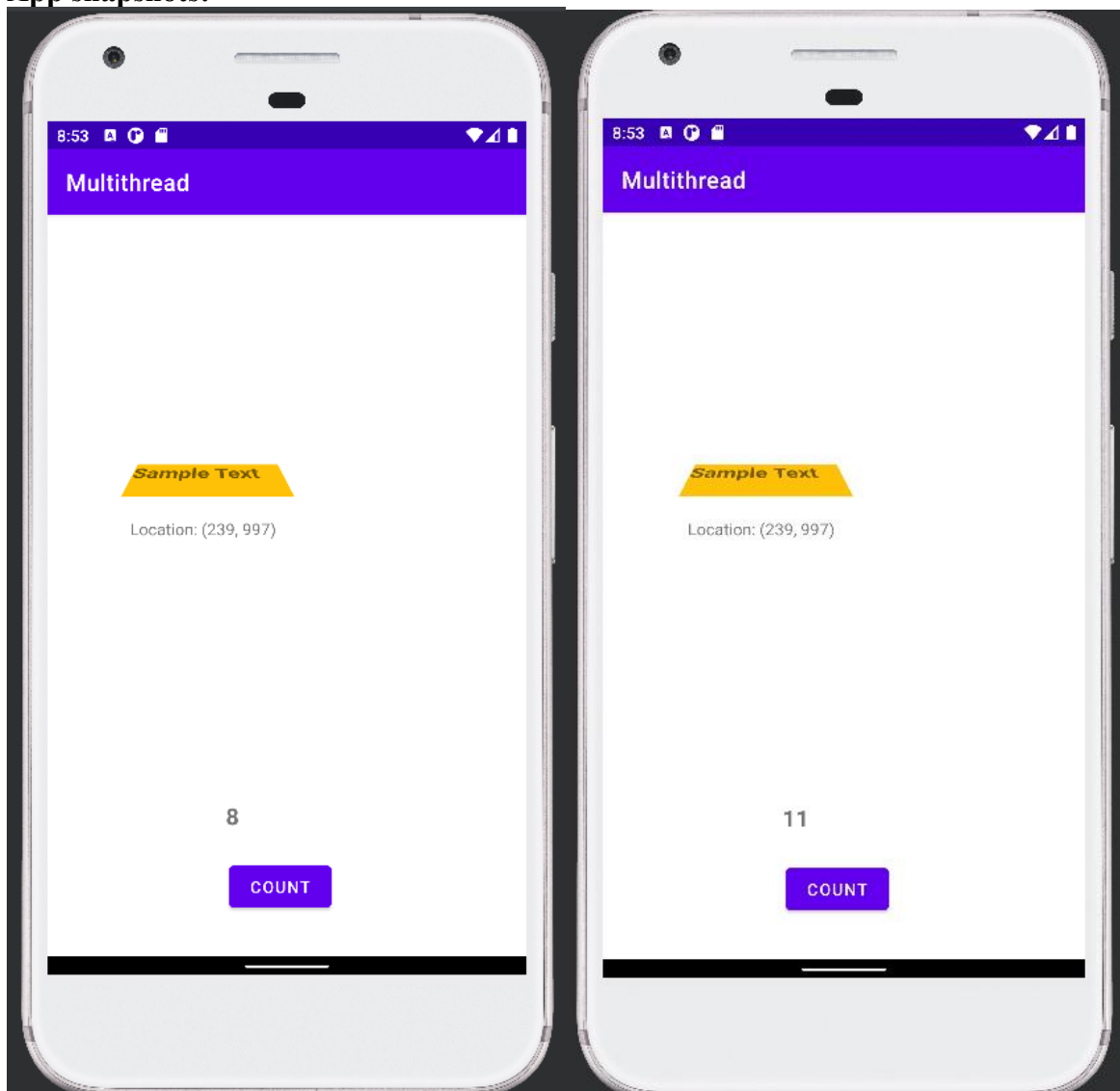
```
<TextView
    android:id="@+id/coord"
    android:layout_width="133dp"
    android:layout_height="45dp"
    android:layout_marginStart="16dp"
    android:layout_marginTop="260dp"
    android:text="TextView"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="156dp"
    android:layout_marginTop="552dp"
    android:text="Count"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/counter"
    android:layout_width="105dp"
    android:layout_height="35dp"
    android:layout_marginStart="153dp"
```

```
        android:layout_marginTop="502dp"
        android:text="1"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

App snapshots:



Result:

Thus, Thread process was done using android studios.

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UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB
Ex-7: GPS

Name: **Abhay Kumar Tiwari**
Register Number: **195001005**

Aim:

To Implement Android Application to display the user's current location in terms of Latitude and Longitude.

Program:

(AndroidManifest.xml)

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.gps">
    <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"
/>
    <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.Gps">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

(MainActivity.java)

```
package com.example.gps;
```

```
import androidx.annotation.NonNull;
```

```
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
```

```
import android.Manifest;
import android.annotation.SuppressLint;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import android.widget.Button;
import android.widget.TextView;
```

```
public class MainActivity extends AppCompatActivity {
    TextView lat;
    TextView lon;
    Button click;
    LocationManager locMg;
    LocationListener lis;
```

```
    @SuppressWarnings("MissingPermission")
```

```
    @Override
```

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

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        lat = (TextView) findViewById(R.id.lat);
```

```
        lon = (TextView) findViewById(R.id.lon);
```

```
        click = (Button) findViewById(R.id.gps);
```

```
        locMg = (LocationManager) getSystemService(LOCATION_SERVICE);
```

```
        lis = new LocationListener() {
```

```
            @Override
```

```
            public void onLocationChanged(@NonNull Location location) {
```

```
                lat.setText(""+location.getLatitude());
```

```
                lon.setText(""+location.getLongitude());
```

```
            }
```

```
        };
```

```
        ActivityCompat.requestPermissions(this, new
```

```
String[] {Manifest.permission.ACCESS_FINE_LOCATION}, 1);
```

```
        click.setOnClickListener(view -> {
```

```
            locMg.requestLocationUpdates("gps", 5000, 0, lis);
```

```
        });
```

```
    }
```

