Design an android app to book an appointment for tuition center. Input the name, phone number, The user should input the city where he is looking for tuition. Auto complete suggestion for the city should be provided to the user. Choose one of the subject using CheckBox.[ Programming in Java, Python, Javascript, Machine Learning, Data Structure, Data Science, Mobile Application Devlopment]. On click of “Submit” Button, show the new activity where user can choose the date and time of appointment. On click of “Confirm” button in this screen, show a message “Booking Confirmed” and save into database and perform the following tasks:

1. Find out the appointment details of given username
2. Find out number of appointments registered in the given city
3. Find out the appointment details on given date.

Solution:

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"**>  
  
 <**CheckBox  
 android:id="@+id/madBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="MAD"  
 app:layout\_constraintStart\_toEndOf="@+id/dsBtn"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/mlBtn"  
 app:layout\_constraintBottom\_toTopOf="@+id/submitBtn"**/>  
  
 <**EditText  
 android:id="@+id/nameBox"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Enter Name"  
 android:inputType="text"  
 android:minHeight="48dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toTopOf="@+id/noBox"**/>  
  
 <**EditText  
 android:id="@+id/noBox"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Enter Phone Number"  
 android:inputType="text"  
 android:minHeight="48dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/nameBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/cityBox"**/>  
  
 <**AutoCompleteTextView  
 android:id="@+id/cityBox"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Select City"  
 android:minHeight="48dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/noBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/pythonBtn"**/>  
  
 <**CheckBox  
 android:id="@+id/javaBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Java Programming"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/pythonBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/cityBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/dsaBtrn"**/>  
  
 <**CheckBox  
 android:id="@+id/pythonBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Python"  
 app:layout\_constraintStart\_toEndOf="@+id/javaBtn"  
 app:layout\_constraintEnd\_toStartOf="@+id/javascriptBtn"  
 app:layout\_constraintBottom\_toTopOf="@+id/dsBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/cityBox"**/>  
  
 <**CheckBox  
 android:id="@+id/javascriptBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="JavaScript"  
 app:layout\_constraintStart\_toEndOf="@+id/pythonBtn"  
 app:layout\_constraintEnd\_toStartOf="@+id/mlBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/cityBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/dsBtn"**/>  
  
 <**CheckBox  
 android:id="@+id/mlBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="ML"  
 app:layout\_constraintStart\_toEndOf="@+id/javascriptBtn"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/cityBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/madBtn"**/>  
  
 <**CheckBox  
 android:id="@+id/dsaBtrn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="DSA"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/dsBtn"  
 app:layout\_constraintBottom\_toTopOf="@+id/submitBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/javaBtn"**/>  
  
 <**CheckBox  
 android:id="@+id/dsBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="DS"  
 app:layout\_constraintStart\_toEndOf="@+id/dsaBtrn"  
 app:layout\_constraintEnd\_toStartOf="@+id/madBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/pythonBtn"  
 app:layout\_constraintBottom\_toTopOf="@+id/submitBtn"**/>  
  
 <**Button  
 android:id="@+id/submitBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Submit"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/dsBtn"  
 app:layout\_constraintBottom\_toBottomOf="parent"**/>  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

Activity\_main2.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=".MainActivity2"**>  
 <**EditText  
 android:id="@+id/dateBox"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Enter Date"  
 android:inputType="date"  
 android:minHeight="48dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintBottom\_toTopOf="@+id/timeBox"**/>  
  
 <**EditText  
 android:id="@+id/timeBox"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Enter Time"  
 android:inputType="time"  
 android:minHeight="48dp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/dateBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/confirmBtn"**/>  
  
 <**Button  
 android:id="@+id/confirmBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Confirm"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/usernameBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/timeBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/cityBtn"**/>  
  
 <**Button  
 android:id="@+id/usernameBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="User Records"  
 app:layout\_constraintStart\_toEndOf="@+id/confirmBtn"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/timeBox"  
 app:layout\_constraintBottom\_toTopOf="@+id/dateBtn"**/>  
  
 <**Button  
 android:id="@+id/cityBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="City Records"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toStartOf="@+id/dateBtn"  
 app:layout\_constraintTop\_toBottomOf="@+id/confirmBtn"  
 app:layout\_constraintBottom\_toTopOf="@+id/result"**/>  
  
 <**Button  
 android:id="@+id/dateBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="on Date records"  
 app:layout\_constraintStart\_toEndOf="@+id/cityBtn"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/usernameBtn"  
 app:layout\_constraintBottom\_toTopOf="@+id/result"**/>  
 <**TextView  
 android:id="@+id/result"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textStyle="bold"  
 android:textSize="20sp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/cityBtn"  
 app:layout\_constraintBottom\_toBottomOf="parent"**/>  
</**androidx.constraintlayout.widget.ConstraintLayout**>

