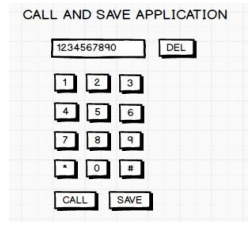
**MOBILE APPLICATION DEVELOPMENT**

**PROGRAM 8**

**Create an activity like a phone dialer with CALL and SAVE buttons. On pressing the CALL button, it must call the phone number and on pressing the SAVE button it must save the number to the phone contacts.**



**XML CODE**

*<?***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="CALL AND SAVE APPLICATION"  
 android:textSize="20sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.254"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.085"** />  
  
 <**EditText  
 android:id="@+id/phone\_number\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="phone"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.079"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/textView"  
 app:layout\_constraintVertical\_bias="0.058"** />  
  
 <**Button  
 android:id="@+id/delete\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="DELETE"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.848"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.178"** />  
  
 <**Button  
 android:id="@+id/one\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="1"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.05"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.286"** />  
  
 <**Button  
 android:id="@+id/two\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="2"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.457"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.285"** />  
  
 <**Button  
 android:id="@+id/three\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="256dp"  
 android:text="3"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.285"** />  
  
 <**Button  
 android:id="@+id/four\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="4"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.05"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.421"** />  
  
 <**Button  
 android:id="@+id/five\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="5"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.457"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.421"** />  
  
 <**Button  
 android:id="@+id/six\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="6"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.807"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.421"** />  
  
 <**Button  
 android:id="@+id/seven\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="7"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.05"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.522"** />  
  
 <**Button  
 android:id="@+id/eight\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="8"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.457"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.522"** />  
  
 <**Button  
 android:id="@+id/nine\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginBottom="324dp"  
 android:text="9"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.807"  
 app:layout\_constraintStart\_toStartOf="parent"** />  
  
 <**Button  
 android:id="@+id/star\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="\*"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.05"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.614"** />  
  
 <**Button  
 android:id="@+id/zero\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="0"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.457"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.614"** />  
  
 <**Button  
 android:id="@+id/hash\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="#"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.807"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.614"** />  
  
 <**Button  
 android:id="@+id/call\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="CALL"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.145"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.734"** />  
  
 <**Button  
 android:id="@+id/save\_btn\_id"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="SAVE"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.734"** />  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**JAVA CODE**

**package** com.example.phone;  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.content.Intent;  
**import** android.net.Uri;  
**import** android.os.Bundle;  
**import** android.provider.ContactsContract;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
  
**public class** MainActivity **extends** AppCompatActivity **implements** View.OnClickListener {  
 Button **onebtn**,**twobtn**,**threebtn**,**fourbtn**,**fivebtn**;  
 Button **sixbtn**,**sevenbtn**,**eightbtn**,**ninebtn**,**zerobtn**;  
 Button **starbtn**,**hashbtn**;  
 Button **delbtn**,**callbtn**,**savebtn**;  
 EditText **phoneNumber**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **onebtn**=(Button) findViewById(R.id.***one\_btn\_id***);  
 **onebtn**.setOnClickListener(**this**);  
  
 **twobtn**=(Button) findViewById(R.id.***two\_btn\_id***);  
 **twobtn**.setOnClickListener(**this**);  
  
 **threebtn**=(Button) findViewById(R.id.***three\_btn\_id***);  
 **threebtn**.setOnClickListener(**this**);  
  
 **fourbtn**=(Button) findViewById(R.id.***four\_btn\_id***);  
 **fourbtn**.setOnClickListener(**this**);  
  
 **fivebtn**=(Button) findViewById(R.id.***five\_btn\_id***);  
 **fivebtn**.setOnClickListener(**this**);  
  
 **sixbtn**=(Button) findViewById(R.id.***six\_btn\_id***);  
 **sixbtn**.setOnClickListener(**this**);  
  
 **sevenbtn**=(Button) findViewById(R.id.***seven\_btn\_id***);  
 **sevenbtn**.setOnClickListener(**this**);  
  
 **eightbtn**=(Button) findViewById(R.id.***eight\_btn\_id***);  
 **eightbtn**.setOnClickListener(**this**);  
  
 **ninebtn**=(Button) findViewById(R.id.***nine\_btn\_id***);  
 **ninebtn**.setOnClickListener(**this**);  
  
 **zerobtn**=(Button) findViewById(R.id.***zero\_btn\_id***);  
 **zerobtn**.setOnClickListener(**this**);  
  
 **delbtn**=(Button) findViewById(R.id.***delete\_btn\_id***);  
 **delbtn**.setOnClickListener(**this**);  
  
 **callbtn**=(Button) findViewById(R.id.***call\_btn\_id***);  
 **callbtn**.setOnClickListener(**this**);  
  
 **savebtn**=(Button) findViewById(R.id.***save\_btn\_id***);  
 **savebtn**.setOnClickListener(**this**);  
  
 **starbtn**=(Button) findViewById(R.id.***star\_btn\_id***);  
 **starbtn**.setOnClickListener(**this**);  
  
 **hashbtn**=(Button) findViewById(R.id.***hash\_btn\_id***);  
 **hashbtn**.setOnClickListener(**this**);  
  
 **phoneNumber**=findViewById(R.id.***phone\_number\_id***);  
 **phoneNumber**.setText(**""**);  
  
 }  
  
 @Override  
 **public void** onClick(View view) {  
 Button btn=(Button) view;  
 **if**(view.equals(**delbtn**)){  
 String phoneNum= **phoneNumber**.getText().toString();  
 **if** (**phoneNumber**.length()>0){  
 **phoneNumber**.setText(phoneNum.substring(0,phoneNum.length()-1));  
 }**else**{  
 **phoneNumber**.setText(**""**);  
 }  
 **phoneNumber**.setSelection(**phoneNumber**.getText().toString().length());  
 }**else if**(view.equals(**callbtn**)){  
 System.***out***.println(**"call button pressed"**);  
 String phoneNum= **phoneNumber**.getText().toString();  
 Intent intent=**new** Intent(Intent.***ACTION\_DIAL***);  
 intent.setData(Uri.*parse*(**"tel:"**+phoneNum));  
 startActivity(intent);  
  
 }**else if**(view.equals(**savebtn**)){  
 System.***out***.println(**"save button pressed"**);  
 String phoneNum= **phoneNumber**.getText().toString();  
 Intent intent=**new** Intent(ContactsContract.Intents.Insert.***ACTION***);  
 intent.setType(ContactsContract.RawContacts.***CONTENT\_TYPE***);  
 intent.putExtra(ContactsContract.Intents.Insert.***NAME***,**"Unknown"**);  
 intent.putExtra(ContactsContract.Intents.Insert.***PHONE***,phoneNum);  
 startActivity(intent);  
 }**else**{  
 **phoneNumber**.append(btn.getText());  
 }  
 }  
}