

UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 1 Application using GUI components, Font and Colours

Date: 15/7/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Generate a registration form for a hospital to register new patient details as below.

Code:

Activity_main.xml:

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

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:orientation="vertical"
        android:padding="30dp"
        tools:ignore="ObsoleteLayoutParam">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center_horizontal"
            android:paddingVertical="20dp"
            android:text="@string/hospital_registration"
            android:textAlignment="center"
            android:textColor="@color/black"
            android:textSize="30sp"
            android:textStyle="bold"
            android:typeface="serif" />

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginVertical="10dp"
            android:orientation="horizontal">

            <TextView
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="@string/name"
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

<EditText
    android:id="@+id/nameET"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:focusedByDefault="true"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Address : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <EditText
        android:id="@+id/addressET"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:lines="3" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"

```

```

        android:orientation="horizontal">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_weight="2"
            android:paddingVertical="10dp"
            android:text="Age : "
            android:textColor="@color/black"
            android:textSize="20sp"
            android:textStyle="bold"
            android:typeface="serif" />

        <EditText
            android:id="@+id/ageET"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:inputType="number"
            android:maxLength="2"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginVertical="10dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_weight="2"
            android:paddingVertical="10dp"
            android:text="DOB : "
            android:textColor="@color/black"
            android:textSize="20sp"
            android:textStyle="bold"
            android:typeface="serif" />

        <DatePicker
            android:id="@+id/dobDP"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:calendarViewShown="false"
            android:datePickerMode="spinner" />
    </LinearLayout>

```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginVertical="10dp"  
    android:orientation="horizontal">
```

```
    <TextView
```

```
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_weight="2"  
        android:paddingVertical="10dp"  
        android:text="Gender : "  
        android:textColor="@color/black"  
        android:textSize="20sp"  
        android:textStyle="bold"  
        android:typeface="serif" />
```

```
    <RadioGroup
```

```
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_gravity="center"  
        android:layout_weight="1"  
        android:orientation="horizontal">
```

```
        <RadioButton
```

```
            android:id="@+id/maleRB"  
            android:layout_width="wrap_content"  
            android:layout_height="wrap_content"  
            android:layout_weight="1"  
            android:text="Male" />
```

```
        <RadioButton
```

```
            android:id="@+id/femaleRB"  
            android:layout_width="wrap_content"  
            android:layout_height="wrap_content"  
            android:layout_weight="1"  
            android:text="Female" />
```

```
    </RadioGroup>
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginVertical="10dp"  
    android:orientation="horizontal">
```

```

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_weight="2"
    android:paddingVertical="10dp"
    android:text="Martial Status : "
    android:textColor="@color/black"
    android:textSize="20sp"
    android:textStyle="bold"
    android:typeface="serif" />

<Spinner
    android:id="@+id/martialSpinner"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_weight="1" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Contact Number : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <EditText
        android:id="@+id/contactET"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="1"
        android:inputType="phone"
        android:maxLength="10" />
</LinearLayout>

```

```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Reg. Time : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <TimePicker
        android:id="@+id/regTP"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:timePickerMode="spinner" />
</LinearLayout>

```

```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Addiction : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"

```

```

        android:orientation="horizontal">

        <CheckBox
            android:id="@+id/alcoholCB"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_weight="1"
            android:text="Alcohol" />

        <CheckBox
            android:id="@+id/smokingCB"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_weight="1"
            android:text="Smoking" />
    </LinearLayout>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:paddingTop="10dp">

    <Button
        android:id="@+id/submitBT"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="5dp"
        android:layout_weight="1"
        android:text="Submit" />

    <Button
        android:id="@+id/resetBT"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="5dp"
        android:layout_weight="1"
        android:text="Reset" />
</LinearLayout>
</LinearLayout>
</ScrollView>

```

Tableview.xml:

```

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

```

```

xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:orientation="vertical"
    android:padding="30dp"
    tools:ignore="ObsoleteLayoutParam">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center_horizontal"
        android:paddingVertical="20dp"
        android:text="@string/hospital_registration"
        android:textAlignment="center"
        android:textColor="@color/black"
        android:textSize="30sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginVertical="10dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="2"
            android:paddingVertical="10dp"
            android:text="@string/name"
            android:textColor="@color/black"
            android:textSize="20sp"
            android:textStyle="bold"
            android:typeface="serif" />

        <EditText
            android:id="@+id/nameET"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:focusByDefault="true" />

```



```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginVertical="10dp"  
    android:orientation="horizontal">
```

```
    <TextView
```

```
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_gravity="center"  
        android:layout_weight="2"  
        android:paddingVertical="10dp"  
        android:text="Address : "  
        android:textColor="@color/black"  
        android:textSize="20sp"  
        android:textStyle="bold"  
        android:typeface="serif" />
```

```
    <EditText
```

```
        android:id="@+id/addressET"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_weight="1"  
        android:lines="3" />
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginVertical="10dp"  
    android:orientation="horizontal">
```

```
    <TextView
```

```
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:layout_gravity="center"  
        android:layout_weight="2"  
        android:paddingVertical="10dp"  
        android:text="Age : "  
        android:textColor="@color/black"  
        android:textSize="20sp"  
        android:textStyle="bold"  
        android:typeface="serif" />
```

```
    <EditText
```

```
        android:id="@+id/ageET"
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:inputType="number"
        android:maxLength="2"/>
    </LinearLayout>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="DOB : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <DatePicker
        android:id="@+id/dobDP"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:calendarViewShown="false"
        android:datePickerMode="spinner" />
</LinearLayout>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Gender : "
        android:textColor="@color/black"
        android:textSize="20sp"
```

```
        android:textStyle="bold"
        android:typeface="serif" />
```

```
<RadioGroup
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_weight="1"
    android:orientation="horizontal">

    <RadioButton
        android:id="@+id/maleRB"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Male" />

    <RadioButton
        android:id="@+id/femaleRB"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Female" />
```

```
</RadioGroup>
</LinearLayout>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">
```

```
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Martial Status : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />
```

```
    <Spinner
        android:id="@+id/martialSpinner"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```

        android:layout_gravity="center"
        android:layout_weight="1" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Contact Number : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <EditText
        android:id="@+id/contactET"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="1"
        android:inputType="phone"
        android:maxLength="10" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Reg. Time : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"

```

```

        android:typeface="serif" />

<TimePicker
    android:id="@+id/regTP"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:timePickerMode="spinner" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginVertical="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_weight="2"
        android:paddingVertical="10dp"
        android:text="Addiction : "
        android:textColor="@color/black"
        android:textSize="20sp"
        android:textStyle="bold"
        android:typeface="serif" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:orientation="horizontal">

        <CheckBox
            android:id="@+id/alcoholCB"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_weight="1"
            android:text="Alcohol" />

        <CheckBox
            android:id="@+id/smokingCB"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_weight="1"

```

```

        android:text="Smoking" />
    </LinearLayout>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:paddingTop="10dp">

    <Button
        android:id="@+id/submitBT"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="5dp"
        android:layout_weight="1"
        android:text="Submit" />

    <Button
        android:id="@+id/resetBT"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="5dp"
        android:layout_weight="1"
        android:text="Reset" />
    </LinearLayout>
</LinearLayout>
</ScrollView>

```

Mainactivity.java:

```

package com.example.ex1_hospital_registration;

import android.content.Intent;
import android.os.Build;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.Spinner;
import android.widget.TimePicker;
import android.widget.Toast;

```

```

import androidx.annotation.RequiresApi;
import androidx.appcompat.app.AppCompatActivity;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    Spinner martialSpinner;
    EditText nameET;
    EditText addressET;
    EditText ageET;
    DatePicker dobDP;
    RadioButton maleRB;
    RadioButton femaleRB;
    EditText contactET;
    TimePicker regTP;
    CheckBox alcoholCB;
    CheckBox smokingCB;
    Button submitBT;
    Button resetBT;
    UserData userdata;
    ArrayList<String> addiction;
    String martial;
    String gender;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        martialSpinner = findViewById(R.id.martialSpinner);
        nameET = findViewById(R.id.nameET);
        addressET = findViewById(R.id.addressET);
        ageET = findViewById(R.id.ageET);
        dobDP = findViewById(R.id.dobDP);
        maleRB = findViewById(R.id.maleRB);
        femaleRB = findViewById(R.id.femaleRB);
        contactET = findViewById(R.id.contactET);
        regTP = findViewById(R.id.regTP);
        alcoholCB = findViewById(R.id.alcoholCB);
        smokingCB = findViewById(R.id.smokingCB);
        submitBT = findViewById(R.id.submitBT);
        resetBT = findViewById(R.id.resetBT);

        addiction = new ArrayList<>();

        ArrayAdapter<CharSequence> adapter;

```

```

        adapter = ArrayAdapter.createFromResource(this,
R.array.martial_status, android.R.layout.simple_spinner_item);
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdo
wn_item);
        martialSpinner.setAdapter(adapter);
        martialSpinner.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> adapterView, View view,
int i, long l) {
                martial = adapterView.getItemAtPosition(i).toString();
            }

            @Override
            public void onNothingSelected(AdapterView<?> adapterView) {

            }
        });

        submitBT.setOnClickListener(new View.OnClickListener() {
            @RequiresApi(api = Build.VERSION_CODES.M)
            @Override
            public void onClick(View view) {
                if
(nameET.getText().length()!=0&&addressET.getText().length()!=0&&
ageET.getText().length()!=0&&(maleRB.isChecked()||fema
leRB.isChecked())&&
                contactET.getText().length()==10) {
                    if (maleRB.isChecked()) {
                        gender = new String("male");
                    }
                    if (femaleRB.isChecked()) {
                        gender = new String("female");
                    }
                    if (alcoholCB.isChecked()) {
                        addiction.add("Alcohol");
                    }
                    if (smokingCB.isChecked()) {
                        addiction.add("Smoking");
                    }
                    userdata = new UserData(nameET.getText().toString(),
                        addressET.getText().toString(),
                        Integer.parseInt(ageET.getText().toString()),
                        dobDP.getDayOfMonth() + "-" + dobDP.getMonth() +
                        "-" + dobDP.getYear(),
                        gender,
                        contactET.getText().toString(),
                        martial,

```



```

        regTP.getHour() + ":" + regTP.getMinute(),
        addiction);
//        Log.d("bug", userdata.toString());
        Intent data = new
Intent(MainActivity.this,DataViewActivity.class);
        data.putExtra("data",userdata);
        startActivity(data);
    }else{
        Toast.makeText(MainActivity.this, "Please fill all the
details correctly!", Toast.LENGTH_SHORT).show();
    }
}
});

resetBT.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        nameET.setText("");
        addressET.setText("");
        ageET.setText("");
        maleRB.setChecked(false);
        femaleRB.setChecked(false);
        contactET.setText("");
        alcoholCB.setChecked(false);
        smokingCB.setChecked(false);
    }
});
}

@Override
protected void onRestart() {
    super.onRestart();
    nameET.setText("");
    addressET.setText("");
    ageET.setText("");
    maleRB.setChecked(false);
    femaleRB.setChecked(false);
    contactET.setText("");
    alcoholCB.setChecked(false);
    smokingCB.setChecked(false);
    addiction.clear();
}
}

```

dataviewactivity.java:

```

package com.example.ex1_hospital_registration;

```

```

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class DataViewActivity extends AppCompatActivity {

    TextView nameTV;
    TextView addressTV;
    TextView ageTV;
    TextView dobTV;
    TextView genderTV;
    TextView martialTV;
    TextView contactTV;
    TextView regTV;
    TextView addictionTV;
    Button backBT;
    UserData userdata;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.table_view);
        nameTV=findViewById(R.id.nameTV);
        addressTV=findViewById(R.id.addressTV);
        ageTV=findViewById(R.id.ageTV);
        dobTV=findViewById(R.id.dobTV);
        genderTV=findViewById(R.id.genderTV);
        martialTV=findViewById(R.id.martialTV);
        contactTV=findViewById(R.id.contactTV);
        regTV=findViewById(R.id.regTV);
        addictionTV=findViewById(R.id.addictionTV);
        backBT=findViewById(R.id.backBT);

        Intent data = getIntent();
        userdata = (UserData) data.getSerializableExtra("data");
        nameTV.setText(userdata.getName());
        addressTV.setText(userdata.getAddress());
        ageTV.setText(String.valueOf(userdata.getAge()));
        dobTV.setText(userdata.getDob());
        genderTV.setText(userdata.getGender());
        martialTV.setText(userdata.getMartial());
        contactTV.setText(userdata.getContact());
        regTV.setText(userdata.getReg());
        if(userdata.getAddiction().size()==0){