MainActivity.java:

**package** com.example.practiceques21\_12;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.AutoCompleteTextView;  
**import** android.widget.Button;  
**import** android.widget.CheckBox;  
**import** android.widget.EditText;  
  
**public class** MainActivity **extends** AppCompatActivity {  
 EditText **name**,**num**;  
 AutoCompleteTextView **city**;  
 CheckBox **java**,**pyth**,**js**,**ml**,**dsa**,**ds**,**mad**;  
 Button **sub**;  
 String[] **loc** = {**"Bangalore"**,**"Delhi"**,**"Bombay"**,**"Hydberabad"**,**"Kurnool"**,**"Vijayawada"**};  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 **name** = findViewById(R.id.*nameBox*);  
 **num** = findViewById(R.id.*noBox*);  
 **city** = findViewById(R.id.*cityBox*);  
 **java** = findViewById(R.id.*javaBtn*);  
 **pyth** = findViewById(R.id.*pythonBtn*);  
 **js** = findViewById(R.id.*javascriptBtn*);  
 **ml** = findViewById(R.id.*mlBtn*);  
 **dsa** = findViewById(R.id.*dsaBtrn*);  
 **ds** = findViewById(R.id.*dsBtn*);  
 **mad** = findViewById(R.id.*madBtn*);  
 **sub** = findViewById(R.id.*submitBtn*);  
 ArrayAdapter aa = **new** ArrayAdapter(**this**, android.R.layout.***select\_dialog\_item***,**loc**);  
 **city**.setAdapter(aa);  
 **city**.setThreshold(1);  
 **sub**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 String n = **name**.getText().toString();  
 String nu = **num**.getText().toString();  
 String c = **city**.getText().toString();  
 StringBuilder subj = **new** StringBuilder();  
 **if**(**java**.isChecked())  
 subj.append(**"Java "**);  
 **if**(**pyth**.isChecked())  
 subj.append(**"Pyhton "**);  
 **if**(**js**.isChecked())  
 subj.append(**"JavaScript "**);  
 **if**(**ml**.isChecked())  
 subj.append(**"MachineLearning "**);  
 **if**(**dsa**.isChecked())  
 subj.append(**"DataStructure "**);  
 **if**(**ds**.isChecked())  
 subj.append(**"DataScience "**);  
 **if**(**mad**.isChecked())  
 subj.append(**"MobileApplicationDevelopment"**);  
 Intent it= **new** Intent(MainActivity.**this**, MainActivity2.**class**);  
 it.putExtra(**"Name"**,n);  
 it.putExtra(**"Phone Number"**,nu);  
 it.putExtra(**"City"**,c);  
 it.putExtra(**"Subjects"**,subj.toString());  
 startActivity(it);  
 }  
 });  
 }  
}

MainActivity2.java:

**package** com.example.practiceques21\_12;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.app.DatePickerDialog;  
**import** android.app.TimePickerDialog;  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.DatePicker;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** android.widget.TimePicker;  
**import** android.widget.Toast;  
  