}

(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:id="@+id/textView"
        android:layout_width="98dp"
        android:layout_height="40dp"
        android:layout_marginStart="38dp"
        android:layout_marginLeft="38dp"
        android:layout_marginTop="176dp"
        android:layout_marginEnd="300dp"
        android:layout_marginRight="300dp"
        android:text="latitude"
        android:textColor="#090808"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="99dp"
        android:layout_height="38dp"
        android:layout_marginStart="26dp"
        android:layout_marginLeft="26dp"
        android:layout_marginTop="46dp"
        android:layout_marginEnd="286dp"
        android:layout_marginRight="286dp"
        android:text="longitude"
        android:textColor="#090808"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
```

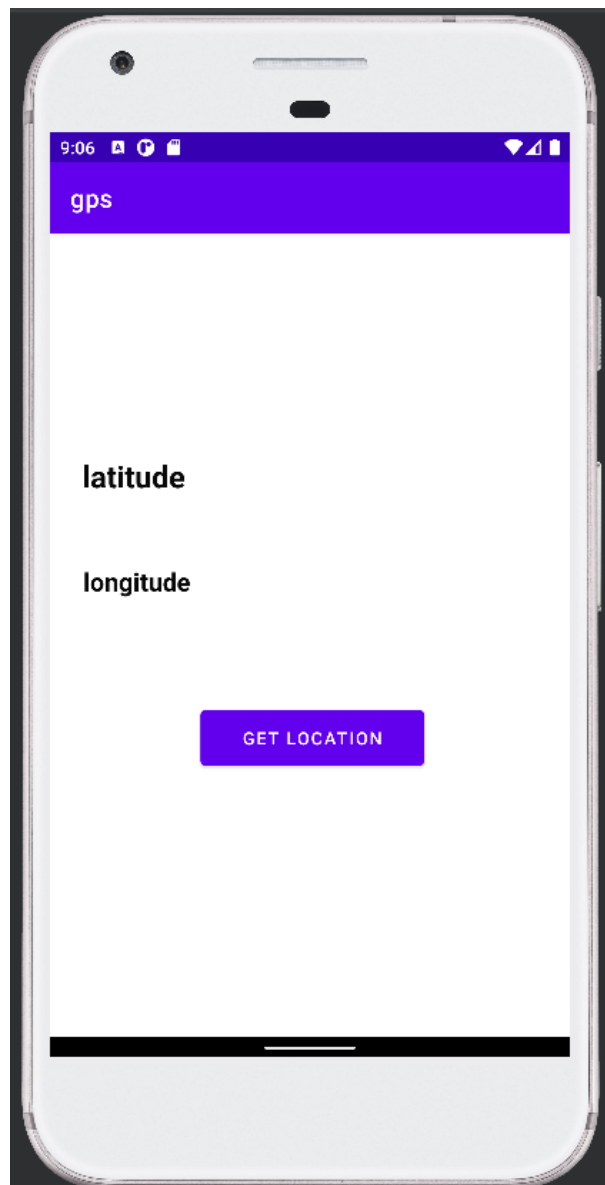
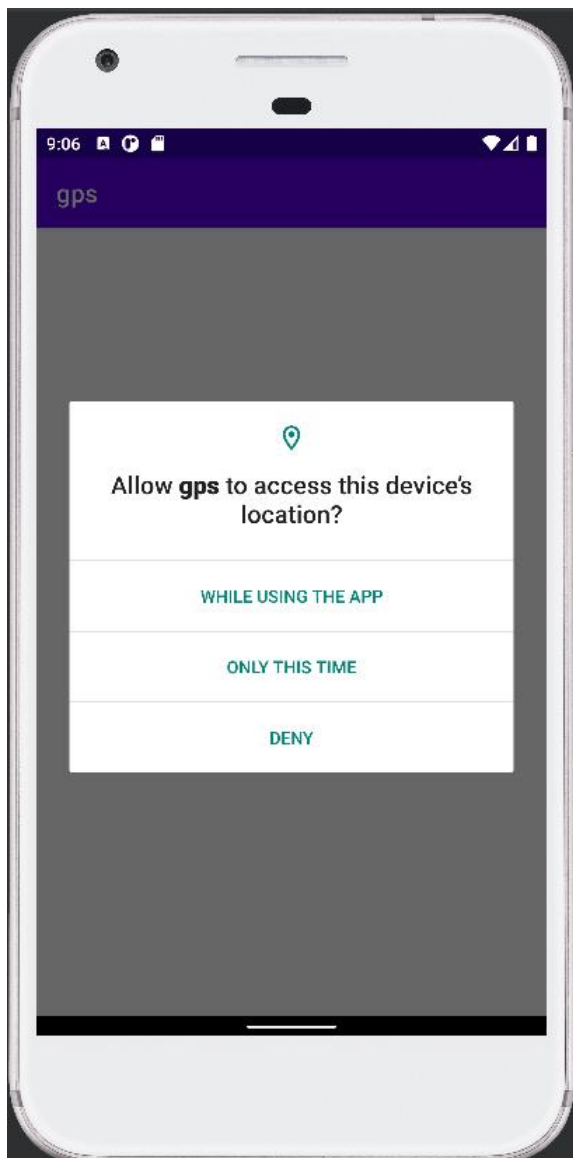


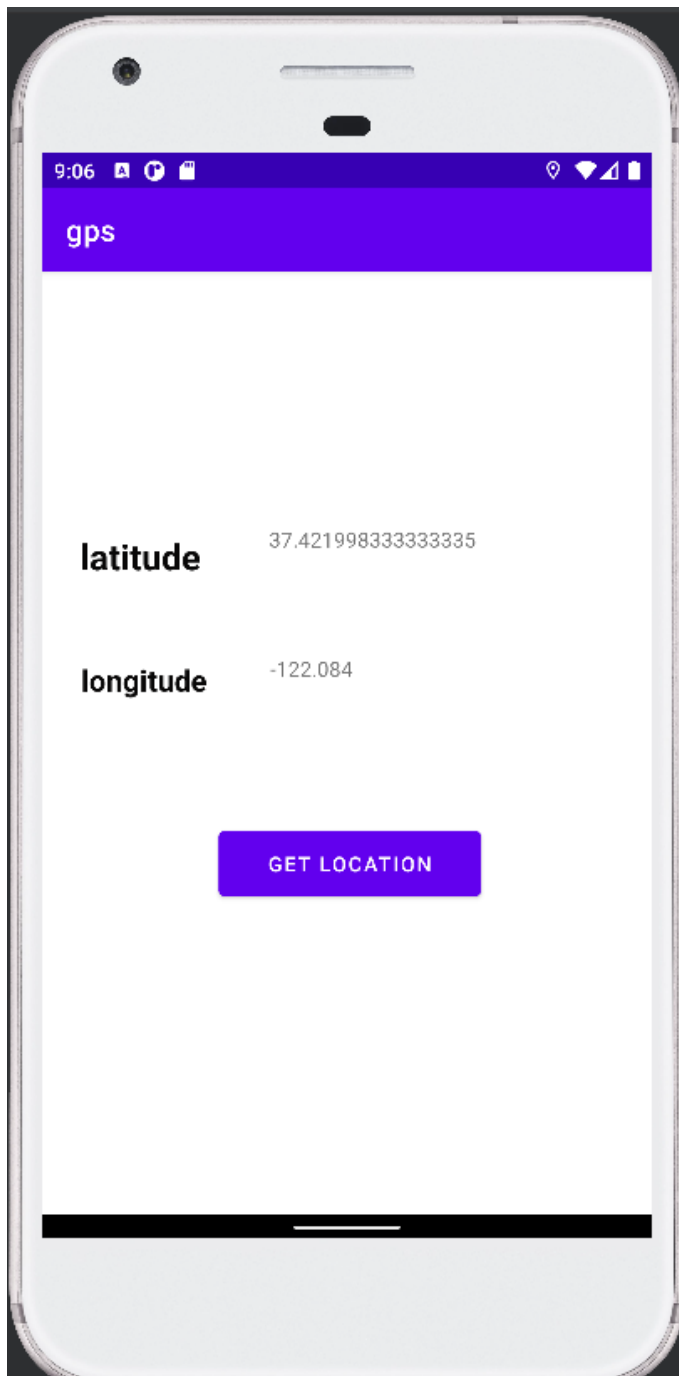
```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView" />
```