```

```

        addictionTV.setText("None");
    }else {
        String addiction="";
        for(String i:userdata.getAddiction()){
            addiction+=i+", ";
        }
        addictionTV.setText(addiction);
    }
    backBT.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            finish();
        }
    });
}
}

```

useractivity.java:

```

package com.example.ex1_hospital_registration;

import java.io.Serializable;
import java.util.ArrayList;

public class UserData implements Serializable{
    private String name;
    private String address;
    private int age;
    private String dob;
    private String gender;
    private String martial;
    private String contact;
    private String reg;
    private ArrayList<String> addiction;

    public UserData(String name, String address, int age, String dob, String
gender, String martial, String contact, String reg, ArrayList<String>
addiction) {
        this.name = name;
        this.address = address;
        this.age = age;
        this.dob = dob;
        this.gender = gender;
        this.martial = martial;
        this.contact = contact;
        this.reg = reg;
        this.addiction = addiction;
    }
}

```

```
}

public String getName() {
    return name;
}

public void setName(String name) {
    this.name = name;
}

public String getAddress() {
    return address;
}

public void setAddress(String address) {
    this.address = address;
}

public int getAge() {
    return age;
}

public void setAge(int age) {
    this.age = age;
}

public String getDob() {
    return dob;
}

public void setDob(String dob) {
    this.dob = dob;
}

public String getGender() {
    return gender;
}

public void setGender(String gender) {
    this.gender = gender;
}

public String getMarital() {
    return marital;
}

public void setMarital(String marital) {
    this.marital = marital;
}
```

```

    }

    public String getContact() {
        return contact;
    }

    public void setContact(String contact) {
        this.contact = contact;
    }

    public String getReg() {
        return reg;
    }

    public void setReg(String reg) {
        this.reg = reg;
    }

    public ArrayList<String> getAddiction() {
        return addiction;
    }

    public void setAddiction(ArrayList<String> addiction) {
        this.addiction = addiction;
    }

    @Override
    public String toString() {
        return "UserData{" +
            "name='" + name + '\'' +
            ", address='" + address + '\'' +
            ", age=" + age +
            ", dob='" + dob + '\'' +
            ", gender='" + gender + '\'' +
            ", martial='" + martial + '\'' +
            ", contact='" + contact + '\'' +
            ", reg='" + reg + '\'' +
            ", addiction=" + addiction +
            '}';
    }
}

```

Outputs:

12:04

Hospital Registration

Name : ramesh

Address : no-3, adyar

Age : 25

DOB : Jun 22 1995
Jul 23 1996
Aug 24 1997

Gender : ☒ Male ☐ Female

Martial Status : Married

12:04

Aug 24 1997

Gender : ☒ Male ☐ Female

Martial Status : Married

Contact Number : 9999999999

10 46

Reg. Time : 11 : 47 AM
12 48 PM

Addiction : ☒ Alcohol ☐ Smoking

SUBMIT RESET

12:05

User Details

Name : ramesh

Address : no-3, adyar

Age : 25

DOB : 23-6-1996

Gender : male

Martial Status : 9999999999

Contact Number : Married

Reg. Time : 11:47

Addiction : Alcohol,

UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 2 Develop an application to simulate a keyboard

Date: 29/7/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Develop an application to simulate a keyboard

Code:

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">

    <TableLayout
        android:id="@+id/table"
        android:layout_width="match_parent"
        android:layout_height="250dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.461"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.983">

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

```
</TableRow>
```

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

```
<Button
```

```
android:id="@+id/num"
android:layout_width="0dp"
android:layout_height="60dp"
android:layout_marginLeft="1dp"
android:layout_marginRight="1dp"
android:layout_weight="2"
android:text="123"
android:textAllCaps="false"
tools:ignore="TouchTargetSizeCheck" />
```

```
<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/space"
    android:layout_width="0dp"
    android:layout_height="60dp"
    android:layout_marginLeft="1dp"
    android:layout_marginRight="1dp"
    android:layout_weight="4"
    android:text="Space"
    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="Enter"
        android:textAllCaps="false"
        tools:ignore="TouchTargetSizeCheck" />
    </TableRow>
</TableLayout>

<EditText
    android:id="@+id/type_here"
    android:layout_width="333dp"
    android:layout_height="100dp"
    android:ems="10"
    android:gravity="start|top"
    android:inputType="textMultiLine"
    android:hint="Type here"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.212" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity_main.java:

```

package com.example.ex2_keyboard;

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

import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.TableLayout;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    int cap_count=0;
    int num_count=0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```



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

TableLayout table= findViewById(R.id.table);
table.setVisibility(View.INVISIBLE);
TextView type_here= findViewById(R.id.type_here);
type_here.setShowSoftInputOnFocus(false);
type_here.setCursorVisible(false);
type_here.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        table.setVisibility(View.VISIBLE);
    }
});
type_here.setOnFocusChangeListener(new View.OnFocusChangeListener() {
    @Override
    public void onFocusChange(View v, boolean hasFocus) {
        if (hasFocus)
            table.setVisibility(View.VISIBLE);
        else
            table.setVisibility(View.INVISIBLE);
    }
});

Button q= findViewById(R.id.q);
q.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=q.getText().toString();
        type_here.setText(txt);
    }
});

Button w= findViewById(R.id.w);
w.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=w.getText().toString();
        type_here.setText(txt);
    }
});

Button e= findViewById(R.id.e);
e.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
```

```

        txt+=e.getText().toString();
        type_here.setText(txt);
    }
});

Button r= findViewById(R.id.r);
r.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=r.getText().toString();
        type_here.setText(txt);
    }
});

Button t= findViewById(R.id.t);
t.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=t.getText().toString();
        type_here.setText(txt);
    }
});

Button y= findViewById(R.id.y);
y.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=y.getText().toString();
        type_here.setText(txt);
    }
});

Button u= findViewById(R.id.u);
u.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=u.getText().toString();
        type_here.setText(txt);
    }
});

Button i= findViewById(R.id.i);
i.setOnClickListener(new View.OnClickListener() {
    @Override

```

```

        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=i.getText().toString();
            type_here.setText(txt);
        }
    });

    Button o= findViewById(R.id.o);
    o.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=o.getText().toString();
            type_here.setText(txt);
        }
    });

    Button p= findViewById(R.id.p);
    p.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=p.getText().toString();
            type_here.setText(txt);
        }
    });

    Button a= findViewById(R.id.a);
    a.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=a.getText().toString();
            type_here.setText(txt);
        }
    });

    Button s= findViewById(R.id.s);
    s.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String txt=type_here.getText().toString();
            txt+=s.getText().toString();
            type_here.setText(txt);
        }
    });

    Button d= findViewById(R.id.d);

```

```
d.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=d.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button f= findViewById(R.id.f);
f.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=f.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button g= findViewById(R.id.g);
g.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=g.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button h= findViewById(R.id.h);
h.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=h.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button j= findViewById(R.id.j);
j.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=j.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button k= findViewById(R.id.k);
k.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=k.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button l= findViewById(R.id.l);
l.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=l.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button z= findViewById(R.id.z);
z.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=z.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button x= findViewById(R.id.x);
x.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=x.getText().toString();
        type_here.setText(txt);
    }
});
```

```
Button c= findViewById(R.id.c);
c.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=c.getText().toString();
        type_here.setText(txt);
    }
});
```

```

    }
});

Button v= findViewById(R.id.v);
v.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View w) {
        String txt=type_here.getText().toString();
        txt+=v.getText().toString();
        type_here.setText(txt);
    }
});

Button b= findViewById(R.id.b);
b.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=b.getText().toString();
        type_here.setText(txt);
    }
});

Button n= findViewById(R.id.n);
n.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=n.getText().toString();
        type_here.setText(txt);
    }
});

Button m= findViewById(R.id.m);
m.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=m.getText().toString();
        type_here.setText(txt);
    }
});

Button space= findViewById(R.id.space);
space.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();

```

```

        txt+=" ";
        type_here.setText(txt);
    }
});

Button enter= findViewById(R.id.enter);
enter.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+="\n";
        type_here.setText(txt);
    }
});

Button comma= findViewById(R.id.comma);
comma.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=",";
        type_here.setText(txt);
    }
});

Button period= findViewById(R.id.period);
period.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String txt=type_here.getText().toString();
        txt+=".";
        type_here.setText(txt);
    }
});

Button clr= findViewById(R.id.clr);
clr.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if(!TextUtils.isEmpty(type_here.getText())) {
            String txt = type_here.getText().toString();
            txt = txt.substring(0, txt.length() - 1);
            type_here.setText(txt);
        }
    }
});

Button cap= findViewById(R.id.cap);

```

```
cap.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View vi) {  
        cap_count+=1;  
        if (cap_count%2==0) {  
            q.setText("q");  
            w.setText("w");  
            e.setText("e");  
            r.setText("r");  
            t.setText("t");  
            y.setText("y");  
            u.setText("u");  
            i.setText("i");  
            o.setText("o");  
            p.setText("p");  
            a.setText("a");  
            s.setText("s");  
            d.setText("d");  
            f.setText("f");  
            g.setText("g");  
            h.setText("h");  
            j.setText("j");  
            k.setText("k");  
            l.setText("l");  
            z.setText("z");  
            x.setText("x");  
            c.setText("c");  
            v.setText("v");  
            b.setText("b");  
            n.setText("n");  
            m.setText("m");  
  
        }  
        else{  
            q.setText("Q");  
            w.setText("W");  
            e.setText("E");  
            r.setText("R");  
            t.setText("T");  
            y.setText("Y");  
            u.setText("U");  
            i.setText("I");  
            o.setText("O");  
            p.setText("P");  
            a.setText("A");  
            s.setText("S");  
            d.setText("D");  
            f.setText("F");  
        }  
    }  
});
```



```

        g.setText("G");
        h.setText("H");
        j.setText("J");
        k.setText("K");
        l.setText("L");
        z.setText("Z");
        x.setText("X");
        c.setText("C");
        v.setText("V");
        b.setText("B");
        n.setText("N");
        m.setText("M");
    }
}
});

Button num= findViewById(R.id.num);
num.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View vi) {
        num_count+=1;
        if (num_count%2==0) {
            q.setText("q");
            w.setText("w");
            e.setText("e");
            r.setText("r");
            t.setText("t");
            y.setText("y");
            u.setText("u");
            i.setText("i");
            o.setText("o");
            p.setText("p");
            a.setText("a");
            s.setText("s");
            d.setText("d");
            f.setText("f");
            g.setText("g");
            h.setText("h");
            j.setText("j");
            k.setText("k");
            l.setText("l");
            z.setText("z");
            x.setText("x");
            c.setText("c");
            v.setText("v");
            b.setText("b");
            n.setText("n");
            m.setText("m");
        }
    }
});

