

```
<?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_width="match_parent"
    android:layout_height="match_parent"
    android:background="#00FFFF"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView4"
        android:layout_width="371dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="28dp"
        android:layout_marginLeft="40dp"
        android:layout_marginEnd="12dp"
        android:layout_marginRight="12dp"
        android:layout_marginBottom="219dp"
        android:text="Address:JAIN Campus,Hebballi Road,Hubballi -580031"
        android:textAlignment="center"
        android:textSize="24sp" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="250dp"
        android:layout_height="wrap_content"
```

```
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="87dp"
    android:layout_marginLeft="87dp"
    android:layout_marginEnd="73dp"
    android:layout_marginRight="73dp"
    android:layout_marginBottom="157dp"
    android:text="Ph No: 9108380566"
    android:textAlignment="center"
    android:textSize="24sp" />
<TextView
    android:id="@+id/textView6"
    android:layout_width="367dp"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="25dp"
    android:layout_marginLeft="25dp"
    android:layout_marginEnd="19dp"
    android:layout_marginRight="19dp"
    android:layout_marginBottom="64dp"
    android:text="Email Id:jcetcse@jcet.ac.edu"
    android:textAlignment="center"
    android:textSize="24sp" />
```

<TextView

```
    android:id="@+id/textView3"
    android:layout_width="367dp"
    android:layout_height="66dp"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="12dp"
    android:layout_marginLeft="12dp"
    android:layout_marginEnd="32dp"
    android:layout_marginRight="32dp"
    android:layout_marginBottom="421dp"
    android:text="Computer Science and Eng"
    android:textAlignment="center"
    android:textSize="24sp" />
```

<ImageView

```
    android:id="@+id/imageView3"
    android:layout_width="155dp"
    android:layout_height="98dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="-11dp"
    android:layout_marginRight="-11dp"
    android:layout_marginBottom="620dp"
    app:srcCompat="@drawable/logo" />
```

<ImageView

```
android:id="@+id/view"
android:layout_width="wrap_content"
android:layout_height="4dp"
android:layout_alignParentBottom="true"
android:layout_marginBottom="487dp"
android:background="#444444" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="176dp"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentLeft="true"
android:layout_alignParentEnd="true"
android:layout_alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout_marginStart="79dp"
android:layout_marginLeft="79dp"
android:layout_marginEnd="156dp"
android:layout_marginRight="156dp"
android:layout_marginBottom="525dp"
android:text="CSE"
android:textAlignment="center"
android:textSize="24sp"
android:textStyle="bold" />
```

<TextView

```
android:id="@+id/textView7"
android:layout_width="258dp"
android:layout_height="82dp"
android:layout_alignParentBottom="true"
```

```

        android:layout_marginEnd="-4dp"
        android:layout_marginRight="-4dp"
        android:layout_marginBottom="612dp"
        android:layout_toStartOf="@+id/imageView3"
        android:layout_toLeftOf="@+id/imageView3"
        android:text="JCET HUBLI"
        android:textColor="#E91E63"
        android:textSize="36sp"
        android:textStyle="bold" />
    </RelativeLayout>

```

JAVA

```

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

```

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```

<?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_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView

```

```

        android:layout_width="209dp"
        android:layout_height="60dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="108dp"
        android:layout_marginRight="108dp"
        android:layout_marginBottom="530dp"
        android:text="Simple Calci"
        android:textSize="36sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/editText2"
    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="115dp"
    android:layout_marginRight="115dp"
    android:layout_marginBottom="364dp"
    android:ems="10"
    android:hint="Enter the Number 2"
    android:inputType="textPersonName"
    android:text=""
    android:textColorHighlight="#FFFFFF" />
<EditText
    android:id="@+id/editText1"

```

```

        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="110dp"
        android:layout_marginRight="110dp"
        android:layout_marginBottom="439dp"
        android:ems="10"
        android:hint="Enter the Number 1"
        android:inputType="textPersonName"
        android:text=""
        android:textColorHighlight="#FFFFFF" />
<Button
    android:id="@+id/button"
    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="260dp"
    android:layout_marginRight="260dp"
    android:layout_marginBottom="175dp"
    android:text="ADD"
    android:textStyle="bold"
    android:onClick="add"
    app:backgroundTint="#E8F381" />
<Button
    android:id="@+id/button3"
    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="266dp"
    android:layout_marginRight="266dp"
    android:layout_marginBottom="61dp"
    android:text="MUL"
    android:onClick="mul"
    app:backgroundTint="#A1FAA4" />
<Button
    android:id="@+id/button4"
    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="108dp"
    android:layout_marginRight="108dp"
    android:layout_marginBottom="63dp"
    android:text="DIV"
    android:onClick="div"
    app:backgroundTint="#E6C28C" />
<Button
    android:id="@+id/button2"
    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="105dp"
    android:layout_marginRight="105dp"
```