**import** java.util.Calendar;  
  
**public class** MainActivity2 **extends** AppCompatActivity {  
 EditText **dat**,**tim**;  
 Button **conf**,**user**,**cityb**,**dateb**;  
 TextView **res**;  
 MyDBHandler **db**;  
 String **da**,**ti**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
 **dat** = findViewById(R.id.*dateBox*);  
 **tim** = findViewById(R.id.*timeBox*);  
 **conf** = findViewById(R.id.*confirmBtn*);  
 **user** = findViewById(R.id.*usernameBtn*);  
 **cityb** = findViewById(R.id.*cityBtn*);  
 **dateb** = findViewById(R.id.*dateBtn*);  
 **res** = findViewById(R.id.*result*);  
 **db** = **new** MyDBHandler(getApplicationContext(),**"Tuitions"**,**null**,1);  
 **dat**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 Calendar cal = Calendar.*getInstance*();  
 **int** cYear = cal.get(Calendar.***YEAR***);  
 **int** cMonth = cal.get(Calendar.***MONTH***);  
 **int** cDate = cal.get(Calendar.***DATE***);  
 DatePickerDialog dialog = **new** DatePickerDialog(MainActivity2.**this**, android.R.style.***Theme\_DeviceDefault\_DialogWhenLarge***, **new** DatePickerDialog.OnDateSetListener() {  
 @Override  
 **public void** onDateSet(DatePicker datePicker, **int** i, **int** i1, **int** i2) {  
 **da** = i2+**"/"**+(i1+1)+**"/"**+i;  
 **dat**.setText(**da**);  
 }  
 },cYear,cMonth,cDate);  
 dialog.show();  
 }  
 });  
 **tim**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 Calendar cal1 = Calendar.*getInstance*();  
 **int** cHour = cal1.get(Calendar.***HOUR***);  
 **int** cMin = cal1.get(Calendar.***MINUTE***);  
 TimePickerDialog dialog = **new** TimePickerDialog(MainActivity2.**this**, android.R.style.***Theme\_DeviceDefault\_DialogWhenLarge***, **new** TimePickerDialog.OnTimeSetListener() {  
 @Override  
 **public void** onTimeSet(TimePicker timePicker, **int** i, **int** i1) {  
 **ti** = i+**":"**+i1;  
 **tim**.setText(**ti**);  
 }  
 },cHour,cMin,**false**);  
 dialog.show();  
 }  
 });  
 Intent it1= getIntent();  
 String n = it1.getStringExtra(**"Name"**);  
 String nu = it1.getStringExtra(**"Phone Number"**);  
 String c = it1.getStringExtra(**"City"**);  
 String su = it1.getStringExtra(**"Subjects"**);  
 **conf**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 **db**.insertRecord(n,nu,c,su,**da**,**ti**);  
 **res**.setText(**"Booking Confirmed"**);  
 Toast.*makeText*(MainActivity2.**this**, **"Inserted"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 });  
 **user**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 String userdata = **db**.displayUserRecord(n);  
 **res**.setText(userdata);  
 }  
 });  
 **cityb**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 **int** ct = **db**.displayCityRecord(c);  
 **res**.setText(**"No. of appointments:"**+ct);  
 }  
 });  
 **dateb**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 String datedata = **db**.displayDateRecord(**da**);  
 **res**.setText(datedata);  
 }  
 });  
 }  
}

MyDBHandler.java:

**package** com.example.practiceques21\_12;  
  
**import** android.content.Context;  
**import** android.database.Cursor;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.database.sqlite.SQLiteOpenHelper;  
  
**import** androidx.annotation.Nullable;  
  
**public class** MyDBHandler **extends** SQLiteOpenHelper {  
 **public** MyDBHandler(@Nullable Context context, @Nullable String name, @Nullable SQLiteDatabase.CursorFactory factory, **int** version) {  
 **super**(context, name, factory, version);  
 }  
  
 @Override  
 **public void** onCreate(SQLiteDatabase db) {  
 db.execSQL(**"create table appointments(name varchar(10),phno varchar(20),city varchar(30),course varchar(50),dat varchar(20),tim varchar(30))"**);  
 }  
  
 @Override  
 **public void** onUpgrade(SQLiteDatabase db, **int** oldVersion, **int** newVersion) {  
  
 }  
 **public void** insertRecord(String n,String nu,String c,String su,String d,String t){  
 SQLiteDatabase db = **this**.getWritableDatabase();  
 db.execSQL(**"insert into appointments values(?,?,?,?,?,?)"**,**new** String[]{n,nu,c,su,d,t});  
 db.close();  
 }  
 **public** String displayUserRecord(String n){  
 String rec = **""**;  
 SQLiteDatabase db = **this**.getReadableDatabase();  
 Cursor cr = db.rawQuery(**"select \* from appointments where name = ?"**,**new** String[]{n});  
 **while** (cr.moveToNext()){  
 String na = cr.getString(0);  
 String nu = cr.getString(1);  
 String c = cr.getString(2);  
 String su = cr.getString(3);  
 String d = cr.getString(4);  
 String t = cr.getString(5);  
 rec+=na+**"\t"**+nu+**"\t"**+c+**"\t"**+su+**"\t"**+d+**"\t"**+t+**"\n"**;  
 }  
 db.close();  
 **return** rec;  
 }  
 **public int** displayCityRecord(String c){  
 **int** ct =0;  
 SQLiteDatabase db = **this**.getReadableDatabase();  
 Cursor cr = db.rawQuery(**"select \* from appointments where city = ?"**,**new** String[]{c});  
 **while**(cr.moveToNext())  
 ct++;  
 db.close();  
 **return** ct;  
 }  
 **public** String displayDateRecord(String d){  
 String rec = **""**;  
 SQLiteDatabase db = **this**.getReadableDatabase();  
 Cursor cr = db.rawQuery(**"select \* from appointments where dat = ?"**,**new** String[]{d});  
 **while** (cr.moveToNext()){  
 String na = cr.getString(0);  
 String nu = cr.getString(1);  
 String c = cr.getString(2);  
 String su = cr.getString(3);  
 String da = cr.getString(4);  
 String t = cr.getString(5);  
 rec+=na+**"\t"**+nu+**"\t"**+c+**"\t"**+su+**"\t"**+da+**"\t"**+t+**"\n"**;  
 }  
 db.close();  
 **return** rec;  
 }  
}