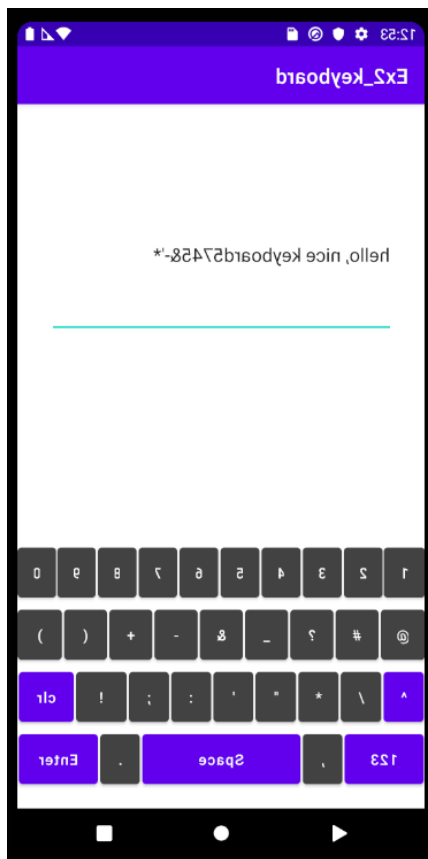
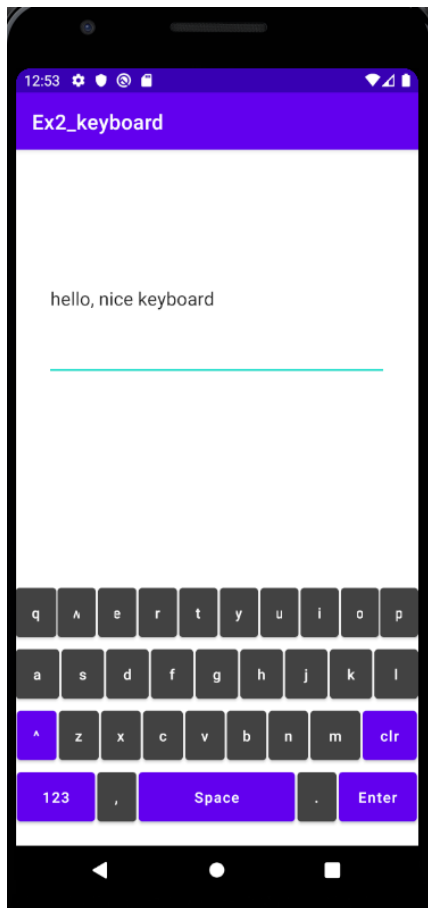
```

```

    }
    else{
        q.setText("1");
        w.setText("2");
        e.setText("3");
        r.setText("4");
        t.setText("5");
        y.setText("6");
        u.setText("7");
        i.setText("8");
        o.setText("9");
        p.setText("0");
        a.setText("@");
        s.setText("#");
        d.setText("?");
        f.setText("_");
        g.setText("&");
        h.setText("-");
        j.setText("+");
        k.setText("(");
        l.setText(")");
        z.setText("/");
        x.setText("*");
        c.setText("\");
        v.setText("'");
        b.setText(":");
        n.setText(";");
        m.setText("!");
    }
}
});
}
}

```

Outputs:



UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 3 Create an application that uses graphical primitives

Date: 12/8/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Create an application that uses graphical primitives

Code:

MainActivity.java:

```
package com.example.graphics;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
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);

        Button bt_zoom=findViewById(R.id.bt_zoom);
        Button bt_fade=findViewById(R.id.bt_fade);
        Button bt_rotate=findViewById(R.id.bt_rotate);
        Button bt_down=findViewById(R.id.bt_down);
        Button bt_up=findViewById(R.id.bt_up);
        Button bt_forward=findViewById(R.id.bt_forward);
        Button bt_backward=findViewById(R.id.bt_backward);
        final ImageView iv_animate=findViewById(R.id.iv_animate);

        bt_zoom.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplicationContext(),R.anim.zoom_in));
            }
        })
    }
}
```

```

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

            iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplic
icationContext(),R.anim.fade_in));
        }
    });
    bt_rotate.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplic
icationContext(),R.anim.rotate_in));
        }
    });
    bt_up.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            iv_animate.animate().translationYBy(-300f).setDuration(600);
        }
    });
    bt_down.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            iv_animate.animate().translationYBy(300f).setDuration(600);
        }
    });
    bt_forward.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            iv_animate.animate().translationXBy(300f).setDuration(600);
        }
    });
    bt_backward.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            iv_animate.animate().translationXBy(-300f).setDuration(600);
        }
    });

}

public void nextPage(View view) {
    Intent intent = new Intent(this, ShapesActivity.class);
    startActivity(intent);
}

```

```
}
```

ShapeActivity.java:

```
package com.example.graphics;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.widget.ImageView;

public class ShapesActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_shapes);

        Intent intent = getIntent();

        Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);
        ImageView i = (ImageView) findViewById(R.id.imageView);

        i.setBackgroundDrawable(new BitmapDrawable(bg));
        Canvas canvas = new Canvas(bg);
        Paint paint = new Paint();
        paint.setColor(Color.RED);
        paint.setTextSize(50);

        //To draw a Rectangle
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);

        //To draw a Circle
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);

        //To draw an arc
        canvas.drawText("Arc", 120, 800, paint);
        canvas.drawArc(50, 850, 350, 1150, 135, 120, true, paint);

        //To draw a Line
```

```

        canvas.drawText("Line", 480, 800, paint);
        canvas.drawLine(520, 850, 520, 1150, paint);

    }
}

```

mainactivity.xml:

```

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

<!--    <TextView-->
<!--        android:layout_width="wrap_content"-->
<!--        android:layout_height="wrap_content"-->
<!--        android:text="Hello World!"-->
<!--        app:layout_constraintBottom_toBottomOf="parent"-->
<!--        app:layout_constraintLeft_toLeftOf="parent"-->
<!--        app:layout_constraintRight_toRightOf="parent"-->
<!--        app:layout_constraintTop_toTopOf="parent" />-->

<!--</androidx.constraintlayout.widget.ConstraintLayout>-->

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

    <Button
        android:id="@+id/bt_fade"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginStart="161dp"
        android:layout_marginLeft="161dp"

```

```
    android:layout_marginTop="198dp"
    android:text="Fade" />
```

<Button

```
    android:id="@+id/bt_rotate"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentTop="true"
    android:layout_marginStart="278dp"
    android:layout_marginLeft="278dp"
    android:layout_marginTop="195dp"
    android:text="Rotate" />
```

<Button

```
    android:id="@+id/bt_down"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="127dp"
    android:text="Down" />
```

<Button

```
    android:id="@+id/bt_zoom"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentTop="true"
    android:layout_marginStart="46dp"
    android:layout_marginLeft="46dp"
    android:layout_marginTop="200dp"
    android:text="Zoom" />
```

<Button

```
    android:id="@+id/bt_up"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/bt_zoom"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="-238dp"
    android:layout_marginEnd="163dp"
    android:layout_marginRight="163dp"
    android:text="Up" />
```



```
<Button
    android:id="@+id/bt_forward"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/bt_up"
    android:layout_alignParentStart="true"
    android:layout_marginStart="216dp"
    android:layout_marginTop="4dp"
    android:text="Forward" />
```

```
<Button
    android:id="@+id/bt_backward"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/bt_forward"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_marginStart="74dp"
    android:layout_marginLeft="74dp"
    android:layout_marginTop="-46dp"
    android:text="Backward" />
```

```
<ImageView
    android:id="@+id/iv_animate"
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_below="@+id/bt_backward"
    android:layout_centerInParent="true"
    android:layout_marginLeft="30dp"
    android:layout_marginTop="214dp"
    android:layout_marginRight="30dp"
    android:background="@drawable/car" />
```

```
<Button
    android:id="@+id/bt_next"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="69dp"
    android:layout_marginRight="69dp"
    android:layout_marginBottom="60dp"
    android:onClick="nextPage"
    android:text="Next" />
```

```
</RelativeLayout>
```

Shapeactivity.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=".ShapesActivity">-->

<!--</androidx.constraintlayout.widget.ConstraintLayout>-->
<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">
    <ImageView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/imageView"/>
</RelativeLayout>
```

Fade_in.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:duration="2000"/>
</set>
```

Zoom_in.xml:

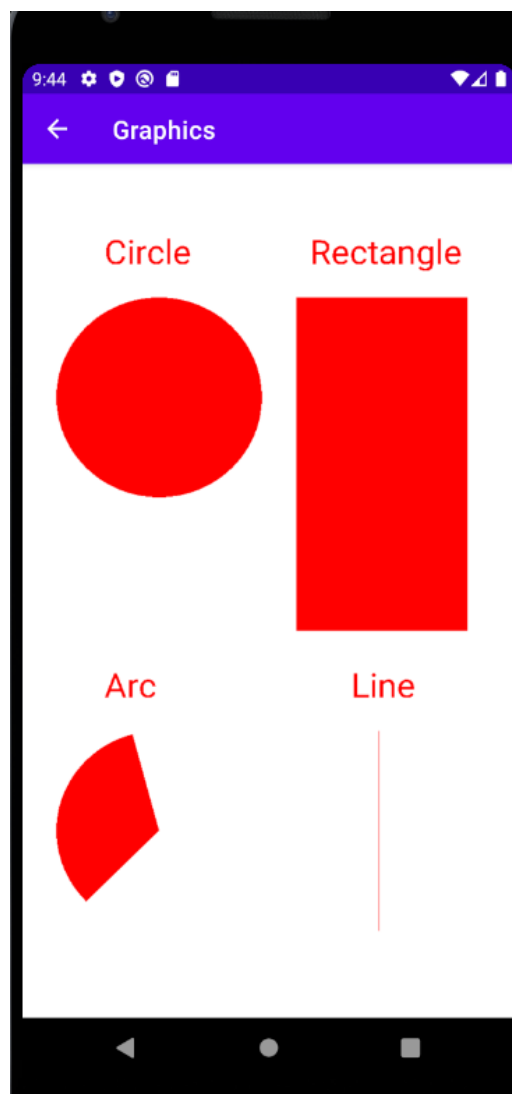
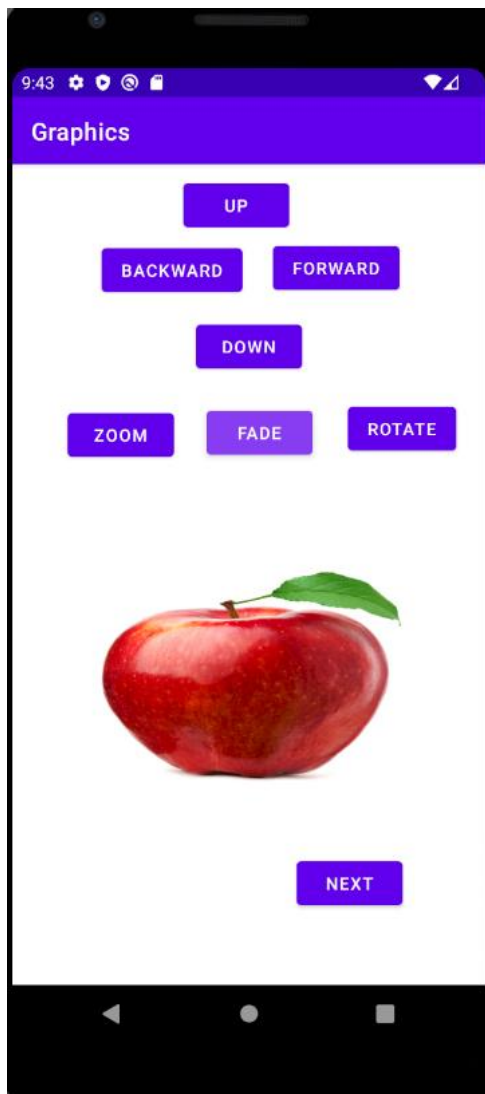
```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <scale xmlns:android="http://schemas.android.com/apk/res/android"
        android:fromXScale="0.5"
        android:fromYScale="0.5"
        android:toXScale="1.0"
        android:toYScale="1.0"
        android:duration="3000"
        android:pivotX="50%"
        android:pivotY="50%"/>
</set>
```

</set>

Rotate_in.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <rotate
        android:fromDegrees="0"
        android:toDegrees="360"
        android:pivotX="50%"
        android:pivotY="50%"
        android:duration="1000" />
</set>
```

OUTPUTS:



UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 4 Develop an application that makes use of databases

Date: 27/8/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Develop an application that makes use of databases

Code:

Dbhelper.java:

```
package com.example.database;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.widget.Toast;

public class DBHelper extends SQLiteOpenHelper {

    private static final String DB_NAME = "employee_db";

    private static final int DB_VERSION = 1;

    private static final String TABLE_NAME = "employee";

    private static final String EMP_CODE = "code";

    private static final String EMP_NAME = "name";

    private static final String GENDER = "gender";

    private static final String DEPARTMENT = "department";

    private static final String SALARY = "salary";

    public DBHelper(Context context) {
        super(context, DB_NAME, null, DB_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        // on below line we are creating
```

```

        // an sqlite query and we are
        // setting our column names
        // along with their data types.
        String query = "CREATE TABLE IF NOT EXISTS " + TABLE_NAME + " ("
            + EMP_CODE + " TEXT PRIMARY KEY, "
            + EMP_NAME + " TEXT,"
            + GENDER + " TEXT,"
            + DEPARTMENT + " TEXT,"
            + SALARY + " TEXT)";

        // at last we are calling a exec sql
        // method to execute above sql query
        db.execSQL(query);
    }

    public void insertEmployee(String code, String name, String gender, String
dept, String salary) {

        SQLiteDatabase db = this.getWritableDatabase();

        ContentValues values = new ContentValues();

        values.put(EMP_CODE, code);
        values.put(EMP_NAME, name);
        values.put(GENDER, gender);
        values.put(DEPARTMENT, dept);
        values.put(SALARY, salary);

        db.insertOrThrow(TABLE_NAME, null, values);

        //      db.close();
    }

    public void updateEmployee(String code, String name, String gender, String
dept, String salary){
        SQLiteDatabase db = this.getWritableDatabase();

        ContentValues values = new ContentValues();

        values.put(EMP_NAME, name);
        values.put(GENDER, gender);
        values.put(DEPARTMENT, dept);
        values.put(SALARY, salary);

        db.update(TABLE_NAME, values, "code = ?", new String[]{code});

        //      db.close();
    }

```

```

        public void deleteEmployee(String code){
            SQLiteDatabase db = this.getWritableDatabase();

            db.delete(TABLE_NAME, "code = ?", new String[]{code});

            //        db.close();
        }

        public String[] retrieveEmployee(String code){
            SQLiteDatabase db = this.getReadableDatabase();
            String[] vals = new String[4];
            //        Cursor cursor = db.query( TABLE_NAME , new String [] { EMP_NAME ,
            GENDER , DEPARTMENT , SALARY } , "code = ?" , new String [] {code} ,
            //        null , null , null );
            Cursor cursor = db.rawQuery("SELECT * FROM "+TABLE_NAME+" WHERE code =
            '"+code+"'",null);

            if(cursor.moveToNext()){
            //        Toast.makeText(DBHelper.class, cursor.toString(),
            Toast.LENGTH_LONG).show();
                vals[0] = cursor.getString(1);
                vals[1] = cursor.getString(2);
                vals[2] = cursor.getString(3);
                vals[3] = cursor.getString(4);
                return vals;
            }
            else{
                return null;
            }

            //        db.close();
        }

        @Override
        public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
            // this method is called to check if the table exists already.
            db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);
            onCreate(db);
        }
    }
}

```

mainactivity.java:

```

package com.example.database;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

```

```

import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;

import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    private DBHelper dbHelper;
    private Button btn_create, btn_insert, btn_update, btn_delete,
    btn_retrieve;

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

        btn_create = findViewById(R.id.btn_create);
        btn_insert = findViewById(R.id.btn_insert);
        btn_update = findViewById(R.id.btn_update);
        btn_delete = findViewById(R.id.btn_delete);
        btn_retrieve = findViewById(R.id.btn_retrieve);

        btn_create.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                dbHelper = new DBHelper(MainActivity.this);

                AlertDialog.Builder builder1 = new
AlertDialog.Builder(MainActivity.this);
                builder1.setMessage("Table has been created");
                builder1.setCancelable(true);

                builder1.setPositiveButton(
                    "OK",
                    new DialogInterface.OnClickListener() {
                        public void onClick(DialogInterface dialog, int
id) {
                            dialog.cancel();
                        }
                    });
                AlertDialog alert11 = builder1.create();
                alert11.show();
            }
        });

        btn_insert.setOnClickListener(new View.OnClickListener() {

```

```

        @Override
        public void onClick(View v) {
            Intent intent = new Intent(MainActivity.this,
InsertActivity.class);
            startActivity(intent);
        }
    });

    btn_update.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new Intent(MainActivity.this,
UpdateActivity.class);
            startActivity(intent);
        }
    });

    btn_delete.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new Intent(MainActivity.this,
DeleteActivity.class);
            startActivity(intent);
        }
    });

    btn_retrieve.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new Intent(MainActivity.this,
RetrieveActivity.class);
            startActivity(intent);
        }
    });
}
}

```

insertactivity.java:

```

package com.example.database;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.content.DialogInterface;
import android.content.Intent;
import android.database.sqlite.SQLiteException;
import android.os.Bundle;

```



```

import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.Spinner;
import android.widget.Toast;

public class InsertActivity extends AppCompatActivity {

    EditText code, name, salary;
    RadioButton male, female, other;
    Spinner spin;
    Button insert;
    private DBHelper dbHelper;

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

        Intent intent = getIntent();

        code = findViewById(R.id.empcode_upd);
        name = findViewById(R.id.empname_upd);
        salary = findViewById(R.id.empsalary_upd);
        male = findViewById(R.id.radioButtonMale);
        female = findViewById(R.id.radioButtonFemale);
        other = findViewById(R.id.radioButtonOther);
        spin = findViewById(R.id.spinner);
        insert = findViewById(R.id.button_search);

        male.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                female.setChecked(false);
                other.setChecked(false);
            }
        });
        female.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                male.setChecked(false);
                other.setChecked(false);
            }
        });
        other.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

        male.setChecked(false);
        female.setChecked(false);
    }
});

insert.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String empcode = code.getText().toString();
        String empname = name.getText().toString();
        String gender;
        if (male.isChecked()) {
            gender = male.getText().toString();
        } else if (female.isChecked()) {
            gender = female.getText().toString();
        } else {
            gender = other.getText().toString();
        }
        String dept = spin.getSelectedItem().toString();
        String sal = salary.getText().toString();

        if (empname.length() == 0) {
            name.requestFocus();
            name.setError("Cant be empty");
        } else if (!empname.matches("[a-zA-Z ]+")) {
            name.requestFocus();
            name.setError("Only alphabets");
        } else if (empcode.length() == 0) {
            code.requestFocus();
            code.setError("Cant be empty");
        } else if (!empcode.matches("[a-zA-Z0-9 ]+")) {
            code.requestFocus();
            code.setError("Only alphanumeric");
        } else if (sal.length() == 0) {
            code.requestFocus();
            code.setError("Cant be empty");
        } else if (!sal.matches("[0-9. ]+")) {
            code.requestFocus();
            code.setError("Only alphanumeric");
        } else {
            DBHelper = new DBHelper(InsertActivity.this);
            try {
                DBHelper.insertEmployee(empcode, empname, gender,
dept, sal);

                AlertDialog.Builder builder1 = new
AlertDialog.Builder(InsertActivity.this);
                builder1.setMessage("Record inserted");
            }
        }
    }
});

```

```

        builder1.setCancelable(true);

        builder1.setPositiveButton(
            "OK",
            new DialogInterface.OnClickListener() {
                public void onClick(DialogInterface
dialog, int id) {
                    dialog.cancel();
                }
            });
        AlertDialog alert11 = builder1.create();
        alert11.show();

        code.setText("");
        name.setText("");
        male.setChecked(false);female.setChecked(false);other.
setChecked(false);

        spin.setSelection(0);
        salary.setText("");
    }
    catch(SQLiteException e){
        Toast.makeText(InsertActivity.this,e.toString(),
Toast.LENGTH_LONG).show();
    }

    }
    });
}
}

```

deleteactivity.java:

```

package com.example.database;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.content.DialogInterface;
import android.content.Intent;
import android.database.sqlite.SQLiteException;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class DeleteActivity extends AppCompatActivity {

```

```

EditText code;
Button delete;
private DBHelper dbHelper;

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

    Intent intent = getIntent();

    code = findViewById(R.id.empcode_upd);
    delete = findViewById(R.id.button_search);

    delete.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String empcode = code.getText().toString();

            if (empcode.length() == 0) {
                code.requestFocus();
                code.setError("Cant be empty");
            } else if (!empcode.matches("[a-zA-Z0-9 ]+")) {
                code.requestFocus();
                code.setError("Only alphanumeric");
            }

            dbHelper = new DBHelper(DeleteActivity.this);
            try{
                dbHelper.deleteEmployee(empcode);

                AlertDialog.Builder builder1 = new
AlertDialog.Builder(DeleteActivity.this);
                builder1.setMessage("Record deleted");
                builder1.setCancelable(true);

                builder1.setPositiveButton(
                    "OK",
                    new DialogInterface.OnClickListener() {
                        public void onClick(DialogInterface dialog,
int id) {

                            dialog.cancel();
                        }
                    });
                AlertDialog alert11 = builder1.create();
                alert11.show();
                code.setText("");

```

```

        }
        catch(SQLiteException e){
            Toast.makeText(DeleteActivity.this,e.toString(),
Toast.LENGTH_LONG).show();
        }
    }
});
}
}

```

updateactivity.java:

```

package com.example.database;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.content.DialogInterface;
import android.content.Intent;
import android.database.sqlite.SQLiteException;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.Spinner;
import android.widget.Toast;

public class UpdateActivity extends AppCompatActivity {

    EditText code, name, salary;
    RadioButton male, female, other;
    Spinner spin;
    Button insert;
    private DBHelper dbHelper;

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

        Intent intent = getIntent();

        code = findViewById(R.id.empcode_upd);
        name = findViewById(R.id.empname_upd);
        salary = findViewById(R.id.empsalary_upd);
        male = findViewById(R.id.radioButtonMale);
        female = findViewById(R.id.radioButtonFemale);
        other = findViewById(R.id.radioButtonOther);
    }
}

```

```

spin = findViewById(R.id.spinner);
insert = findViewById(R.id.button_search);

male.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        female.setChecked(false);
        other.setChecked(false);
    }
});
female.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        male.setChecked(false);
        other.setChecked(false);
    }
});
other.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        male.setChecked(false);
        female.setChecked(false);
    }
});

insert.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String empcode = code.getText().toString();
        String empname = name.getText().toString();
        String gender;
        if (male.isChecked()) {
            gender = male.getText().toString();
        } else if (female.isChecked()) {
            gender = female.getText().toString();
        } else {
            gender = other.getText().toString();
        }
        String dept = spin.getSelectedItem().toString();
        String sal = salary.getText().toString();

        if (empname.length() == 0) {
            name.requestFocus();
            name.setError("Cant be empty");
        } else if (!empname.matches("[a-zA-Z ]+")) {
            name.requestFocus();
            name.setError("Only alphanumeric");
        } else if (empcode.length() == 0) {

```

```

        code.requestFocus();
        code.setError("Cant be empty");
    } else if (!empcode.matches("[a-zA-Z0-9 ]+")) {
        code.requestFocus();
        code.setError("Only alphanumeric");
    } else if (sal.length() == 0) {
        code.requestFocus();
        code.setError("Cant be empty");
    } else if (!sal.matches("[0-9. ]+")) {
        code.requestFocus();
        code.setError("Only alphanumeric");
    } else {
        try{
            dbHelper = new DBHelper(UpdateActivity.this);
            dbHelper.updateEmployee(empcode, empname, gender,
dept, sal);

            AlertDialog.Builder builder1 = new
AlertDialog.Builder(UpdateActivity.this);
            builder1.setMessage("Record updated");
            builder1.setCancelable(true);

            builder1.setPositiveButton(
                "OK",
                new DialogInterface.OnClickListener() {
                    public void onClick(DialogInterface
dialog, int id) {

                        dialog.cancel();
                    }
                });
            AlertDialog alert11 = builder1.create();
            alert11.show();

            code.setText("");
            name.setText("");
            male.setChecked(false);female.setChecked(false);other.
setChecked(false);

            spin.setSelection(0);
            salary.setText("");
        }
        catch (SQLException e){
            Toast.makeText(UpdateActivity.this,e.toString(),
Toast.LENGTH_LONG).show();
        }
    }
}
});

