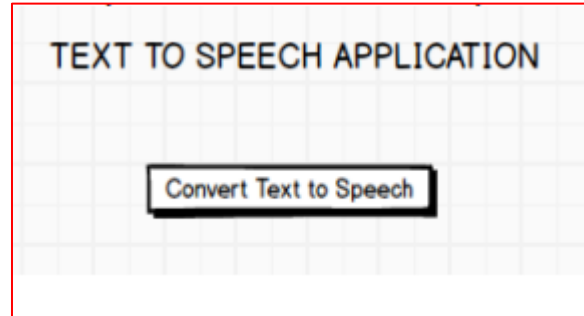PROGRAM 7: Develop a simple application with one EditText so that the user can write some text in it.
Create a button called "Convert Text to Speech" that converts the user input text into voice.



FILENAME:activity_main.xml

```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="TEXT TO SPEECH APPLICATION"
        android:textColor="#FF5722"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.506"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.169" />

    <EditText
        android:id="@+id/edt_txt"
        android:layout_width="280dp"
        android:layout_height="52dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
```

```xml
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.275" />

    <Button
        android:id="@+id/btn_speech"
        android:layout_width="146dp"
        android:layout_height="73dp"
        android:background="#9C27B0"
        android:text="SPEECH"
        android:textColor="#FFFFFF"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.451" />

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

FILENAME:ActivityMain.java

```java
package com.example.texttospeech;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import java.util.Locale;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener, TextToSpeech.OnInitListener {
    Button btnspeak;
    EditText txtspeak;
    TextToSpeech textToSpeech;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        txtspeak=(EditText) findViewById(R.id.edt_txt);
```
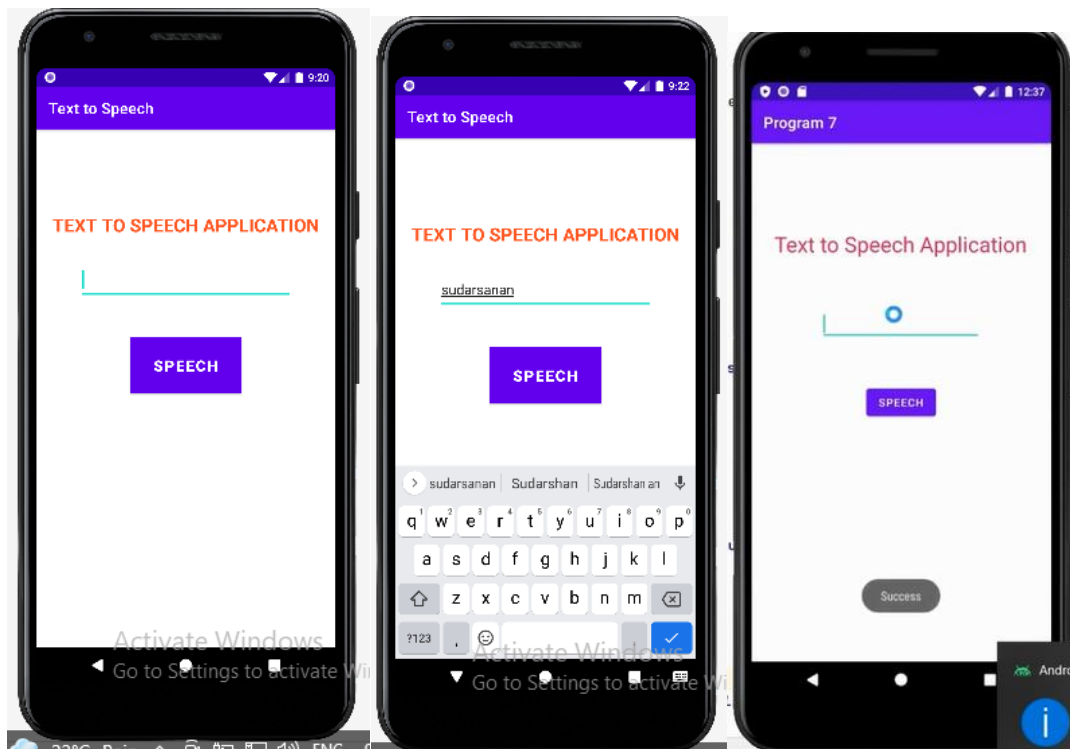
```java
        btnspeak=(Button) findViewById(R.id.btn_speech);
        btnspeak.setOnClickListener(this);
        textToSpeech=new TextToSpeech(getBaseContext(),this);
        textToSpeech.setLanguage(Locale.ENGLISH);
    }

    @Override
    public void onClick(View view) {
        String text=txtspeak.getText().toString();
        textToSpeech.speak(text,TextToSpeech.QUEUE_FLUSH,null);

    }

    @Override
    public void onInit(int status) {
        if(status!=TextToSpeech.ERROR)
        {

