**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/editTextTextEmailAddress"

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:**

A picture containing map

Description automatically generatedA picture containing diagram

Description automatically generated

A picture containing diagram

Description automatically generatedA picture containing diagram

Description automatically generated

**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.AppCompatDelegate;  
  
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);  
 AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.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:**

Graphical user interface, text, application

Description automatically generatedGraphical user interface, text, application, Teams

Description automatically generated

**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.AppCompatDelegate;  
  
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);  
 AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.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:**

Icon

Description automatically generated A screenshot of a cell phone

Description automatically generated with medium confidence

**Shapes Blink**

 A screenshot of a cat

Description automatically generated with medium confidence

**Move Rotate**

A screenshot of a cell phone

Description automatically generated with medium confidence

**Zoom**

**SSN College of Engineering**

**Department of Computer Science and Engineering**

## UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

**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.AppCompatDelegate;

**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);

AppCompatDelegate.*setDefaultNightMode*(AppCompatDelegate.***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** {

String temp=**""**;

txt.setText(**""**);

**while**(res.moveToNext()) {

String name\_value = res.getString(1);

String gender\_value = res.getString(2);

String employee\_code\_value = res.getString(0);

Double salary\_value = res.getDouble(4);

temp+=**"Name : "**+name\_value+**"\nEmployee Code : "**+employee\_code\_value+**"\nGender : "**+gender\_value+**"\nSalary : "**+salary\_value+**"\n\n"**;

txt.setText(temp);

}

}

}

});

}

});

}

}

**(DBHelper.java)**

**package** com.example.ex4\_database;

**import** android.content.ContentValues;

**import** android.database.Cursor;

**import** android.database.sqlite.SQLiteDatabase;

**import** android.database.sqlite.SQLiteOpenHelper;

**public class** DBHelper **extends** SQLiteOpenHelper {

**public** DBHelper(MainActivity context) {

**super**(context, **"Userdata.db"**, **null**, 1);

}

@Override

**public void** onCreate(SQLiteDatabase db) {

db.execSQL(**"CREATE TABLE Userdata(employee\_code TEXT primary key,name TEXT,gender TEXT,department TEXT,salary REAL)"**);

}

@Override

**public void** onUpgrade(SQLiteDatabase db, **int** oldVersion, **int** newVersion) {

db.execSQL(**"DROP TABLE IF EXISTS Userdata"**);

}

**public** Boolean insertUserdata(String employee\_code,String name,String gender,String deptartment,Double salary)

{

SQLiteDatabase db=**this**.getWritableDatabase();

ContentValues cv=**new** ContentValues();

cv.put(**"employee\_code"**,employee\_code);

cv.put(**"name"**,name);

cv.put(**"gender"**,gender);

cv.put(**"department"**,deptartment);

cv.put(**"salary"**,salary);

**long** result=db.insert(**"Userdata"**,**null**,cv);

**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"**

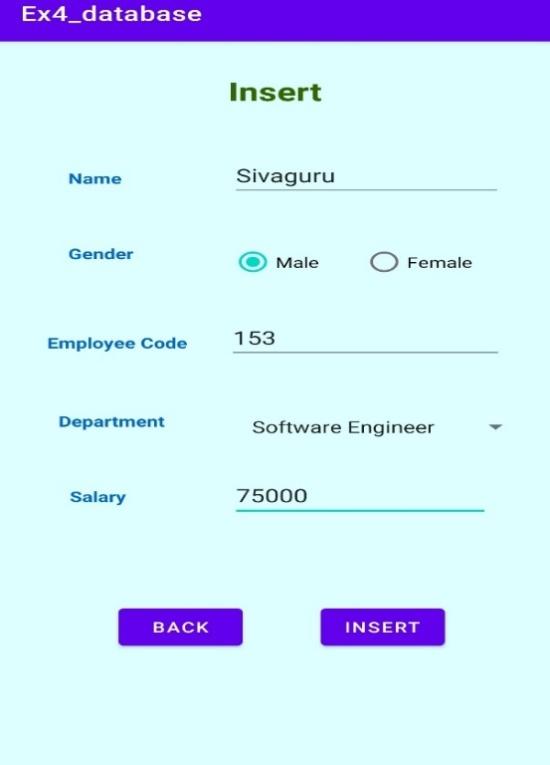
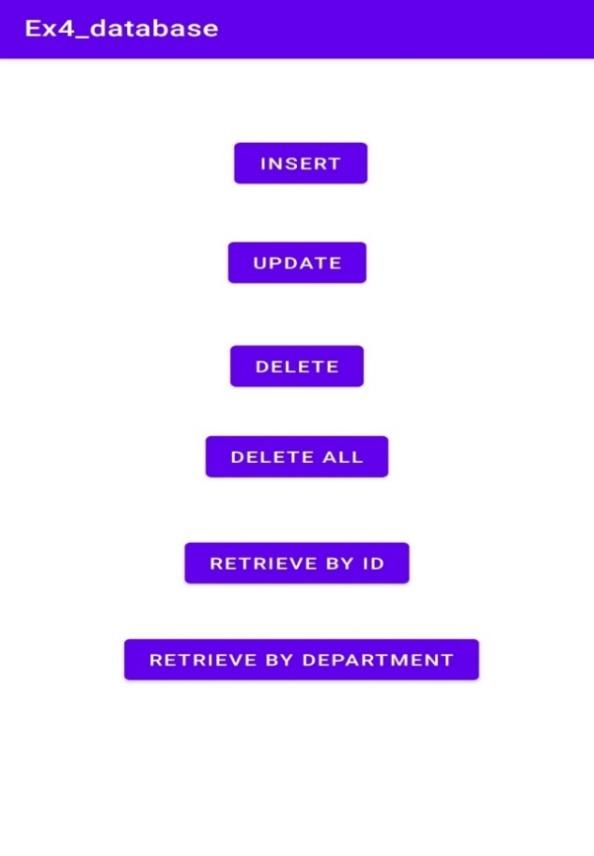
**app:layout\_constraintStart\_toStartOf="parent"**