```

```
}  
}
```

retreiveactivity.java:

```
package com.example.database;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteException;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class RetrieveActivity extends AppCompatActivity {  
  
    EditText code;  
    TextView name, gender, dept, salary;  
    Button search;  
    private DBHelper dbHelper;  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_retrieve);  
  
        Intent intent = getIntent();  
  
        code = findViewById(R.id.empcode_upd);  
        search = findViewById(R.id.button_search);  
  
        name = findViewById(R.id.empname_display);  
        gender = findViewById(R.id.gender_display);  
        dept = findViewById(R.id.dept_display);  
        salary = findViewById(R.id.salary_display);  
  
        search.setOnClickListener(new View.OnClickListener() {  
            @Override  
            public void onClick(View v) {  
                String empcode = code.getText().toString();  
  
                if (empcode.length() == 0) {  
                    code.requestFocus();  
                    code.setError("Cant be empty");  
                } else if (!empcode.matches("[a-zA-Z0-9 ]+")) {
```



```

        code.requestFocus();
        code.setError("Only alphanumeric");
    }

    dbHelper = new DBHelper(RetrieveActivity.this);

    String[] vals = dbHelper.retrieveEmployee(empcode);
    //      Cursor c = dbHelper.retrieveEmployee(empcode);
    //      if(c.moveToNext()){
    //          name.setText(c.getString(0));
    //      }
    if(vals == null) {
        Toast.makeText(RetrieveActivity.this, "Nothing found",
Toast.LENGTH_LONG).show();
        return;
    }
    else {
        String empname = vals[0];
        String sex = vals[1];
        String department = vals[2];
        String sal = vals[3];

        name.setText(empname);
        gender.setText(sex);
        dept.setText(department);
        salary.setText(sal);

        code.setText("");
    }
    }
});
}
}

```

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/btn_insert"
        android:layout_width="137dp"

```

```
    android:layout_height="50dp"
    android:layout_marginStart="44dp"
    android:layout_marginLeft="44dp"
    android:layout_marginTop="212dp"
    android:text="INSERT"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />
```

<Button

```
    android:id="@+id/btn_update"
    android:layout_width="137dp"
    android:layout_height="50dp"
    android:layout_marginStart="204dp"
    android:layout_marginLeft="204dp"
    android:layout_marginTop="212dp"
    android:text="UPDATE"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />
```

<Button

```
    android:id="@+id/btn_delete"
    android:layout_width="137dp"
    android:layout_height="50dp"
    android:layout_marginStart="44dp"
    android:layout_marginLeft="44dp"
    android:layout_marginTop="308dp"
    android:text="DELETE"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />
```

<Button

```
    android:id="@+id/btn_retrieve"
    android:layout_width="137dp"
    android:layout_height="50dp"
    android:layout_marginStart="204dp"
    android:layout_marginLeft="204dp"
    android:layout_marginTop="308dp"
    android:text="RETRIEVE"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />
```

<TextView

```
    android:id="@+id/textView"
    android:layout_width="221dp"
    android:layout_height="45dp"
    android:text="Employee Database"
    android:textAppearance="@style/TextAppearance.AppCompat.Large"
    android:textSize="24sp"
```

```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.449"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.084" />

```

<Button

```

    android:id="@+id/btn_create"
    android:layout_width="137dp"
    android:layout_height="50dp"
    android:layout_marginStart="124dp"
    android:layout_marginLeft="124dp"
    android:layout_marginTop="104dp"
    android:text="CREATE"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />

```

</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"
    app:layout_constraintTop_toTopOf="parent"
    tools:context=".MainActivity">

    <RadioButton
        android:id="@+id/radioButtonOther"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="4dp"
        android:layout_marginLeft="4dp"
        android:layout_marginTop="216dp"
        android:text="Other"
        app:layout_constraintStart_toEndOf="@+id/radioButtonFemale"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/textView10"
        android:layout_width="87dp"
        android:layout_height="45dp"
        android:layout_marginStart="40dp"
        android:layout_marginLeft="40dp"

```

```
    android:layout_marginTop="360dp"
    android:text="Salary"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
    android:id="@+id/textView7"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="40dp"
    android:layout_marginLeft="40dp"
    android:layout_marginTop="288dp"
    android:text="Department"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
    android:id="@+id/textView6"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="40dp"
    android:layout_marginLeft="40dp"
    android:layout_marginTop="220dp"
    android:text="Gender"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
    android:id="@+id/textView3"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="36dp"
    android:layout_marginLeft="36dp"
    android:layout_marginTop="144dp"
    android:text="Employee Name"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<androidx.appcompat.widget.Toolbar

```
    android:id="@+id/toolbar"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="?attr/colorPrimary"
    app:layout_anchor="@+id/toolbar"
    app:layout_anchorGravity="center"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="0dp" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="36dp"
    android:layout_marginLeft="36dp"
    android:layout_marginTop="80dp"
    android:text="Employee Code"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/empcode_upd"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginLeft="24dp"
    android:layout_marginTop="25dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/textView"
    app:layout_constraintTop_toBottomOf="@+id/toolbar" />
```

```
<TextView
    android:id="@+id/textView4"
    android:layout_width="410dp"
    android:layout_height="54dp"
    android:fontFamily="sans-serif-condensed-medium"
    android:gravity="center"
    android:text="Insert Page"
    android:textAppearance="@style/TextAppearance.AppCompat.Body1"
    android:textSize="20sp"
    app:autoSizeTextType="uniform"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="1dp" />
```

```
<Spinner
    android:id="@+id/spinner"
    android:layout_width="208dp"
    android:layout_height="31dp"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="288dp"
    android:entries="@array/department"
    app:layout_constraintStart_toEndOf="@+id/textView7"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
```

```
android:id="@+id/empsalary_upd"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="20dp"
android:layout_marginLeft="20dp"
android:layout_marginTop="364dp"
android:ems="10"
android:inputType="time"
app:layout_constraintStart_toEndOf="@+id/textView10"
app:layout_constraintTop_toTopOf="parent" />
```

<Button

```
android:id="@+id/button_search"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="144dp"
android:layout_marginLeft="144dp"
android:layout_marginTop="464dp"
android:onClick="submitFields"
android:text="Insert"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
android:id="@+id/empname_upd"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="24dp"
android:layout_marginLeft="24dp"
android:layout_marginTop="144dp"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintStart_toEndOf="@+id/textView3"
app:layout_constraintTop_toTopOf="parent" />
```

<RadioButton

```
android:id="@+id/radioButtonMale"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="20dp"
android:layout_marginLeft="20dp"
android:layout_marginTop="216dp"
android:text="Male"
app:layout_constraintStart_toEndOf="@+id/textView6"
app:layout_constraintTop_toTopOf="@+id/toolbar" />
```

<RadioButton

```
android:id="@+id/radioButtonFemale"
```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginTop="216dp"
        android:text="Female"
        app:layout_constraintStart_toEndOf="@+id/radioButtonMale"
        app:layout_constraintTop_toTopOf="parent" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity_delete.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"
    app:layout_constraintTop_toTopOf="parent"
    tools:context=".MainActivity">

    <androidx.appcompat.widget.Toolbar
        android:id="@+id/toolbar"
        android:layout_width="match_parent"
        android:layout_height="?attr/actionBarSize"
        android:background="?attr/colorPrimary"
        app:layout_anchor="@+id/toolbar"
        app:layout_anchorGravity="center"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="0dp" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="87dp"
        android:layout_height="45dp"
        android:layout_marginStart="36dp"
        android:layout_marginLeft="36dp"
        android:layout_marginTop="80dp"
        android:text="Employee Code"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

```

```

        android:layout_marginStart="24dp"
        android:layout_marginLeft="24dp"
        android:layout_marginTop="25dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintStart_toEndOf="@+id/textView"
        app:layout_constraintTop_toBottomOf="@+id/toolbar" />

```

```
<TextView
```

```

        android:id="@+id/textView4"
        android:layout_width="410dp"
        android:layout_height="54dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:gravity="center"
        android:text="Delete Page"
        android:textAppearance="@style/TextAppearance.AppCompat.Body1"
        android:textSize="20sp"
        app:autoSizeTextType="uniform"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="1dp" />

```

```
<Button
```

```

        android:id="@+id/button_search"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="128dp"
        android:layout_marginLeft="128dp"
        android:layout_marginTop="184dp"
        android:text="Delete"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

```

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

Activity_update.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"
    app:layout_constraintTop_toTopOf="parent"
    tools:context=".MainActivity">

    <RadioButton
        android:id="@+id/radioButtonOther"

```



```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="4dp"
android:layout_marginLeft="4dp"
android:layout_marginTop="216dp"
android:text="Other"
app:layout_constraintStart_toEndOf="@+id/radioButtonFemale"
app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
android:id="@+id/textView10"
android:layout_width="87dp"
android:layout_height="45dp"
android:layout_marginStart="40dp"
android:layout_marginLeft="40dp"
android:layout_marginTop="360dp"
android:text="Salary"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
android:id="@+id/textView7"
android:layout_width="87dp"
android:layout_height="45dp"
android:layout_marginStart="40dp"
android:layout_marginLeft="40dp"
android:layout_marginTop="288dp"
android:text="Department"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
android:id="@+id/textView6"
android:layout_width="87dp"
android:layout_height="45dp"
android:layout_marginStart="40dp"
android:layout_marginLeft="40dp"
android:layout_marginTop="220dp"
android:text="Gender"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

<TextView

```
android:id="@+id/textView3"
android:layout_width="87dp"
android:layout_height="45dp"
android:layout_marginStart="36dp"
android:layout_marginLeft="36dp"
```

```
    android:layout_marginTop="144dp"
    android:text="Employee Name"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<androidx.appcompat.widget.Toolbar
    android:id="@+id/toolbar"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="?attr/colorPrimary"
    app:layout_anchor="@+id/toolbar"
    app:layout_anchorGravity="center"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="0dp" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="36dp"
    android:layout_marginLeft="36dp"
    android:layout_marginTop="80dp"
    android:text="Employee Code"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/empcode_upd"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginLeft="24dp"
    android:layout_marginTop="25dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/textView"
    app:layout_constraintTop_toBottomOf="@+id/toolbar" />
```

```
<TextView
    android:id="@+id/textView4"
    android:layout_width="410dp"
    android:layout_height="54dp"
    android:fontFamily="sans-serif-condensed-medium"
    android:gravity="center"
    android:text="Update Page"
    android:textAppearance="@style/TextAppearance.AppCompat.Body1"
    android:textSize="20sp"
    app:autoSizeTextType="uniform"
```

```
tools:layout_editor_absoluteX="0dp"
tools:layout_editor_absoluteY="1dp" />
```

<Spinner

```
    android:id="@+id/spinner"
    android:layout_width="208dp"
    android:layout_height="31dp"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="288dp"
    android:entries="@array/department"
    app:layout_constraintStart_toEndOf="@+id/textView7"
    app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
    android:id="@+id/empsalary_upd"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="364dp"
    android:ems="10"
    android:inputType="time"
    app:layout_constraintStart_toEndOf="@+id/textView10"
    app:layout_constraintTop_toTopOf="parent" />
```

<Button

```
    android:id="@+id/button_search"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="144dp"
    android:layout_marginLeft="144dp"
    android:layout_marginTop="464dp"
    android:onClick="submitFields"
    android:text="Update"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
    android:id="@+id/empname_upd"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginLeft="24dp"
    android:layout_marginTop="144dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/textView3"
```

```

        app:layout_constraintTop_toTopOf="parent" />

<RadioButton
    android:id="@+id/radioButtonMale"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="216dp"
    android:text="Male"
    app:layout_constraintStart_toEndOf="@+id/textView6"
    app:layout_constraintTop_toTopOf="@+id/toolbar" />

<RadioButton
    android:id="@+id/radioButtonFemale"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="8dp"
    android:layout_marginLeft="8dp"
    android:layout_marginTop="216dp"
    android:text="Female"
    app:layout_constraintStart_toEndOf="@+id/radioButtonMale"
    app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity_retreive.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"
    app:layout_constraintTop_toTopOf="parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/salary_display"
        android:layout_width="193dp"
        android:layout_height="46dp"
        android:layout_marginStart="144dp"
        android:layout_marginLeft="144dp"
        android:layout_marginTop="520dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