Toast.makeText(getBaseContext(),"success",Toast.LENGTH_LONG).show()
;
        }

    }
}
```
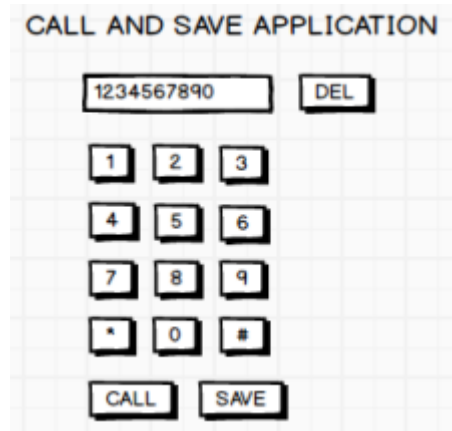
output:

**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.**



**Filename: activity_main.xml**

```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/btncall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="CALL"
        android:textColor="#F4EFEF"
        android:textSize="20sp"
        android:textStyle="bold"
        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/display"
        app:layout_constraintVertical_bias="0.904" />

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

```xml
        android:background="#F44336"
        android:text="DEL"
        android:textColor="#F6F0F0"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.871"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.904" />

    <Button
        android:id="@+id/btnsave"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="SAVE"
        android:textColor="#F8F4F4"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.117"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.904" />

    <Button
        android:id="@+id/btn0"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="0"
        android:textColor="#F3F0F0"
        android:textSize="20sp"
        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/display"
        app:layout_constraintVertical_bias="0.761" />

    <Button
        android:id="@+id/btnhash"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="#"
        android:textColor="#FBF7F7"
```

```xml
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.87"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.761" />

    <Button
        android:id="@+id/btnstar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="*"
        android:textColor="#F8F5F5"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.117"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.761" />

    <Button
        android:id="@+id/btn8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="8"
        android:textColor="#FAFAFA"
        android:textSize="20sp"
        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/display"
        app:layout_constraintVertical_bias="0.611" />

    <Button
        android:id="@+id/btn9"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="9"
        android:textColor="#FAF6F6"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.87"
```

```xml
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.611" />

    <Button
        android:id="@+id/btn7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="7"
        android:textColor="#FFFDFD"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.117"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.611" />

    <Button
        android:id="@+id/btn5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="5"
        android:textColor="#FDFBFB"
        android:textSize="20sp"
        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/display"
        app:layout_constraintVertical_bias="0.44" />

    <Button
        android:id="@+id/btn6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#F44336"
        android:text="6"
        android:textColor="#FAF5F5"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.87"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.44" />
```

```xml
<Button
    android:id="@+id/btn4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="#F44336"
    android:text="4"
    android:textColor="#FBFAFA"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.117"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/display"
    app:layout_constraintVertical_bias="0.44" />

<EditText
    android:id="@+id/display"
    android:layout_width="280dp"
    android:layout_height="71dp"
    android:ems="10"
    android:inputType="phone"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.412"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.231"
    tools:ignore="SpeakableTextPresentCheck" />

<Button
    android:id="@+id/btn2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="#F44336"
    android:text="2"
    android:textColor="#F8F3F3"
    android:textSize="20sp"
    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/display"
    app:layout_constraintVertical_bias="0.27" />

<Button
    android:id="@+id/btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="#F44336"
```

```xml
        android:text="1"
        android:textColor="#F8F3F3"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.117"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.27" />

    <Button
        android:id="@+id/btn3"
        android:layout_width="92dp"
        android:layout_height="42dp"
        android:background="#F44336"
        android:text="3"
        android:textColor="#FAF6F6"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.87"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/display"
        app:layout_constraintVertical_bias="0.27"
        tools:ignore="TouchTargetSizeCheck" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="385dp"
        android:layout_height="47dp"
        android:layout_marginTop="64dp"
        android:text="CALL AND SAVE APPLICATION"
        android:textAlignment="center"
        android:textColor="#9C27B0"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

**Filename:MainActivity.java**

```java
package com.example.program8;

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 {
    EditText Display;
    Button
btn_1,btn_2,btn_3,btn_4,btn_5,btn_6,btn_7,btn_8,btn_9,btn_0;
    Button btn_star,btn_hash,btn_del,btn_call,btn_save;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn_0=(Button)findViewById(R.id.btn0);
        btn_0.setOnClickListener(this);
        btn_1=(Button)findViewById(R.id.btn1);
        btn_1.setOnClickListener(this);
        btn_2=(Button)findViewById(R.id.btn2);
        btn_2.setOnClickListener(this);
        btn_3=(Button)findViewById(R.id.btn3);
        btn_3.setOnClickListener(this);
        btn_4=(Button)findViewById(R.id.btn4);
        btn_4.setOnClickListener(this);
        btn_5=(Button)findViewById(R.id.btn5);
        btn_5.setOnClickListener(this);
        btn_6=(Button)findViewById(R.id.btn6);
        btn_6.setOnClickListener(this);
        btn_7=(Button)findViewById(R.id.btn7);
        btn_7.setOnClickListener(this);
        btn_8=(Button)findViewById(R.id.btn8);
        btn_8.setOnClickListener(this);
        btn_9=(Button)findViewById(R.id.btn9);
        btn_9.setOnClickListener(this);

        btn_call=findViewById(R.id.btncall);
```

```java
        btn_call.setOnClickListener(this);
        btn_save=findViewById(R.id.btnsave);
        btn_save.setOnClickListener(this);
        btn_star=findViewById(R.id.btnstar);
        btn_star.setOnClickListener(this);
        btn_del=findViewById(R.id.btnrem);
        btn_del.setOnClickListener(this);
        btn_hash=findViewById(R.id.btnhash);
        btn_hash.setOnClickListener(this);

        Display=(EditText) findViewById(R.id.display);
        Display.setText("");


    }

    @Override
    public void onClick(View view) {
        if(view.equals(btn_1))
            Display.append("1");
        else if(view.equals(btn_2)) Display.append("2");
        else if(view.equals(btn_3))Display.append("3");
        else if(view.equals(btn_4))Display.append("4");
        else if(view.equals(btn_5))Display.append("5");
        else if(view.equals(btn_6)) Display.append("6");
        else if(view.equals(btn_7))Display.append("7");
        else if(view.equals(btn_8))Display.append("8");
        else if(view.equals(btn_9))Display.append("9");
        else if(view.equals(btn_0))Display.append("0");
        else if(view.equals(btn_star)) Display.append("*");
        else if(view.equals(btn_hash))Display.append("#");
        else if(view.equals(btn_save))
        {
            Intent contactIntent= new
Intent(ContactsContract.Intents.Insert.ACTION);

contactIntent.setType(ContactsContract.RawContacts.CONTENT_TYPE);

contactIntent.putExtra(ContactsContract.Intents.Insert.NAME,"Unknow
n");

contactIntent.putExtra(ContactsContract.Intents.Insert.PHONE,Displa
y.getText().toString());
            startActivity(contactIntent);
        }
        else if(view.equals(btn_del))
        {
            String data=Display.getText().toString();
            if(data.length()>0)
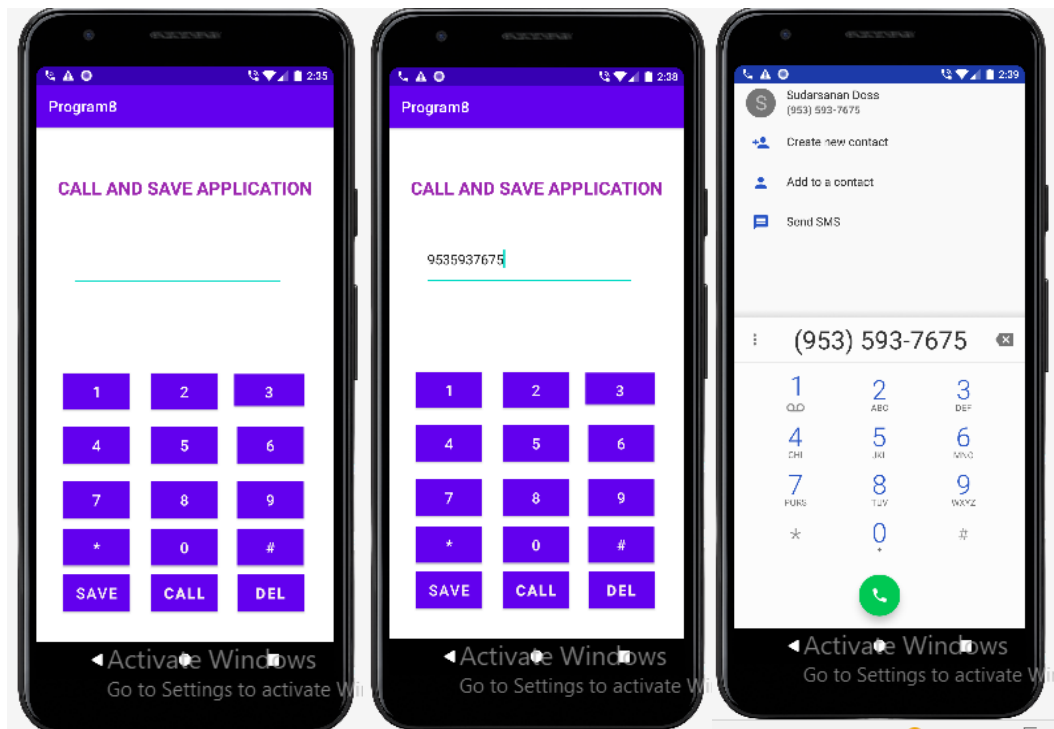```

```
            Display.setText(data.substring(0,data.length()-1));
        else
            Display.setText("");
    }
    btn_call.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View v) {
            String data = Display.getText().toString();Intent
                    intent=new Intent(Intent.ACTION_DIAL);
            intent.setData(Uri.parse("tel:"+ data));
            startActivity(intent);
        }
    }
    );
}
}
```

**OUTPUT :**

  **phone dialer with CALL**

**phone dialer with SAVE**