```
<TextView
    android:id="@+id/lon"
    android:layout_width="251dp"
    android:layout_height="42dp"
    android:layout_marginStart="28dp"
    android:layout_marginLeft="28dp"
    android:layout_marginTop="42dp"
    android:layout_marginEnd="6dp"
    android:layout_marginRight="6dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/textView3"
    app:layout_constraintTop_toBottomOf="@+id/lat" />
```

```
<Button
    android:id="@+id/gps"
    android:layout_width="177dp"
    android:layout_height="56dp"
    android:layout_marginStart="119dp"
    android:layout_marginLeft="119dp"
    android:layout_marginTop="71dp"
    android:layout_marginEnd="115dp"
    android:layout_marginRight="115dp"
    android:text="GET LOCATION"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView3" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

App snapshots:





Result:

Thus, Application to display the user's current location in terms of Latitude and Longitude was made

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Ex-8: Read from and write data to the SD card

Name: **Abhay Kumar Tiwari**

Register Number: **195001005**

Aim:

To Develop an android app that Read and write data to SD card

Program:

(AndroidManifest.xml)

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.sdcard">
    <uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE"/>
    <uses-permission
        android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Sdcard">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

(MainActivity.java)

```
package com.example.sdcard;
```

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

```
import java.io.BufferedReader;
import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.IOException;
```

```
Button read,write;
TextView ReadBox;
EditText WriteBox;
String fileName,filePath,fileContents;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    read = findViewById(R.id.Read);
    write = findViewById(R.id.Write);
    ReadBox = findViewById(R.id.ReadBox);
    WriteBox = findViewById(R.id.WriteBox);
}
```

```
fileName ="myFile.txt";
filePath = "FileDir";
if(!isExternalStorageAvailableRW()){
    write.setEnabled(false);
}
write.setOnClickListener(view -> {
    ReadBox.setText("");
    fileContents = WriteBox.getText().toString().trim();
    if(!fileContents.equals("")) {
        //Get external files dir
        File myExtFile = new File(getExternalFilesDir(filePath), fileName);
        try {
            FileOutputStream fos = new FileOutputStream(myExtFile);
            fos.write(fileContents.getBytes());
```

```

    }
    catch (FileNotFoundException e){
        e.printStackTrace();
    }
    catch (IOException e){
        e.printStackTrace();
    }
    WriteBox.setText("");
    Toast.makeText(MainActivity.this, "TextFile written on SD Card",
Toast.LENGTH_SHORT).show();
    }
    else{
        Toast.makeText(MainActivity.this, "Input Field Empty",
Toast.LENGTH_SHORT).show();
    }
});
read.setOnClickListener(view -> {
    FileReader fr;
    File myExtFile = new File(getExternalFilesDir(filePath),fileName);
    StringBuilder sb = new StringBuilder();
    String contents = "";
    try{
        fr = new FileReader(myExtFile);
        BufferedReader br = new BufferedReader(fr);
        String line = br.readLine();
        while(line!=null){
            contents += line;
            line = br.readLine();
        }
        ReadBox.setText(contents);
    }
    catch (FileNotFoundException e){
        e.printStackTrace();
    }
    catch (IOException e){
        e.printStackTrace();
    }
});
}

private boolean isExternalStorageAvailableRW() {
    String ExternalStorageState = Environment.getExternalStorageState();
    if(ExternalStorageState.equals(Environment.MEDIA_MOUNTED)){

```

```

        return true;
    }
    return false;
}
}

```

(activity_main.xml)

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:gravity="center"
    android:orientation="vertical"
    android:padding="16dp">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Type the text here to save on SD Card"
        android:id="@+id/WriteBox"
    />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center"
    >