```

```
<TextView
    android:id="@+id/dept_display"
    android:layout_width="193dp"
    android:layout_height="46dp"
    android:layout_marginStart="144dp"
    android:layout_marginLeft="144dp"
    android:layout_marginTop="464dp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/gender_display"
    android:layout_width="193dp"
    android:layout_height="46dp"
    android:layout_marginStart="144dp"
    android:layout_marginLeft="144dp"
    android:layout_marginTop="400dp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/empname_display"
    android:layout_width="193dp"
    android:layout_height="46dp"
    android:layout_marginStart="152dp"
    android:layout_marginLeft="152dp"
    android:layout_marginTop="336dp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView10"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="44dp"
    android:layout_marginLeft="44dp"
    android:layout_marginTop="520dp"
    android:text="Salary"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView7"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="44dp"
    android:layout_marginLeft="44dp"
    android:layout_marginTop="464dp"
```

```
        android:text="Department"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView6"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="44dp"
    android:layout_marginLeft="44dp"
    android:layout_marginTop="404dp"
    android:text="Gender"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView3"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="44dp"
    android:layout_marginLeft="44dp"
    android:layout_marginTop="340dp"
    android:text="Employee Name"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<androidx.appcompat.widget.Toolbar
    android:id="@+id/toolbar"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="?attr/colorPrimary"
    app:layout_anchor="@+id/toolbar"
    app:layout_anchorGravity="center"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="0dp" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="87dp"
    android:layout_height="45dp"
    android:layout_marginStart="36dp"
    android:layout_marginLeft="36dp"
    android:layout_marginTop="80dp"
    android:text="Employee Code"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
```

```

        android:id="@+id/empcode_upd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="24dp"
        android:layout_marginLeft="24dp"
        android:layout_marginTop="25dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintStart_toEndOf="@+id/textView"
        app:layout_constraintTop_toBottomOf="@+id/toolbar" />

```

```
<TextView
```

```

        android:id="@+id/textView4"
        android:layout_width="410dp"
        android:layout_height="54dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:gravity="center"
        android:text="Retrieve Page"
        android:textAppearance="@style/TextAppearance.AppCompat.Body1"
        android:textSize="20sp"
        app:autoSizeTextType="uniform"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="1dp" />

```

```
<Button
```

```

        android:id="@+id/button_search"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="128dp"
        android:layout_marginLeft="128dp"
        android:layout_marginTop="184dp"
        android:text="Search"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

```

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

Outputs:

◀ ● ■

10:13

Database

Employee Database

CREATE

Table has been created

OK

DELETE RETRIEVE

10:16

Database

Retrieve Page

Employee Code

SEARCH

Employee Name suresh

Gender Male

Department CHEM

Salary 40000

10:16



Database

Delete Page

Employee
Code

001

DELETE

UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 5 implement an application that uses multi-threading

Date: 9/9/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

implement an application that uses multi-threading

Code:

ActivityMain.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/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="500dp"
        android:text="Start"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.500"
        app:layout_constraintStart_toStartOf="parent" />

    <ProgressBar
        android:id="@+id/progressBar"
        style="?android:attr/progressBarStyleHorizontal"
        android:layout_width="300dp"
        android:layout_height="33dp"
        app:layout_constraintBottom_toTopOf="@+id/button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.783" />

    <TextView
        android:id="@+id/textView"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Initiate Task"
app:layout_constraintBottom_toTopOf="@+id/progressBar"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.72" />
```

<View

```
android:id="@+id/divider"
android:layout_width="409dp"
android:layout_height="1dp"
android:background="?android:attr/listDivider"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.431"
tools:layout_editor_absoluteX="1dp" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="180dp"
android:layout_height="35dp"
android:layout_marginTop="68dp"
android:layout_marginEnd="24dp"
android:text="Enter Sleep Time"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toStartOf="@+id/input"
app:layout_constraintTop_toBottomOf="@+id/divider"
app:layout_constraintVertical_bias="0.0" />
```

<EditText

```
android:id="@+id/input"
android:layout_width="164dp"
android:layout_height="46dp"
android:layout_marginEnd="16dp"
android:layout_marginBottom="300dp"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent" />
```

<Button

```
android:id="@+id/button3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="184dp"
android:text="Sleep"
```

```

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/divider"
        app:layout_constraintVertical_bias="0.098" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity.java:

```

package com.example.progressbar;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.os.CountDownTimer;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ProgressBar;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    int progress=0;
    ProgressBar progressBar;
    Handler hand = new Handler();
    Button start,reset,sleep;
    TextView value;
    EditText input;
    AlertDialog.Builder builder;
    AlertDialog alertDialog;

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

        progressBar = findViewById(R.id.progressBar);
        start = findViewById(R.id.button);
        sleep = findViewById(R.id.button3);
        value = findViewById(R.id.textView);
        input = findViewById(R.id.input);
        progressBar.setProgress(progress);
        builder=new AlertDialog.Builder(this);
    }
}

```

```

start.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        runnable.run();
    }
});

sleep.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        final int sleepTime =
Integer.parseInt(input.getText().toString());
        System.out.println(sleepTime);
        builder.setTitle("Going to sleep for "+sleepTime+"
seconds...").setMessage("Going to sleep for "+sleepTime+" seconds...");
        alertDialog=builder.create();
        alertDialog.show();

        new Thread(new Runnable() {
            @Override
            public void run() {
                try {
                    Thread.sleep(sleepTime*1000);
                }
                catch (Exception e) {
                    e.printStackTrace();
                }
                finally {
                    alertDialog.dismiss();
                }
            }
        }).start();

        new CountDownTimer(sleepTime*1000, 1000) {
            public void onTick(long millisUntilFinished) {
                alertDialog.setMessage("Sleeping for another
" +(millisUntilFinished/1000)+ " seconds...");
            }

            public void onFinish() {
                alertDialog.setMessage("Done!");
            }
        }.start();
    }
});
}

Runnable runnable = new Runnable() {

```

```

@Override
public void run() {
    try {
        doTask();
    }
    catch (Exception e) {
        e.printStackTrace();
    }
    finally {
        hand.postDelayed(runnable, 100);
    }
}

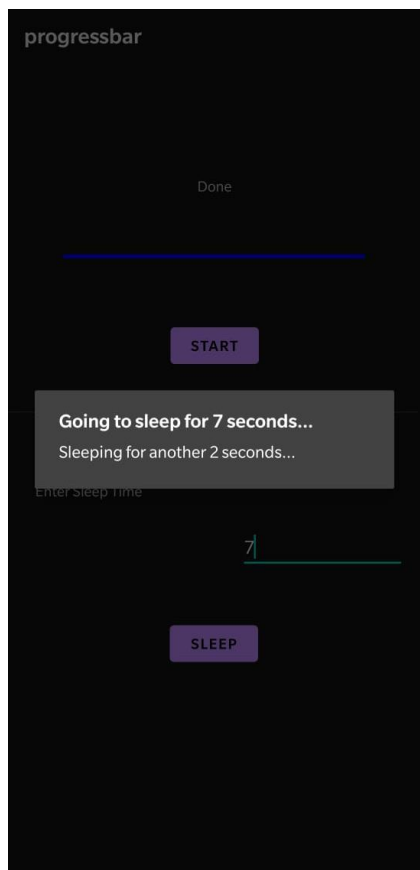
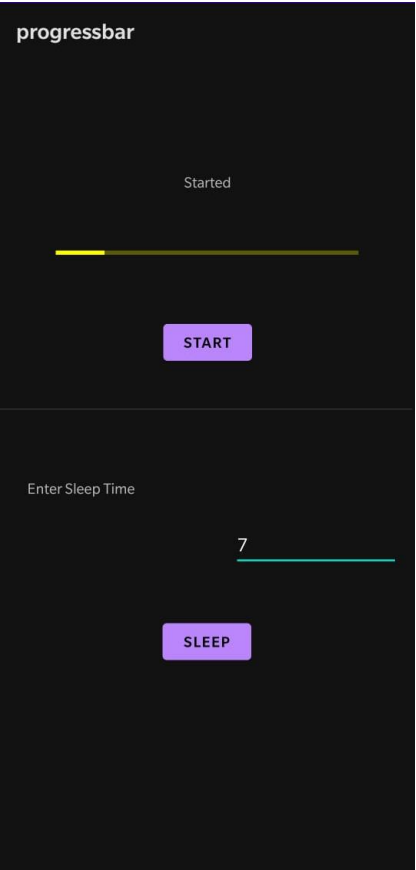
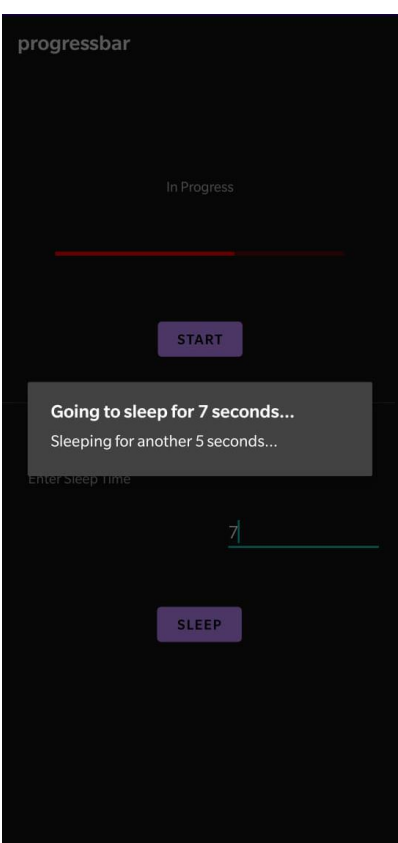
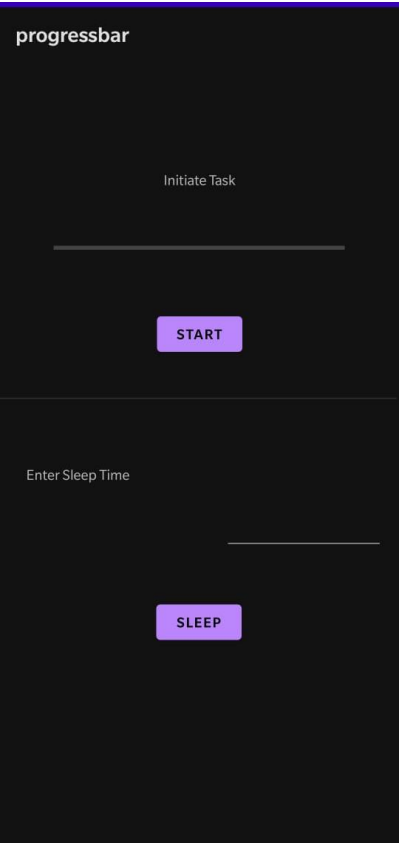
};

private void doTask() {
    progress+=2;
    if(progress<=25){
        value.setText("Started");
        progressBar.getProgressDrawable().setColorFilter(Color.YELLOW,
android.graphics.PorterDuff.Mode.SRC_IN);
    }
    else if(progress<=80){
        value.setText("In Progress");
        progressBar.getProgressDrawable().setColorFilter(Color.RED,
android.graphics.PorterDuff.Mode.SRC_IN);
    }
    else if(progress<=90){
        value.setText("In Progress");
        progressBar.getProgressDrawable().setColorFilter(Color.BLUE,
android.graphics.PorterDuff.Mode.SRC_IN);
    }
    else if(progress==100){
        value.setText("Done");
    }

    if(progress>100) {
        hand.removeCallbacks(runnable);
    }
    else {
        progressBar.setProgress(progress);
    }
}
}
}

```

Output:



UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 6 Develop a native application that uses GPS location information

Date: 30/9/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Develop a native application that uses GPS location information

Code:

Activitymain.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">

    xmlns:tools="https://schemas.android.com/tools"
    android:id="@+id/activity_main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.journaldev.gpslocationtracking.MainActivity">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn"
        android:layout_centerInParent="true"
        android:text="GET LOCATION" />

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

Mainactivity.java:

```
package com.example.geolocation;

import android.annotation.TargetApi;
import android.app.AlertDialog;
import android.content.DialogInterface;
```



```

import android.content.pm.PackageManager;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.util.ArrayList;

import static android.Manifest.permission.ACCESS_COARSE_LOCATION;
import static android.Manifest.permission.ACCESS_FINE_LOCATION;

public class MainActivity extends AppCompatActivity {

    private ArrayList permissionsToRequest;
    private ArrayList permissionsRejected = new ArrayList();
    private ArrayList permissions = new ArrayList();

    private final static int ALL_PERMISSIONS_RESULT = 101;
    LocationTrack locationTrack;

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

        permissions.add(ACCESS_FINE_LOCATION);
        permissions.add(ACCESS_COARSE_LOCATION);

        permissionsToRequest = findUnAskedPermissions(permissions);
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {

            if (permissionsToRequest.size() > 0)
                requestPermissions((String[]) permissionsToRequest.toArray(new
String[permissionsToRequest.size()]), ALL_PERMISSIONS_RESULT);
        }

        Button btn = (Button) findViewById(R.id.btn);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {

                locationTrack = new LocationTrack(MainActivity.this);

                if (locationTrack.canGetLocation()) {