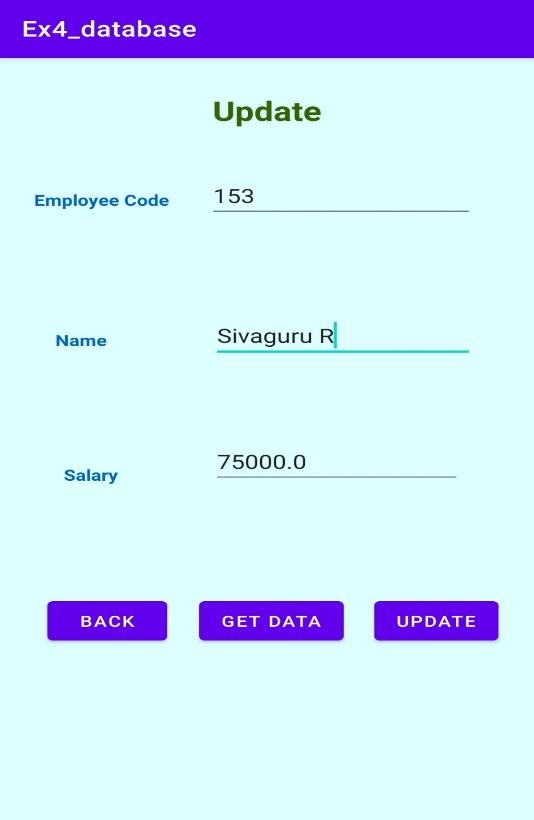
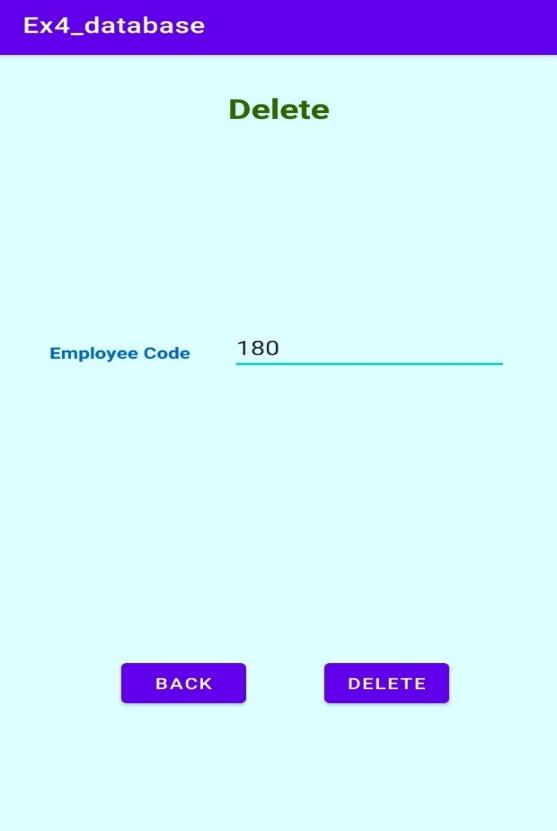
**app:layout\_constraintTop\_toTopOf="parent"**