        </LinearLayout>

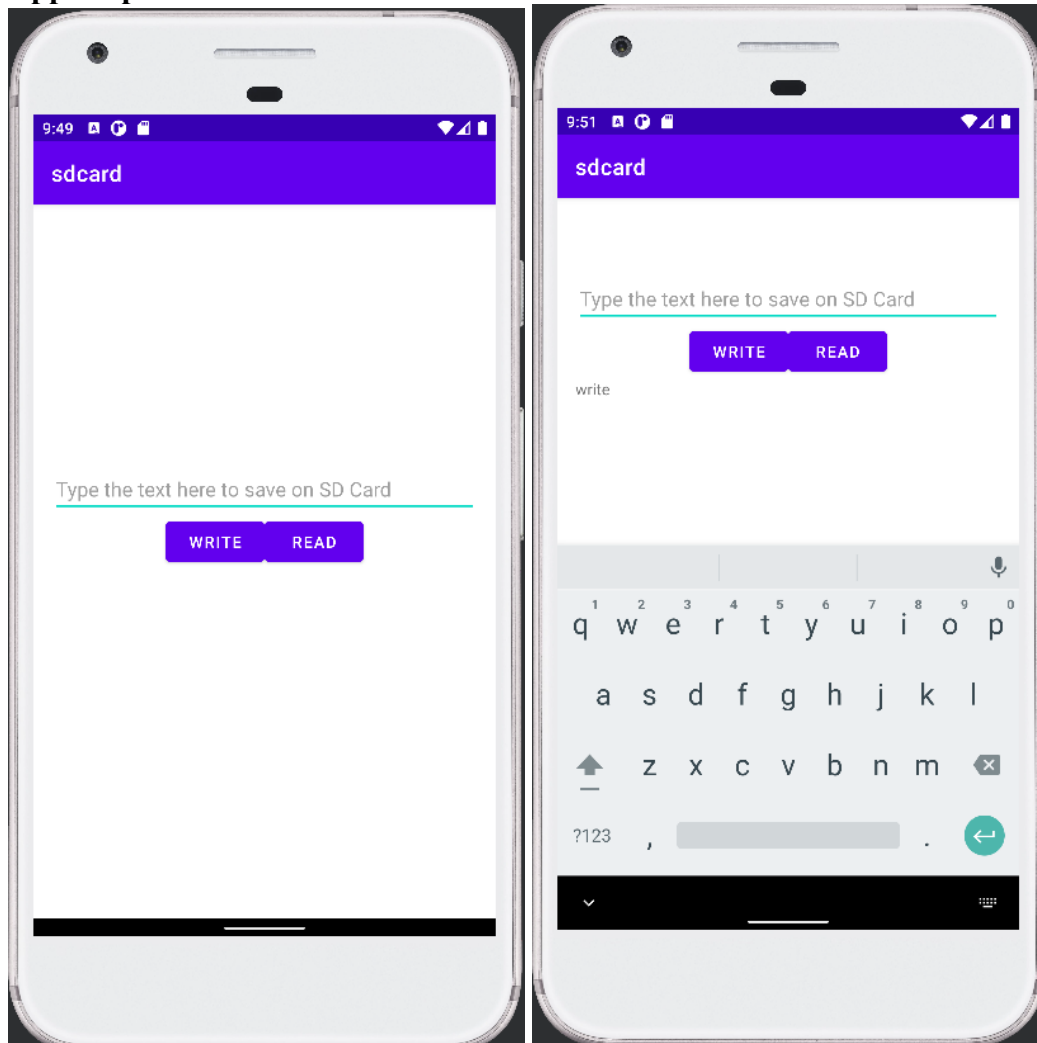
        <ScrollView
            android:layout_width="match_parent"
            android:layout_height="80dp"
        >

            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/ReadBox"
                android:text="" />

        </ScrollView>
    </LinearLayout>

```

App snapshots:



Result:

Thus, an android app that Read and write data to SD card was made.

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Department of Computer Science and Engineering
UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB
Ex-9: Sending SMS and Notification

Name: **Abhay Kumar Tiwari**
Register Number: **195001005**

Aim:

To Develop an android app that sends SMS and creates an alert upon receiving the SMS.

Program:

(AndroidManifest.xml)

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

    <uses-permission android:name="android.permission.READ_SMS"/>
    <uses-permission android:name="android.permission.RECEIVE_SMS"/>
    <uses-permission android:name="android.permission.SEND_SMS"/>
    <uses-permission android:name="android.permission.READ_PHONE_STATE"/>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.SMS">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

(MainActivity.java)

```

package com.example.sms;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.app.PendingIntent;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.content.IntentFilter;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import static android.Manifest.permission.READ_PHONE_STATE;
import static android.Manifest.permission.READ_SMS;
import static android.Manifest.permission.RECEIVE_SMS;
import static android.Manifest.permission.SEND_SMS;
public class MainActivity extends AppCompatActivity {
    EditText contact_no,user_message;
    Button send;
    TextView msgs;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActivityCompat.requestPermissions(MainActivity.this,new
            String[]{READ_SMS,RECEIVE_SMS,SEND_SMS,READ_PHONE_STATE},1);
        contact_no = findViewById(R.id.contact_number);
        user_message = findViewById(R.id.user_message);
        send = findViewById(R.id.sendButton);
        send.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                sendMsg(contact_no.getText().toString(), user_message.getText().toString());
            }
        });
    }

    void sendMsg(String number, String message)
    {

```

```

        SmsManager manager = SmsManager.getDefault();
        manager.sendTextMessage(number, null, message, null, null);
    }

}

```

(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">

    <Button
        android:id="@+id/sendButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="128dp"
        android:layout_marginTop="444dp"
        android:backgroundTint="#FF5722"
        android:text="Send SMS"
        app:icon="@android:drawable/ic_menu_send"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/contact_number_text"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="28dp"
        android:layout_marginTop="264dp"
        android:text="Contact Number"
        android:textSize="18sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/contact_number"
        android:layout_width="wrap_content"