```

```

        double longitude = locationTrack.getLongitude();
        double latitude = locationTrack.getLatitude();

        Toast.makeText(getApplicationContext(), "Longitude:" +
Double.toString(longitude) + "\nLatitude:" + Double.toString(latitude),
Toast.LENGTH_SHORT).show();
    } else {

        locationTrack.showSettingsAlert();
    }

}

});

}

private ArrayList findUnAskedPermissions(ArrayList wanted) {
    ArrayList result = new ArrayList();

    for (Object perm : wanted) {
        if (!hasPermission((String) perm)) {
            result.add(perm);
        }
    }

    return result;
}

private boolean hasPermission(String permission) {
    if (canMakeSmores()) {
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
            return (checkSelfPermission(permission) ==
PackageManager.PERMISSION_GRANTED);
        }
    }
    return true;
}

private boolean canMakeSmores() {
    return (Build.VERSION.SDK_INT > Build.VERSION_CODES.LOLLIPOP_MR1);
}

@TargetApi(Build.VERSION_CODES.M)
@Override
public void onRequestPermissionsResult(int requestCode, String[]
permissions, int[] grantResults) {

```

```

        switch (requestCode) {

            case ALL_PERMISSIONS_RESULT:
                for (Object perms : permissionsToRequest) {
                    if (!hasPermission((String) perms)) {
                        permissionsRejected.add(perms);
                    }
                }

                if (permissionsRejected.size() > 0) {

                    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
                        if (shouldShowRequestPermissionRationale((String)
permissionsRejected.get(0))) {
                            showMessageOKCancel("These permissions are
mandatory for the application. Please allow access.",
                                new DialogInterface.OnClickListener() {
                                    @Override
                                    public void onClick(DialogInterface
dialog, int which) {

                                        if (Build.VERSION.SDK_INT >=
Build.VERSION_CODES.M) {
                                            requestPermissions((String[])
permissionsRejected.toArray(new String[permissionsRejected.size()]),
ALL_PERMISSIONS_RESULT);
                                        }
                                    }
                                });
                        return;
                    }
                }

                break;
        }

    }

    private void showMessageOKCancel(String message,
DialogInterface.OnClickListener okListener) {
        new AlertDialog.Builder(MainActivity.this)
            .setMessage(message)
            .setPositiveButton("OK", okListener)
            .setNegativeButton("Cancel", null)
            .create()
            .show();
    }

```

```

@Override
protected void onDestroy() {
    super.onDestroy();
    locationTrack.stopListener();
}
}

```

Location.java:

```

package com.example.geolocation;

import android.Manifest;
import android.app.AlertDialog;
import android.app.Service;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import android.os.IBinder;
import android.provider.Settings;
import android.widget.Toast;

import androidx.core.app.ActivityCompat;

public class LocationTrack extends Service implements LocationListener {

    private final Context mContext;

    boolean checkGPS = false;

    boolean checkNetwork = false;

    boolean canGetLocation = false;

    Location loc;
    double latitude;
    double longitude;

    private static final long MIN_DISTANCE_CHANGE_FOR_UPDATES = 10;

    private static final long MIN_TIME_BW_UPDATES = 1000 * 60 * 1;
    protected LocationManager locationManager;

```

```

public LocationTrack(Context mContext) {
    this.mContext = mContext;
    getLocation();
}

private Location getLocation() {

    try {
        locationManager = (LocationManager) mContext
            .getSystemService(LOCATION_SERVICE);

        checkGPS = locationManager
            .isProviderEnabled(LocationManager.GPS_PROVIDER);

        checkNetwork = locationManager
            .isProviderEnabled(LocationManager.NETWORK_PROVIDER);

        if (!checkGPS && !checkNetwork) {
            Toast.makeText(mContext, "No Service Provider is available",
                Toast.LENGTH_SHORT).show();
        } else {
            this.canGetLocation = true;
            if (checkGPS) {

                if (ActivityCompat.checkSelfPermission(mContext,
                    Manifest.permission.ACCESS_FINE_LOCATION) != PackageManager.PERMISSION_GRANTED
                    && ActivityCompat.checkSelfPermission(mContext,
                    Manifest.permission.ACCESS_COARSE_LOCATION) !=
                    PackageManager.PERMISSION_GRANTED) {

                }
                locationManager.requestLocationUpdates(
                    LocationManager.GPS_PROVIDER,
                    MIN_TIME_BW_UPDATES,
                    MIN_DISTANCE_CHANGE_FOR_UPDATES, this);
                if (locationManager != null) {
                    loc = locationManager
                        .getLastKnownLocation(LocationManager.GPS_PROVID
IDER);

                    if (loc != null) {
                        latitude = loc.getLatitude();
                        longitude = loc.getLongitude();
                    }
                }
            }
        }
    }
}

```

```

        } catch (Exception e) {
            e.printStackTrace();
        }

        return loc;
    }

    public double getLongitude() {
        if (loc != null) {
            longitude = loc.getLongitude();
        }
        return longitude;
    }

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

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

    public void showSettingsAlert() {
        AlertDialog.Builder alertDialog = new AlertDialog.Builder(mContext);

        alertDialog.setTitle("GPS is not Enabled!");

        alertDialog.setMessage("Do you want to turn on GPS?");

        alertDialog.setPositiveButton("Yes", new
DialogInterface.OnClickListener() {
            public void onClick(DialogInterface dialog, int which) {
                Intent intent = new
Intent(Settings.ACTION_LOCATION_SOURCE_SETTINGS);
                mContext.startActivity(intent);
            }
        });

        alertDialog.setNegativeButton("No", new
DialogInterface.OnClickListener() {
            public void onClick(DialogInterface dialog, int which) {
                dialog.cancel();
            }
        });
    }

```

```

        alertDialog.show();
    }

    public void stopListener() {
        if (locationManager != null) {

            if (ActivityCompat.checkSelfPermission(mContext,
Manifest.permission.ACCESS_FINE_LOCATION) != PackageManager.PERMISSION_GRANTED
&& ActivityCompat.checkSelfPermission(mContext,
Manifest.permission.ACCESS_COARSE_LOCATION) !=
PackageManager.PERMISSION_GRANTED) {
                return;
            }
            locationManager.removeUpdates(LocationTrack.this);
        }
    }

    @Override
    public IBinder onBind(Intent intent) {
        return null;
    }

    @Override
    public void onLocationChanged(Location location) {

    }

    @Override
    public void onStatusChanged(String s, int i, Bundle bundle) {

    }

    @Override
    public void onProviderEnabled(String s) {

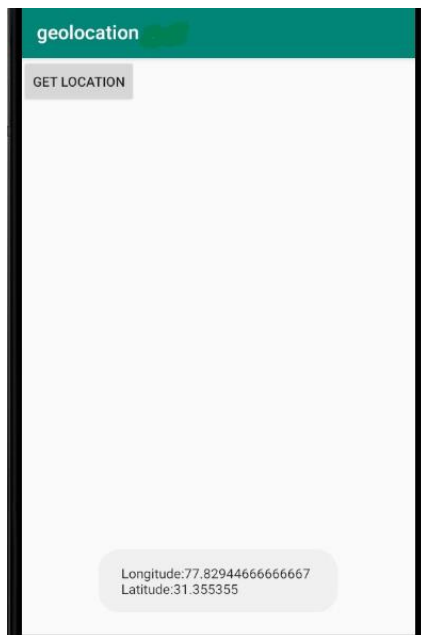
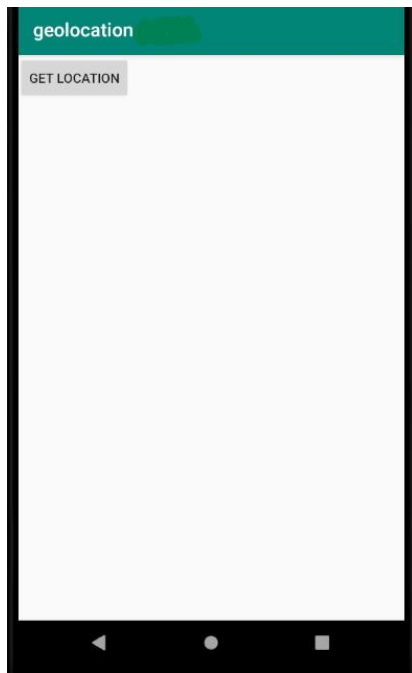
    }

    @Override
    public void onProviderDisabled(String s) {

    }
}

```

Output:



UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 7 Implement an application that writes data to the SD card

Date: 7/10/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Implement an application that writes data to the SD card

Code:

Mainactivity.java:

```
package com.example.ex7_ajay;

import android.content.Intent;
import android.os.Bundle;
import android.os.Environment;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.OutputStreamWriter;

public class MainActivity extends AppCompatActivity {

    Button readButton, writeButton;
    EditText fileContentText, fileNameText;
    String fileContent, fileName;

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

        readButton = findViewById(R.id.readButton);
        writeButton = findViewById(R.id.writeButton);
        fileContentText = findViewById(R.id.contentEditText);
        fileNameText = findViewById(R.id.fileNameText);

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

```

        @Override
        public void onClick(View v) {
            Intent readPage = new Intent(MainActivity.this,
ReadActivity.class);
            startActivity(readPage);
        }
    });

writeButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        fileContent = fileContentText.getText().toString();
        fileName = fileNameText.getText().toString();

        System.out.println("File name "+fileName);
        System.out.println("File contents: "+fileContent);

        try
        {
            File myFile = new File("/sdcard/"+fileName);

            if(!myFile.exists()) {
                myFile.createNewFile();
            }

            FileOutputStream fileOutputStream = new
FileOutputStream(myFile);
            OutputStreamWriter outputStreamWriter = new
OutputStreamWriter(fileOutputStream);
            outputStreamWriter.append(fileContent);
            outputStreamWriter.close();
            Toast.makeText(MainActivity.this, "File " +fileName+"
written into SD Card!", Toast.LENGTH_SHORT).show();
        } catch (Exception e) {
            e.printStackTrace();
            Toast.makeText(MainActivity.this, "Error:
"+e.getMessage(), Toast.LENGTH_SHORT).show();
        }
    }
});
}
}
}

```

readactivity.java:

```

package com.example.ex7_ajay;

import androidx.appcompat.app.AppCompatActivity;

```

```

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
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.FileInputStream;
import java.io.InputStreamReader;

public class ReadActivity extends AppCompatActivity {

    Button goBackButton, readButton;
    EditText fileNameText;
    String fileName;
    TextView fileContent;

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

        goBackButton = findViewById(R.id.goBackButton);
        readButton = findViewById(R.id.readFileButton);
        fileNameText = findViewById(R.id.fileEditText);
        fileContent = findViewById(R.id.fileContentTextView);

        goBackButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent mainPage = new Intent(ReadActivity.this,
MainActivity.class);
                startActivity(mainPage);
            }
        });

        readButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                fileName = fileNameText.getText().toString();
                System.out.println("File name: "+fileName);

                File myFile = new File("/sdcard/"+fileName);
                try {

```

```

        FileInputStream fileInputStream = new
FileInputStream(myFile);
        BufferedReader bufferedReader = new BufferedReader(new
InputStreamReader(fileInputStream));
        String dataRow = "";
        String dataBuffer = "Contents of file \n\n";
        while((dataRow = bufferedReader.readLine())!=null) {
            dataBuffer += dataRow+"\n";
        }
        Toast.makeText(ReadActivity.this, "File "+fileName+" read
from SD Card!", Toast.LENGTH_SHORT).show();
        fileContent.setText(dataBuffer);
        bufferedReader.close();
        fileInputStream.close();
    } catch (Exception e) {
        e.printStackTrace();
        Toast.makeText(ReadActivity.this, "Error:
"+e.getMessage(), 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"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/contentTextView"
        android:layout_width="80dp"
        android:layout_height="34dp"
        android:layout_marginStart="16dp"
        android:layout_marginTop="96dp"
        android:text="@string/content_of_file"
        android:textAlignment="center"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/contentEditText"

```

```
android:layout_width="235dp"
android:layout_height="86dp"
android:layout_marginTop="72dp"
android:layout_marginEnd="44dp"
android:ems="10"
android:maxLines="15"
android:inputType="text|textMultiLine"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toTopOf="parent"
tools:ignore="SpeakableTextPresentCheck" />
```

<TextView