**app:layout\_constraintVertical\_bias="0.639" />**

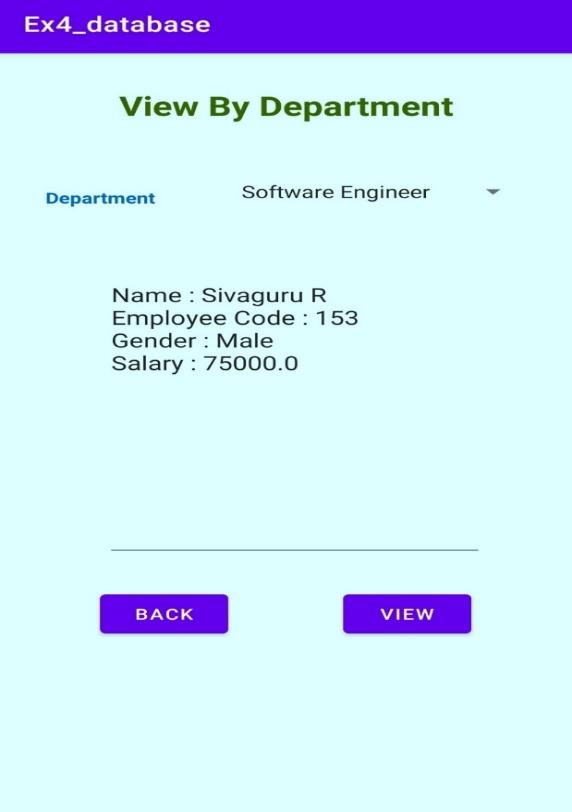
**</androidx.constraintlayout.widget.ConstraintLayout>**

**App snapshots:**

****







**SSN College of Engineering**

**Department of Computer Science and Engineering**

## 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.to\_string(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 coorinates 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:**

Graphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generated

**Result:**

Thus, Thread process was done using android studios.

**SSN College of Engineering**

**Department of Computer Science and Engineering**

## 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:supportsRtl="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;  
  
  
 @SuppressLint("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);  
 });  
  
 }  
}

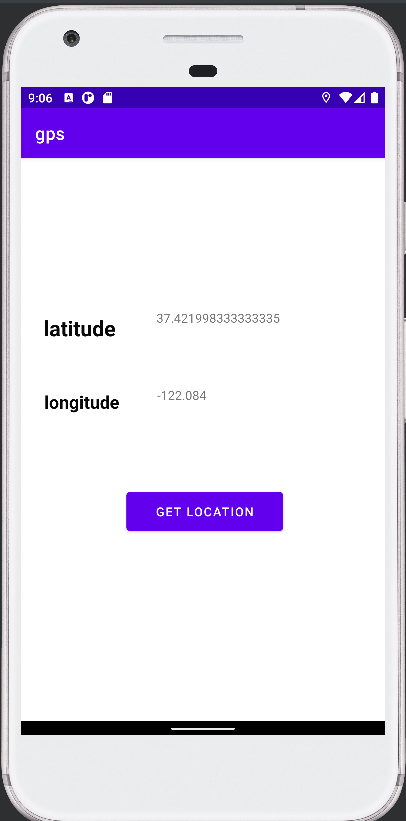
**(activity\_main.xml)**

<?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:** Graphical user interface, application, Teams

Description automatically generatedA screenshot of a phone

Description automatically generated with medium confidence



**Result:**

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

**SSN College of Engineering**

**Department of Computer Science and Engineering**

## UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

**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 android.os.Bundle;  
import android.os.Environment;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import java.io.BufferedReader;  
import java.io.File;  
import java.io.FileNotFoundException;  
import java.io.FileOutputStream;  
import java.io.FileReader;  
import java.io.IOException;  
  
public class MainActivity extends AppCompatActivity {  
  
 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:**

**Graphical user interface, text, application

Description automatically generated** **Graphical user interface, text, application, chat or text message

Description automatically generated**

**Result:**

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

**SSN College of Engineering**

**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:supportsRtl="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:**

Graphical user interface, application

Description automatically generatedGraphical user interface, text, application, whiteboard

Description automatically generated

**Result:**

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

**SSN College of Engineering**

**Department of Computer Science and Engineering**

## UCS1711 – MOBILE APPLICATION DEVELOPMENT LAB

**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(RingtoneManager.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:**

**Graphical user interface, application

Description automatically generated**

**Result:**

Thus, Application to stimulate an alarm clock was made

**SSN College of Engineering**

**Department of Computer Science and Engineering**

## 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:supportsRtl="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:**

Graphical user interface, application, Word

Description automatically generatedGraphical user interface, text, application

Description automatically generated

**Graphical user interface, text, application

Description automatically generated**

**Result:**

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