```

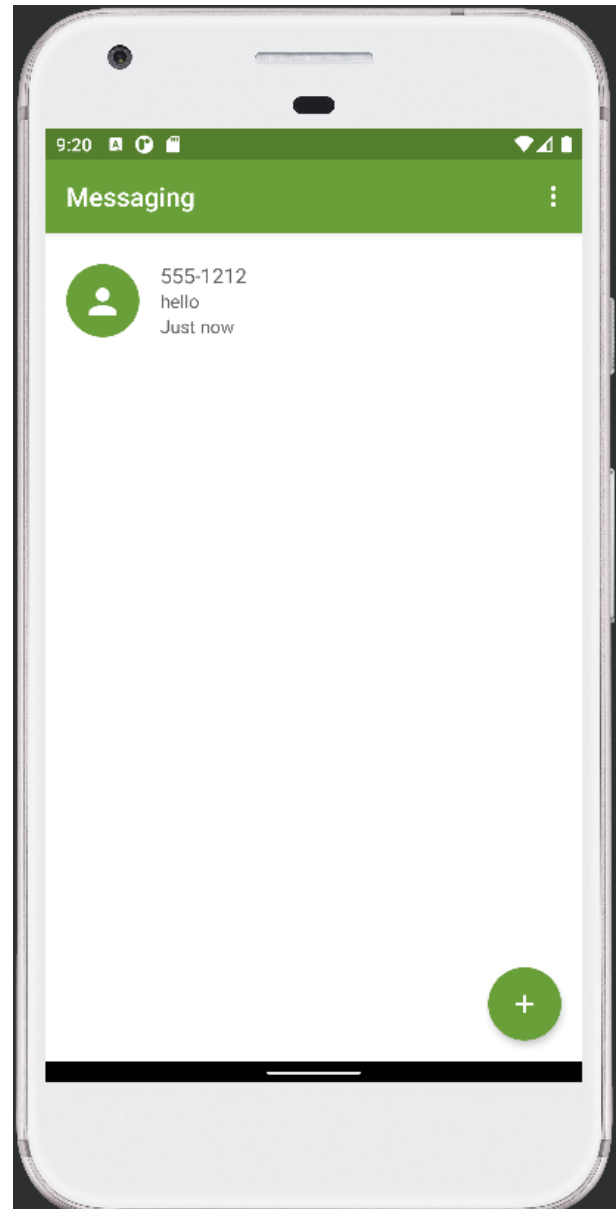
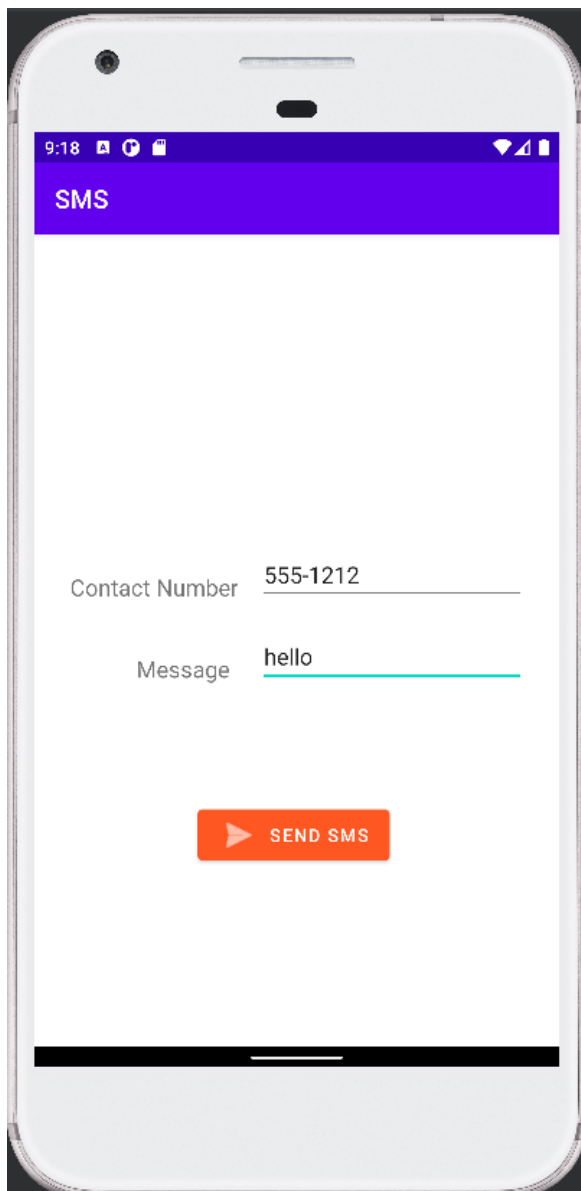
```
android:layout_height="wrap_content"
android:layout_marginStart="176dp"
android:layout_marginTop="244dp"
android:ems="10"
android:hint="Number"
android:inputType="number|textPersonName"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
android:id="@+id/user_message"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="176dp"
android:layout_marginTop="308dp"
android:ems="10"
android:gravity="start|top"
android:hint="Message"
android:inputType="textMultiLine"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

App snapshots:



Result:

Thus, Application to display the user's current location in terms of Latitude and Longitude was made

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Ex-10: Alarm Clock Application

Name: **Abhay Kumar Tiwari**

Register Number: **195001005**

Aim:

To Develop an android app that scheduling the task and stimulate a new alarm

Program:

(MainActivity.java)

```
package com.example.clock;

import android.app.TimePickerDialog;
import android.media.Ringtone;
import android.media.RingtoneManager;
import android.os.Build;
import android.os.Bundle;
import android.os.Handler;
import android.os.Looper;
import android.provider.Settings;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.TextClock;
import android.widget.TextView;
import android.widget.TimePicker;

import androidx.annotation.RequiresApi;
import androidx.appcompat.app.AppCompatActivity;
import java.util.Calendar;
import java.util.Timer;
import java.util.TimerTask;
import java.util.concurrent.atomic.AtomicInteger;
public class MainActivity extends AppCompatActivity {
    TimePicker alarmtime;
    TextClock currtime;
    TextView t;
    Button setAlarm, cancel, snz;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    currtime = findViewById(R.id.currTime);
    setAlarm = findViewById(R.id.button);
    alarmtime = findViewById(R.id.timePicker);
    cancel = findViewById(R.id.cancel);
    t = findViewById(R.id.text);
    snz= findViewById(R.id.snooze);
    final AtomicInteger value = new AtomicInteger(0);
    final AtomicInteger stop = new AtomicInteger(0);
    final Timer timer = new Timer(); //Timer for a thread

    final Ringtone r =
RingtoneManager.getRingtone(getApplicationContext(),RingtoneManager.getDefaultUri(Rin
gtoneManager.TYPE_ALARM));
    setAlarm.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            alarmtime.setVisibility(View.VISIBLE);
            stop.getAndSet(0);
            timer.scheduleAtFixedRate(new TimerTask() {
                @RequiresApi(api = Build.VERSION_CODES.M)
                @Override
                public void run() {