```
android:id="@+id/fileNameTextView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="28dp"
android:layout_marginTop="172dp"
android:text="@string/file_name"
android:textAlignment="center"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/contentTextView" />
```

<EditText

```
android:id="@+id/fileNameText"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="132dp"
android:layout_marginEnd="56dp"
android:ems="10"
android:inputType="textPersonName|text"
android:minHeight="48dp"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintTop_toBottomOf="@+id/contentEditText"
tools:ignore="SpeakableTextPresentCheck" />
```

<Button

```
android:id="@+id/writeButton"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="208dp"
android:layout_marginTop="96dp"
android:text="@string/write"
android:textAllCaps="false"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.0"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/fileNameText" />
```

```

<Button
    android:id="@+id/readButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="68dp"
    android:text="@string/read"
    android:textAllCaps="false"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.643"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/writeButton" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

Activity_read.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=".ReadActivity">
    <Button
        android:id="@+id/goBackButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="88dp"
        android:text="@string/go_back"
        android:textAllCaps="false"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.777"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/fileContentTextView" />

    <TextView
        android:id="@+id/fileNameTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="44dp"
        android:layout_marginTop="88dp"
        android:text="@string/file_name"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

```

```

<EditText
    android:id="@+id/fileEditText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="72dp"
    android:layout_marginEnd="32dp"
    android:ems="10"
    android:inputType="textPersonName|text"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

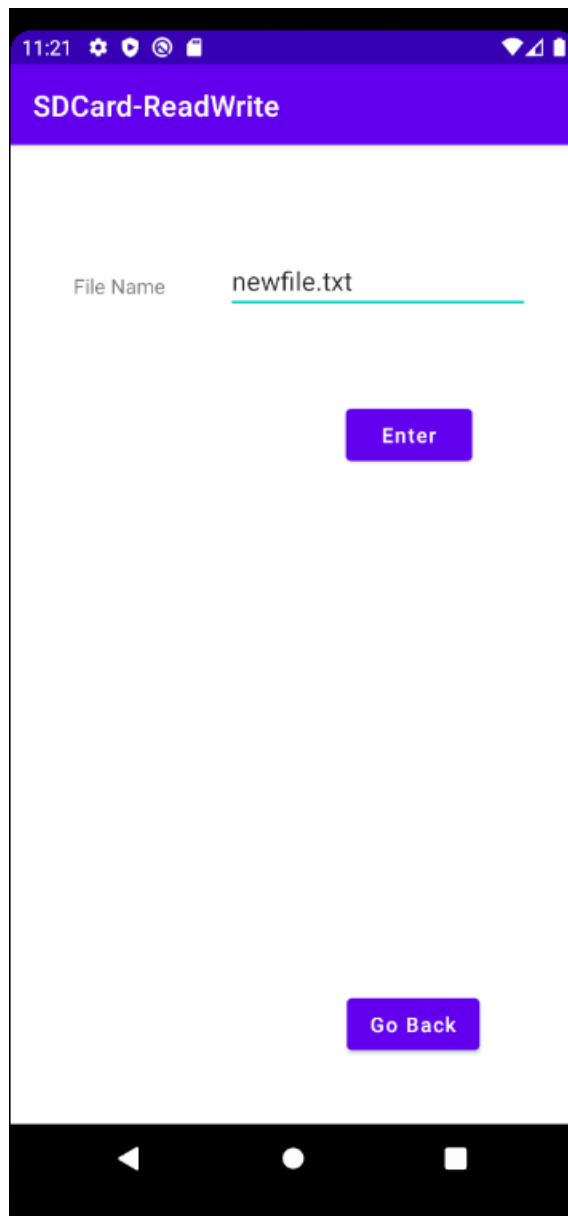
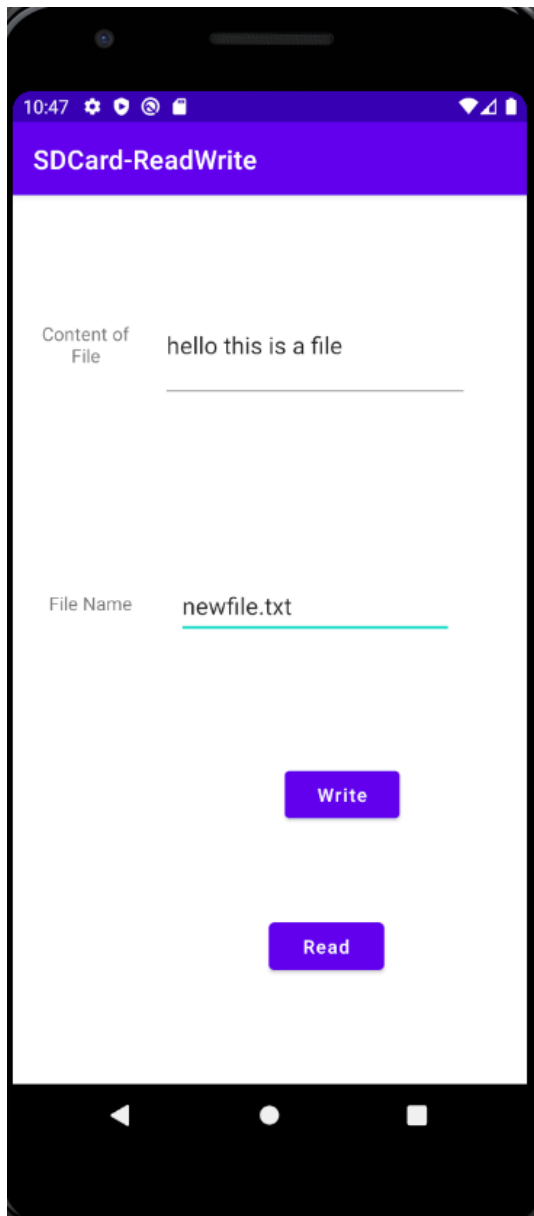
<TextView
    android:id="@+id/fileContentTextView"
    android:layout_width="306dp"
    android:layout_height="197dp"
    android:layout_marginTop="76dp"
    android:textColor="@color/black"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/readFileButton" />

<Button
    android:id="@+id/readFileButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="60dp"
    android:layout_marginEnd="72dp"
    android:text="Enter"
    android:textAllCaps="false"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/fileEditText" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Outputs:



UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY

Ex. No. 8 Implement an application that send a SMS

Date: 21/10/21

Name: Srinath S

Class: CSE-C

Roll: 185001205

Question:

Implement an application that send a SMS

Code:

Activitymain.xml:

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SMS Application"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.07" />

    <EditText
        android:id="@+id/editText_main"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="52dp"
        android:layout_marginLeft="52dp"
        android:layout_marginTop="50dp"
        android:layout_marginEnd="149dp"
        android:layout_marginRight="149dp"
        android:ems="10"
        android:hint="Phone Number"
        android:inputType="phone"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
```

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

```
<EditText
```

```
    android:id="@+id/sms_message"
    android:layout_width="320dp"
    android:layout_height="103dp"
    android:layout_marginStart="51dp"
    android:layout_marginLeft="51dp"
    android:layout_marginTop="34dp"
    android:layout_marginEnd="40dp"
    android:layout_marginRight="40dp"
    android:ems="10"
    android:hint="Message"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editText_main" />
```

```
<Button
```

```
    android:id="@+id/message_icon"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="150dp"
    android:layout_marginLeft="150dp"
    android:layout_marginTop="17dp"
    android:layout_marginEnd="151dp"
    android:layout_marginRight="151dp"
    android:text="Send SMS"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/sms_message" />
```

```
<Button
```

```
    android:id="@+id/button_retry"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="161dp"
    android:layout_marginLeft="161dp"
    android:layout_marginTop="21dp"
    android:layout_marginEnd="162dp"
    android:layout_marginRight="162dp"
    android:text="Retry"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/message_icon" />
```

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

Mainactivity.java:

```
package com.example.sms;

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

import android.os.Bundle;

import android.Manifest;
import android.app.PendingIntent;
import android.content.Intent;
import android.content.pm.PackageManager;

import android.telephony.SmsManager;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private static final String TAG = MainActivity.class.getSimpleName();
    private static final int MY_PERMISSIONS_REQUEST_SEND_SMS = 1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // Check to see if SMS is enabled.
        checkForSmsPermission();

        Button send = (Button) findViewById(R.id.message_icon);
        send.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                System.out.println("1");
                smsSendMessage(view);
                System.out.println("2");
            }
        });
    }

    private void checkForSmsPermission() {
        if (ActivityCompat.checkSelfPermission(this,
            Manifest.permission.SEND_SMS) !=
            PackageManager.PERMISSION_GRANTED) {
```

```

        Log.d(TAG, getString(R.string.permission_not_granted));
        ActivityCompat.requestPermissions(this,
            new String[]{Manifest.permission.SEND_SMS},
            MY_PERMISSIONS_REQUEST_SEND_SMS);
    } else {
        enableSmsButton();
    }
}

@Override
public void onRequestPermissionsResult(int requestCode,
    String permissions[], int[]
grantResults) {
    super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
    switch (requestCode) {
        case MY_PERMISSIONS_REQUEST_SEND_SMS: {
            if
(permission[0].equalsIgnoreCase(Manifest.permission.SEND_SMS)
                && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                enableSmsButton();
            } else {

                Log.d(TAG, getString(R.string.failure_permission));
                Toast.makeText(this,
getString(R.string.failure_permission),
                    Toast.LENGTH_LONG).show();
                disableSmsButton();
            }
        }
    }
}

public void smsSendMessage(View view) {
    EditText editText = (EditText) findViewById(R.id.editText_main);
    String destinationAddress = editText.getText().toString();
    EditText smsEditText = (EditText) findViewById(R.id.sms_message);
    String smsMessage = smsEditText.getText().toString();
    String scAddress = null;
    PendingIntent sentIntent = null, deliveryIntent = null;
    checkForSmsPermission();
    SmsManager smsManager = SmsManager.getDefault();
    smsManager.sendTextMessage(destinationAddress, scAddress, smsMessage,
        sentIntent, deliveryIntent);
}

private void disableSmsButton() {
    Toast.makeText(this, R.string.sms_disabled, Toast.LENGTH_LONG).show();
}

```

```

        Button smsButton = (Button) findViewById(R.id.message_icon);
        smsButton.setVisibility(View.INVISIBLE);
        Button retryButton = (Button) findViewById(R.id.button_retry);
        retryButton.setVisibility(View.VISIBLE);
    }

    private void enableSmsButton() {
        Button smsButton = (Button) findViewById(R.id.message_icon);
        smsButton.setVisibility(View.VISIBLE);
    }

    public void retryApp(View view) {
        Intent intent =
getPackageManager().getLaunchIntentForPackage(getPackageName());
        startActivity(intent);
    }
}

```

Sms.java:

```

package com.example.sms;

import android.annotation.TargetApi;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.os.Build;
import android.os.Bundle;
import android.telephony.SmsMessage;
import android.util.Log;
import android.widget.Toast;

public class MySmsReceiver extends BroadcastReceiver {
    private static final String TAG = MySmsReceiver.class.getSimpleName();
    public static final String pdu_type = "pdus";
    @TargetApi(Build.VERSION_CODES.M)
    @Override
    public void onReceive(Context context, Intent intent) {
        Bundle bundle = intent.getExtras();
        SmsMessage[] msgs;
        String strMessage = "";
        String format = bundle.getString("format");
        Object[] pdus = (Object[]) bundle.get(pdu_type);
        if (pdus != null) {
            boolean isVersionM = (Build.VERSION.SDK_INT >=
Build.VERSION_CODES.M);
            msgs = new SmsMessage[pdus.length];
            for (int i = 0; i < msgs.length; i++) {
                if (isVersionM) {

```

```

        msgs[i] = SmsMessage.createFromPdu((byte[]) pdus[i],
format);
    } else {
        msgs[i] = SmsMessage.createFromPdu((byte[]) pdus[i]);
    }
    strMessage += "SMS from " + msgs[i].getOriginatingAddress();
    strMessage += " :" + msgs[i].getMessageBody() + "\n";
    Log.d(TAG, "onReceive: " + strMessage);
    Toast.makeText(context, strMessage, Toast.LENGTH_LONG).show();
}
}
}
}
}

```

Outputs:

