```
"""Program 1 - Visiting Card""
= = = XML Code = = = = =
<?xml version="1.0" encoding="utf-8"?>
< RelativeLayout
    xmlns: android= "http://schemas.android.com/apk/res/android"
    xmlns: app= "http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android: layout_widt h= "mat ch_parent"
    android: layout _height = "mat ch_parent"
    t ools: cont ext = ".MainAct ivit y">
    < Text View
        android:id= "@+id/t ext View"
        android: layout_widt h= "wrap_cont ent"
        android: layout _height = "wrap_cont ent"
        android:layout_alignParentEnd="true"
        android: layout_alignParent Right = "true"
        android: layout_alignParent Bot t om= "t rue"
        android:layout_marginEnd="291dp"
        android:layout_marginRight = "291dp"
        android:layout_marginBottom="553dp"
        android: t ext = "TJIT"
        android:t ext Size= "38dp" />
    < ImageView
        android:id= "@+id/imageView"
        android:layout_width="231dp"
        android: layout _height = "174dp"
        android:layout_alignParentEnd="true"
        android: layout_alignParent Right = "true"
        android: layout_alignParent Bot t om= "t rue"
        android:layout_marginEnd="8dp"
        android: layout _marginRight = "8dp"
        android: layout _marginBottom= "482dp"
        app:srcCompat = "@drawable/tjit_logo" />
    < View
        android:id= "@+id/view"
        android:layout_widt h= "wrap_cont ent "
        android:layout_height = "4dp"
        android:layout_alignParentBottom="true"
        android:background="#44444"
        android:layout_marginBottom= "466dp" />
    < Text View
        android:id= "@+id/t ext View2"
        android:layout_width="wrap_content"
        android: layout _height = "wrap_cont ent"
        android:layout_alignParentEnd="true"
        android: layout_alignParent Right = "true"
        android:layout_alignParent Bottom="true"
        android:layout_marginEnd="120dp"
        android: layout _marginRight = "120dp"
        android:layout_marginBottom="394dp"
        android: t ext = "Name'
        android:textSize="30dp"
        android:t ext St yle= "bold" />
```

```
< Text View
        android:id= "@+id/t ext View3"
        android:layout_width="wrap_content"
        android:layout_height = "wrap_cont ent"
        android:layout_alignParentEnd="true"
        android:layout_alignParent Right = "true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd= "126dp"
        android:layout_marginRight = "126dp"
        android:layout_marginBottom="334dp"
        android:text = "6th Sem - CSE"
        android:t ext Size= "25dp" />
    < Text View
        android:id= "@+id/t ext View4"
        android: layout_widt h= "wrap_cont ent"
        android: layout _height = "wrap_cont ent"
        android:layout_alignParentEnd="true"
        android: layout_alignParent Right = "true"
        android: layout_alignParent Bot t om= "t rue"
        android:layout_marginEnd="116dp"
        android:layout_marginRight = "116dp"
        android: layout _marginBot t om= "287dp"
        android:text = "Ph No: 000000000"
        android:t ext Size= "20dp" />
    < Text View
        android:id= "@+id/t ext View5"
        android:layout_width="wrap_content"
        android: layout _height = "wrap_cont ent"
        android:layout_alignParentEnd="true"
        android:layout_alignParent Right = "true"
        android: layout_alignParent Bot t om= "t rue"
        android:layout_marginEnd="58dp"
        android: layout_marginRight = "58dp"
        android:layout_marginBottom= "173dp"
        android:text = "Address: Gottigere, Bengaluru-83"
        android:textSize="20dp"/>
    < Text View
        android:id= "@+id/t ext View6"
        android: layout _widt h= "wrap_cont ent "
        android: layout _height = "wrap_cont ent "
        android: layout_alignParent End= "true"
        android: layout_alignParent Right = "true"
        android: layout_alignParent Bottom="true"
        android:layout_marginEnd="44dp"
        android:layout_marginRight = "44dp"
        android: layout_marginBottom= "244dp"
        android:text = "Email: abc@tjohngroup.com"
        android:textSize="20dp"/>
</RelativeLayout>
JAVA CODE
= = = = package com.example.visiting_card; = = = = =
```

```
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompat Activity {
   @Override
   protected void onCreate(Bundle savedInst anceSt at e) {
       super.onCreate(savedInstanceState);
       set Cont ent View(R.layout .act ivit y_main);
   }
}
++++++++++++
""""Program 2 - Simple Calculator"""""
<?xml version="1.0" encoding="utf-8"?>
< RelativeLayout xmlns: android= "http://schemas.android.com/apk/res/android"
   xmlns: app= "http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android: layout_widt h= "mat ch_parent"
   android: layout _height = "mat ch_parent"
   t ools: cont ext = ".MainAct ivit y">
   < Text View
       android: layout_widt h= "wrap_cont ent "
       android: layout _height = "wrap_cont ent"
       android:layout_alignParentEnd="true"
       android: layout_alignParent Bot t om= "t rue"
       android:layout_marginEnd="68dp"
       android:layout_marginBottom= "532dp"
       android:t ext = "Simple Calculat or"
       android:textColor="@color/black"
       android:textSize="35dp"/>
   < Edit Text
       android:id= "@+id/edit Text 1"
       android:layout_width="129dp"
       android:layout_height = "60dp"
       android:layout_alignParentEnd="true"
       android: layout_alignParent Bottom="true"
       android:layout_marginEnd= "248dp"
       android:layout_marginBottom="386dp"
       android: ems= "10"
       android:hint = "Enter 1st Num"
       android:input Type= "t ext PersonName"
       android:text = "" />
   < Edit Text
```

```
android:id= "@+id/edit Text 2"
    android:layout_widt h= "127dp"
    android:layout_height = "57dp"
    android:layout_alignParentEnd="true"
    android: layout_alignParent Bot t om= "t rue"
    android:layout_marginEnd="38dp"
    android:layout_marginBottom= "388dp"
    android: ems= "10"
    android:hint = "Ent er 2nd Num"
    android:input Type= "t ext PersonName"
    android:text = "" />
< Text View
    android:id= "@+id/t ext View1"
    android: layout_widt h= "wrap_cont ent"
    android:layout_height = "wrap_cont ent"
    android:layout_alignParentEnd="true"
    android: layout_alignParent Bot t om= "t rue"
    android:layout_marginEnd="193dp"
    android:layout_marginBottom= "344dp"
    android:text="0"
    android:textColor="@color/black"
    android:textSize="40dp"/>
< But t on
    android:id= "@+id/button"
    android: layout _widt h= "wrap_cont ent "
    android: layout _height = "wrap_cont ent "
    android:layout_alignParentEnd="true"
    android: layout_alignParent Bot t om= "t rue"
    android:layout_marginEnd= "269dp"
    android:layout_marginBottom="254dp"
    android: onClick= "doAdd"
    android:text Color = "#ff0000"
    android:background="@color/black"
    android:text = "ADD" />
< But t on
    android:id= "@+id/button2"
    android: layout _widt h= "wrap_cont ent "
    android:layout_height = "wrap_cont ent"
    android:layout_alignParentEnd="true"
    android:layout_alignParent Bottom="true"
    android:layout_marginEnd="53dp"
    android:layout_marginBottom="253dp"
    android:onClick="doSub"
    android:text Color = "#ff0000"
    android: background= "@color/black"
    android:text = "SUB" />
< But t on
    android:id="@+id/button3"
    android: layout_widt h= "wrap_cont ent "
    android:layout_height = "wrap_cont ent"
    android: layout_alignParent End="true"
    android: layout_alignParent Bot t om= "t rue"
    android: layout _marginEnd= "271dp"
    android: layout _marginBottom= "116dp"
    android: onClick= "doMul"
    android:text Color = "#ff0000"
```

```
android: background = "@color/black"
        android:text = "MUL" />
    < But t on
        android:id= "@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height = "wrap_cont ent"
        android: layout_alignParent End= "true"
        android:layout_alignParentBottom="true"
        android: layout _marginEnd= "55dp"
        android:layout_marginBottom="116dp"
        android: onClick= "doDiv"
        android:text Color = "#ff0000"
        android:background="@color/black"
        android:text = "DIV" />
</RelativeLayout>
==== JAVA CODE =======
package com.example.calculator;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompat Activity {
    Edit Text e1,e2;
    Text View t v1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        set Cont ent View(R.layout .act ivit y_main);
        e1 = (Edit Text)findViewById(R.id.edit Text 1);
        e2 = (Edit Text)findViewById(R.id.edit Text 2);
        tv1 = (Text View)findViewById(R.id.text View1);
    }
    public void doAdd(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result = a1+a2;
        tv1.set Text (""+result);
    public void doSub(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result = a1-a2;
        tv1.set Text (""+result);
    public void doMul(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Int eger.parseInt (e2.get Text ().t oString());
        int result = a1*a2;
        tv1.set Text (""+result);
    public void doDiv(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
```

```
int a2 = Integer.parseInt(e2.getText().toString());
       float result = a1/a2;
       tv1.set Text (""+result);
   }
}
+++++++++++++
= = = XML CODE = = = =
<?xml version="1.0" encoding="utf-8"?>
< RelativeLayout xmlns: android= "http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android: layout_widt h= "mat ch_parent"
   android: layout_height = "mat ch_parent"
   tools: cont ext = ".MainAct ivit y">
   < Text View
       android:id= "@+id/t ext View"
       android:layout_width="210dp"
       android:layout_height = "54dp"
       android:layout_alignParentEnd="true"
       android:layout_alignParent Bot t om= "t rue"
       android:layout_marginEnd="120dp"
       android:layout_marginBottom= "576dp"
       android:text = "Wall Paper Change Application"
       android:t ext Size= "28dp" />
   < But t on
       android:id= "@+id/button"
       android:layout_width="wrap_content"
       android:layout_height = "wrap_cont ent"
       android:layout_alignParentEnd="true"
       android: layout_alignParent Bot t om= "t rue"
       android:layout_marginEnd="173dp"
       android:layout_marginBottom= "189dp"
       android:text = "Click Here To Change Wall Paper"
       android:textSize="26dp"/>
</RelativeLayout>
===== JAVA CODE ======
package com.example.wallpaper;
import androidx.appcompat.app.AppCompatActivity;
import android.app.WallpaperManager;
import android.graphics.Bitmap;
import android.graphics.Bit mapFactory;
import android.graphics.drawable.AnimationDrawable;
```

```
import android.graphics.drawable.BitmapDrawable;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import java.io.IOException;
import java.util.Timer;
import java.util.TimerTask;
public class MainActivity extends AppCompat Activity {
    Button changewallpaper;
    Timer mytimer;
    Drawable drawable:
    Wallpaper Manager wpm;
    int prev=1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        set Cont ent View(R.layout .act ivit y_main);
        mytimer = new Timer();
        wpm = Wallpaper Manager.get Inst ance(t his);
        changewallpaper = findViewById(R.id.button);
        changewallpaper.set OnClickList ener (new View.OnClickList ener () {
            @Override public void onClick(View view) {
                 set Wallpaper();
        });
    privat e void set Wallpaper() {
        mytimer.schedule(new TimerTask() {
            @Override
            public void run() {
                 if (prev = = 1) {
                     drawable = get Resources().get Drawable(R.drawable.one);
                     prev = 2;
                 } else if (prev = = 2) {
                     drawable = get Resources().get Drawable(R.drawable.two);
                     prev = 3;
                 } else if (prev = = 3) {
                     drawable = get Resources().get Drawable(R.drawable.three);
                     prev = 4;
                 } else if (prev = = 4) {
                     drawable = get Resources().get Drawable(R.drawable.four);
                     prev = 5;
                 } else if (prev = = 5) {
                     drawable = get Resources().get Drawable(R.drawable.five);
                     prev = 1;
                 Bit map wallpaper = ((Bit mapDrawable) drawable).get Bit map();
                     wpm.set Bit map(wallpaper);
                 } cat ch (IOExcept ion e) {
                     e.print St ackTrace();
        },0,300000);}}
```

```
+++++++++++++++
 ````Program 5 - Counter Activity```````
==== XML CODE =====
<?xml version="1.0" encoding="utf-8"?>
< RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
 xmlns: app= "http://schemas.android.com/apk/res-auto"
 xmlns:tools="http://schemas.android.com/tools"
 android: layout_widt h= "mat ch_parent"
 android: layout _height = "mat ch_parent"
 tools: cont ext = ".MainAct ivit y">
 < Text View
 android: layout_widt h= "378dp"
 android: layout_height = "68dp"
 android:layout_alignParentEnd="true"
 android:layout_alignParent Bottom="true"
 android: layout _marginEnd= "18dp"
 android:layout_marginBottom="602dp"
 android:text = "Counter Application"
 android:textSize= "38dp"
 app: layout _const raint Bot t om_t oBot t omOf = "parent"
 app:layout_constraintLeft_toLeftOf = "parent"
 app: layout_constraint Right_t oRight Of = "parent"
 app:layout_constraintTop_toTopOf = "parent" />
 < Text View
 android:id= "@+id/t ext View"
 android:layout_width="121dp"
 android:layout_height = "32dp"
 android:layout_alignParentEnd="true"
 android:layout_alignParent Bottom="true"
 android: layout _marginEnd= "145dp"
 android:layout_marginBottom="478dp"
 android:text = "Counter Value" />
 < But t on
 android:id= "@+id/bt n_st art "
 android:layout_width="wrap_content"
 android: layout _height = "wrap_cont ent"
 android:layout_alignParentEnd="true"
 android:layout_alignParent Bottom="true"
 android:layout_marginEnd= "297dp"
 android:layout_marginBottom= "295dp"
 android:text = "Start" />
 < But t on
 android:id= "@+id/bt n_st op"
 android: layout_widt h= "wrap_cont ent "
 android:layout_height = "wrap_cont ent"
 android:layout_alignParentEnd="true"
 android: layout_alignParent Bot t om= "t rue"
 android:layout_marginEnd="74dp"
 android: layout _marginBottom= "292dp"
 android:text = "Stop" />
</RelativeLayout>
```

```
====== JAVA CODE ======
package com.example.count eract ivit y;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompat Activity {
 Button btnstart, btnstop;
 Text View txt count er;
 int i=1;
 Handler cust omHandler = new Handler();
 @Override
 protected void onCreate(Bundle savedInst anceSt at e) {
 super.onCreate(savedInstanceState);
 set Cont ent View(R.layout .act ivit y_main);
 bt nst art = findViewById(R.id.bt n_st art);
 bt nst op=findViewById(R.id.bt n_st op);
 txtcounter=findViewById(R.id.textView);
 bt nst art.set OnClickList ener (new View.OnClickList ener () {
 @Override
 public void onClick(View v) {
 cust omHandler.post Delayed(updat eTimerThread,0);
 });
 bt nst op.set OnClickList ener (new View.OnClickList ener () {
 @Override
 public void onClick(View v) {
 cust omHandler.removeCallbacks(updat eTimerThread);
 });
 private final Runnable updateTimerThread= new Runnable() {
 @Override
 public void run() {
 txtcounter.setText(""+i);
 cust omHandler.post Delayed(this,1000);
 i++;
 }
 };
}
""""Program 7 - Text to Speech""""
```

```
<?xml version="1.0" encoding="utf-8"?>
< RelativeLayout xmlns: android= "http://schemas.android.com/apk/res/android"
 xmlns: app= "http://schemas.android.com/apk/res-auto"
 xmlns:tools="http://schemas.android.com/tools"
 android: layout _widt h= "mat ch_parent"
 android: layout _height = "mat ch_parent"
 t ools: cont ext = ".MainAct ivit y">
 < Text View
 android:id= "@+id/t ext View"
 android: layout_widt h= "wrap_cont ent"
 android: layout_height = "wrap_cont ent"
 android:layout_alignParentEnd="true"
 android: layout_alignParent Right = "true"
 android:layout_alignParentBottom="true"
 android: layout _marginEnd= "59dp"
 android:layout_marginRight = "59dp"
 android:layout_marginBottom="649dp"
 android:text = "Text 2SpeechApp"
 android:t ext Size= "40dp" />
 < Edit Text
 android:id= "@+id/edit Text"
 android: layout _widt h= "wrap_cont ent "
 android: layout _height = "wrap_cont ent "
 android:layout_alignParentEnd="true"
 android: layout_alignParent Right = "true"
 android:layout_alignParentBottom="true"
 android: layout _marginEnd= "101dp"
 android:layout_marginRight = "101dp"
 android:layout_marginBottom="514dp"
 android: ems= "10"
 android: hint = "Enter the text to be converted"
 android:input Type= "t ext PersonName"
 android:text = "" />
 < But t on
 android:id= "@+id/button"
 android: layout_widt h= "wrap_cont ent "
 android:layout_height = "wrap_cont ent"
 android:layout_alignParentEnd="true"
 android:layout_alignParent Right = "true"
 android: layout_alignParent Bot t om= "t rue"
 android: layout _marginEnd= "162dp"
 android: onClick= "convert"
 android:layout_marginRight = "162dp"
 android: layout_marginBottom= "329dp"
 android:text = "Convert" />
</RelativeLayout>
===== JAVA CODE =======
package com.example.t ext t ospech;
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
import java.util.Locale;
public class MainActivity extends AppCompat Activity {
 Text ToSpeech t 1;
 Edit Text e1;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 set Cont ent View(R.layout .act ivit y_main);
 e1 = findViewById(R.id.editText);
 t1 = new TextToSpeech(getApplicationContext(), new
 Text ToSpeech.OnInit List ener() {
 @Override
 public void onInit(int status) {
 if (status!= Text ToSpeech.ERROR){
 t1.setLanguage(Locale.UK);
 }
 });
 public void convert (View view){
 String tospeak = e1.get Text().toString();
 t1.speak(tospeak,TextToSpeech.QUEUE_FLUSH,null);
 }
}
```

++++++++++++++++