                    Log.i("here1",currtime.getText().toString());
                    Log.i("here2",AlarmTime());
                    if(currtime.getText().toString().equals(AlarmTime())&& (stop.get()==0)){
                        Log.i("here3","Works");
                        r.play();
                        runOnUiThread(new Runnable() {
                            @Override
                            public void run() {
                                t.setText("ALARM IS RINGING");
                                snz.setVisibility(View.VISIBLE);
                            }
                        });
                    }
                    else{
                        runOnUiThread(new Runnable() {
                            @Override
                            public void run() {

```

```

        t.setText("");
        snz.setVisibility(View.INVISIBLE);
    }
});
r.stop();
}
}
},0,1000); //you want the delay to be zero because the task should be immediate
and you want to check each second

```

```

    }
});
cancel.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        stop.getAndSet(1);
    }
});

```

```

snz.setOnClickListener(new View.OnClickListener() {
    @RequiresApi(api = Build.VERSION_CODES.M)
    @Override
    public void onClick(View v) {
        Integer alarmMin = alarmtime.getMinute();
        alarmtime.setMinute(alarmMin+5);
    }
});
}

```

```

}
@RequiresApi(api = Build.VERSION_CODES.M)
public String AlarmTime(){
    Integer alarmHour = alarmtime.getHour();
    Integer alarmMin = alarmtime.getMinute();

    String alarm_time,end="AM",min,hr;
    if (alarmHour>=12){
        end = "PM";
        if (alarmHour!=12)
            alarmHour-=12;
    }
    if (alarmMin<10)
        min = "0"+String.valueOf(alarmMin);
    else{
        min = String.valueOf(alarmMin);
    }
}

```



```

        if (alarmHour==0)
            hr="12";
        else{
            hr = String.valueOf(alarmHour);
        }
        alarm_time = hr+":"+min+" "+end;
        return alarm_time;
    }
}

```

(activity_main.xml)

```

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

    <TextView
        android:id="@+id/alText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"
        android:text="ALARM CLOCK"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextClock
        android:id="@+id/currTime"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/alText"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="21dp" />

    <TimePicker
        android:id="@+id/timePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```

```
    android:layout_below="@+id/cancel"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="30dp"
    android:visibility="gone" />
```

```
<TextView
    android:id="@+id/text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/cancel"
    android:layout_centerHorizontal="true" />
```

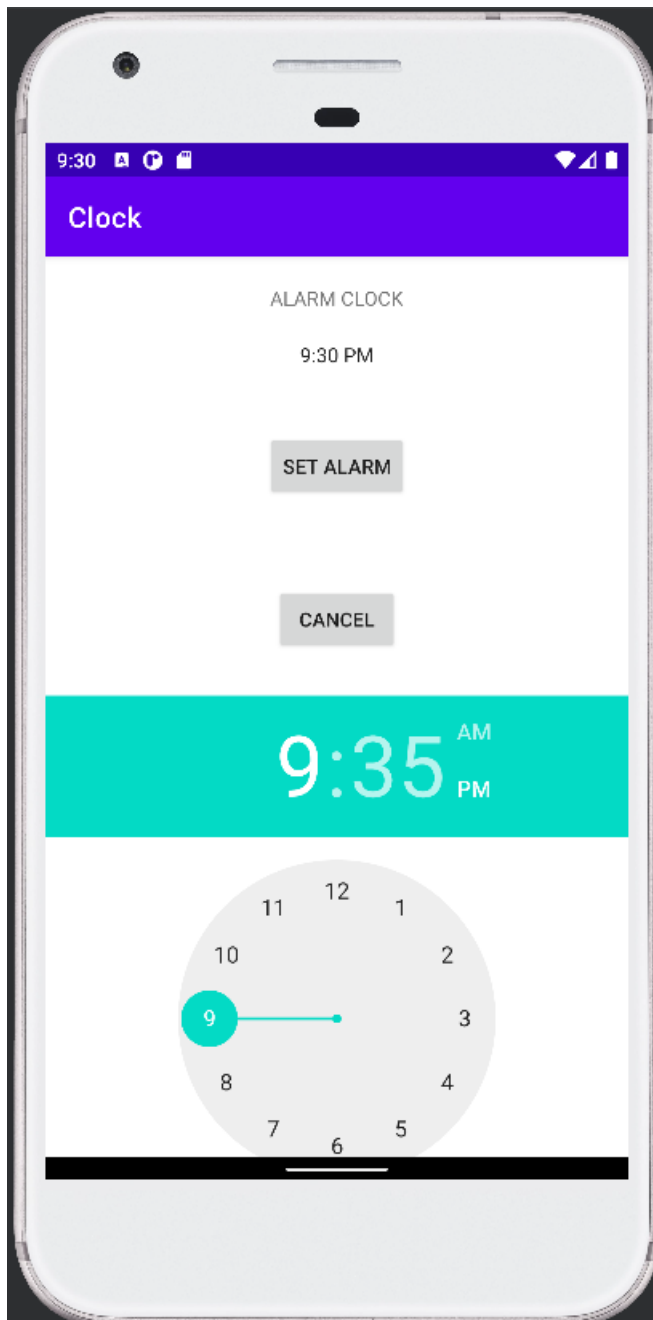
```
<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/currTime"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="45dp"
    android:text="SET ALARM" />
```

```
<androidx.appcompat.widget.AppCompatButton
    android:id="@+id/cancel"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/button"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="60dp"
    android:text="CANCEL" />
```

```
<Button
    android:id="@+id/snooze"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="150dp"
    android:layout_marginLeft="30dp"
    android:visibility="gone"
    android:text="Snooze" />
```

```
</RelativeLayout>
```

App snapshots:



Result:

Thus, Application to stimulate an alarm clock was made

SSN College of Engineering
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UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB
Ex-11: Hybrid Mobile Application

Name: **Abhay Kumar Tiwari**
Register Number: **195001005**

Aim:

To Develop a Web Page Loading android app

Program:

(AndroidManifest.xml)

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.webpageload">
    <uses-permission android:name="android.permission.INTERNET" />
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.WebPageLoad">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

(MainActivity.java)

```
package com.example.webpageload;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.Menu;
import android.view.MenuItem;
```

```

import android.view.View;
import android.webkit.WebView;
import android.webkit.WebViewClient;
import android.widget.Button;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {

    WebView simpleWebView;
    Button loadWebPage, loadFromStaticHtml;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // initiate buttons and a web view
        loadFromStaticHtml = (Button) findViewById(R.id.loadFromStaticHtml);
        loadFromStaticHtml.setOnClickListener(this);
        loadWebPage = (Button) findViewById(R.id.loadWebPage);
        loadWebPage.setOnClickListener(this);
        simpleWebView = (WebView) findViewById(R.id.simpleWebView);
    }

    @Override
    public void onClick(View v) {
        switch (v.getId()) {
            case R.id.loadFromStaticHtml:
                // define static html text
                String customHtml = "<html><body><h1>Hello</h1>" +
                    "<h3>Welcome to the <em>restaurant</em></h3>" + "<p><mark>Buy 1 get"
1 free</mark></p>" +
                    "<p>List of beverages</p>" +
                    "<p><ol><li><b>Tea</b></li><li><u>Coffee</u></li><li>Milk</li></ol></p>" +
                    "<p><i>Have a good day</i></p>" + "<p><sup>Come</sup> back"
<sub>again</sub></p>" + "</body></html>";
                simpleWebView.loadData(customHtml, "text/html", "UTF-8"); // load html string
data in a web view
                break;
            case R.id.loadWebPage:
                simpleWebView.setWebViewClient(new MyWebViewClient());
                String url = "https://www.google.com/intl/en_in/gmail/about/";
                simpleWebView.getSettings().setJavaScriptEnabled(true);
                simpleWebView.loadUrl(url); // load a web page in a web view
                break;
        }
    }
}

```

```
}  
}
```

```
private class MyWebViewClient extends WebViewClient {  
    @Override  
    public boolean shouldOverrideUrlLoading(WebView view, String url) {  
        view.loadUrl(url);  
        return true;  
    }  
}
```

```
}
```

(MyWebViewClient.java)

```
package com.example.webpageload;
```

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

```
import android.os.Bundle;
```

```
import android.view.Menu;
```

```
import android.view.MenuItem;
```

```
import android.view.View;
```

```
import android.webkit.WebView;
```

```
import android.webkit.WebViewClient;
```

```
import android.widget.Button;
```

```
public class MainActivity extends AppCompatActivity implements View.OnClickListener {
```

```
    WebView simpleWebView;
```

```
    Button loadWebPage, loadFromStaticHtml;
```

```
    @Override
```

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

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        // initiate buttons and a web view
```

```
        loadFromStaticHtml = (Button) findViewById(R.id.loadFromStaticHtml);
```

```
        loadFromStaticHtml.setOnClickListener(this);
```

```
        loadWebPage = (Button) findViewById(R.id.loadWebPage);
```

```
        loadWebPage.setOnClickListener(this);
```

```
        simpleWebView = (WebView) findViewById(R.id.simpleWebView);
```

```
}
```

```

@Override
public void onClick(View v) {
    switch (v.getId()) {
        case R.id.loadFromStaticHtml:
            // define static html text
            String customHtml = "<html><body><h1>Hello</h1>" +
                "<h3>Welcome to the <em>restaurant</em></h3>" + "<p><mark>Buy 1 get"
1 free</mark></p>" +
                "<p>List of beverages</p>" +
"<p><ol><li><b>Tea</b></li><li><u>Coffee</u></li><li>Milk</li></ol></p>" +
                "<p><i>Have a good day</i></p>" + "<p><sup>Come</sup> back"
<sub>again</sub></p>" + "</body></html>";
            simpleWebView.loadData(customHtml, "text/html", "UTF-8"); // load html string
data in a web view
            break;
        case R.id.loadWebPage:
            simpleWebView.setWebViewClient(new MyWebViewClient());
            String url = "https://www.google.com/intl/en_in/gmail/about/";
            simpleWebView.getSettings().setJavaScriptEnabled(true);
            simpleWebView.loadUrl(url); // load a web page in a web view
            break;
    }
}

private class MyWebViewClient extends WebViewClient {
    @Override
    public boolean shouldOverrideUrlLoading(WebView view, String url) {
        view.loadUrl(url);
        return true;
    }
}
}

```

(activity_main.xml)

```

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

```

```
tools:context=".MainActivity">
```

```
<LinearLayout
```

```
    android:layout_width="fill_parent"  
    android:layout_height="wrap_content"  
    android:orientation="horizontal"  
    android:weightSum="2">
```

```
<Button
```

```
    android:id="@+id/loadWebPage"  
    android:layout_width="0dp"  
    android:layout_height="wrap_content"  
    android:layout_marginRight="10dp"  
    android:layout_weight="1"  
    android:background="#444"  
    android:text="Load Web Page"  
    android:textColor="#fff"  
    android:textSize="14sp"  
    android:textStyle="bold" />
```

```
<Button
```

```
    android:id="@+id/loadFromStaticHtml"  
    android:layout_width="0dp"  
    android:layout_height="wrap_content"  
    android:layout_marginLeft="10dp"  
    android:layout_weight="1"  
    android:background="#444"  
    android:text="Load Static HTML"  
    android:textColor="#fff"  
    android:textSize="14sp"  
    android:textStyle="bold" />
```

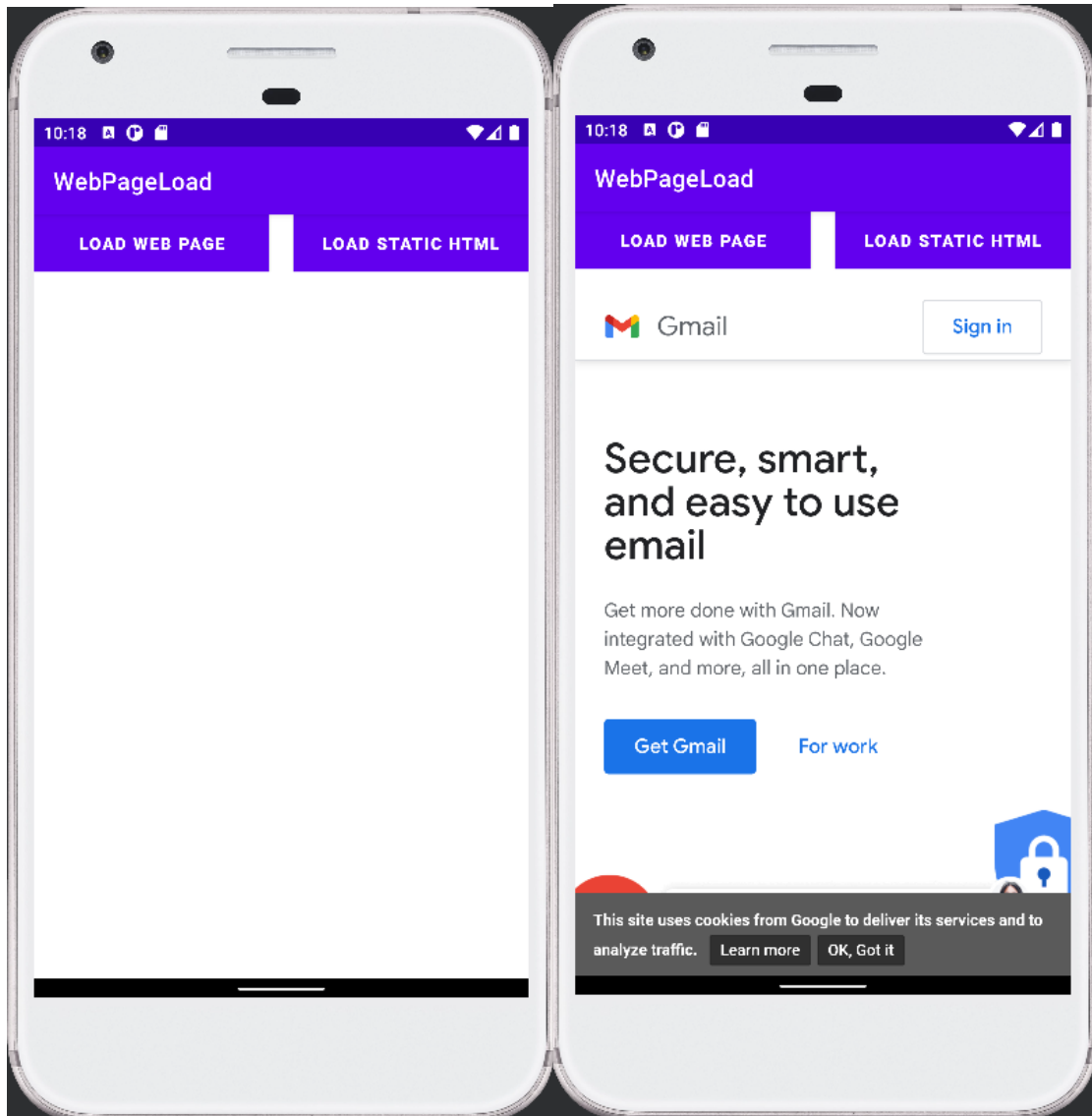
```
</LinearLayout>
```

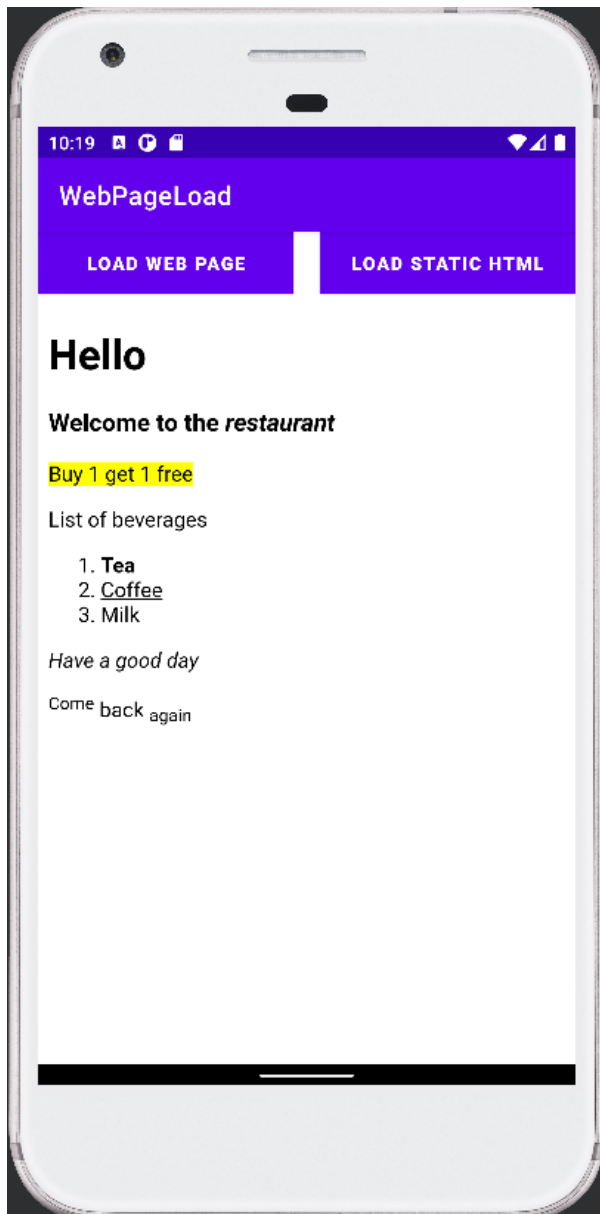
```
<WebView
```

```
    android:id="@+id/simpleWebView"  
    android:layout_width="fill_parent"  
    android:layout_height="fill_parent"  
    android:layout_marginTop="20dp"  
    android:scrollbars="none" />
```

```
</LinearLayout>
```

App snapshots:





Result:

Thus, an android app that that Loads a web page was made.