```

        android:layout_marginBottom="182dp"

        android:text="SUB"

        android:onClick="sub"

        app:backgroundTint="#ECA9A9" />
<TextView

    android:id="@+id/tv1"

    android:layout_width="86dp"

    android:layout_height="61dp"

    android:layout_alignParentEnd="true"

    android:layout_alignParentRight="true"

    android:layout_alignParentBottom="true"

    android:layout_marginEnd="202dp"

    android:layout_marginRight="202dp"

    android:layout_marginBottom="274dp"

    android:text="0"

    android:textSize="36sp" />
</RelativeLayout>

```

## JAVA

```

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    TextView tv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1 =(EditText)findViewById(R.id.editText1);
        e2 = (EditText)findViewById(R.id.editText2);
        tv= (TextView)findViewById(R.id.tv1);
    }
    public void add(View v){

```

```

        int a1=Integer.parseInt(e1.getText().toString());
        int a2= Integer.parseInt(e2.getText().toString());
        int result=a1+a2;
        tv.setText(""+result);
    }
    public void sub(View v){
        int a1=Integer.parseInt(e1.getText().toString());
        int a2= Integer.parseInt(e2.getText().toString());
        int result=a1-a2;
        tv.setText(""+result);
    }
    public void mul(View v){
        int a1=Integer.parseInt(e1.getText().toString());
        int a2= Integer.parseInt(e2.getText().toString());
        int result=a1*a2;
        tv.setText(""+result);
    }
    public void div(View v){
        float a1=Integer.parseInt(e1.getText().toString());
        float a2= Integer.parseInt(e2.getText().toString());
        float result=a1/a2;
        tv.setText(""+result);
    }
}

```

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```

<?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:layout_marginStart="41dp"
        android:layout_marginTop="25dp"
        android:layout_marginEnd="80dp"
        android:layout_marginBottom="172dp"
        android:text="SIGN UP ACTIVITY"
        android:textColor="#C65D5D"
        android:textSize="28sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"

```

```

        android:layout_height="wrap_content"
        android:layout_marginStart="22dp"
        android:layout_marginTop="98dp"
        android:layout_marginEnd="346dp"
        android:layout_marginBottom="604dp"
        android:text="Username:"
        android:textSize="18sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />
<EditText
    android:id="@+id/editText3"
    android:layout_width="166dp"
    android:layout_height="39dp"
    android:layout_marginStart="124dp"
    android:layout_marginTop="88dp"
    android:layout_marginEnd="54dp"
    android:layout_marginBottom="610dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.0"/>
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="22dp"
    android:layout_marginTop="148dp"
    android:layout_marginEnd="346dp"
    android:layout_marginBottom="604dp"
    android:text="Password:"
    android:textSize="18sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.0" />
<EditText
    android:id="@+id/editText1"
    android:layout_width="166dp"
    android:layout_height="39dp"
    android:layout_marginStart="124dp"
    android:layout_marginTop="138dp"
    android:layout_marginEnd="54dp"
    android:layout_marginBottom="610dp"
    android:ems="10"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"

```

```

        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="108dp"
        android:layout_marginTop="190dp"
        android:layout_marginEnd="215dp"
        android:layout_marginBottom="517dp"
        android:text="SIGN UP"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

```

package com.example.myapplication3;

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.Toast;
import java.util.regex.Matcher;
import java.util.regex.Pattern;

public class MainActivity extends AppCompatActivity {
    Button signup;
    EditText username, password;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        username = findViewById(R.id.editText3);
        password = findViewById(R.id.editText1);
        signup = findViewById(R.id.button);
        signup.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if(password.getText().toString().length() >= 8 &&
                    validatePassword(password.getText().toString())) {
                    Toast.makeText(getApplicationContext(), "Successful Sign
UP", Toast.LENGTH_LONG).show();
                    Intent it = new
Intent(getApplicationContext(), login_activity.class);
                    Bundle b = new Bundle();
                    b.putString("usern", username.getText().toString());
                    b.putString("pass", password.getText().toString());
                    it.putExtras(b);
                    startActivity(it);
                } else {
                    Toast.makeText(getApplicationContext(), "not
VALID", Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}

```

```

    }
    });
}
public boolean validatePassword(String password) {
    Pattern pattern;
    Matcher matcher;
    final String PASSWORD_PATTERN = "^(?=.*[0-9])(?=.*[A-
Z])(?=.*[az])(?=.*[@#$%^&+=!]) (?!\\S+$)\\. {8,} $";
    pattern = Pattern.compile(PASSWORD_PATTERN);
    matcher = pattern.matcher(password);
    return matcher.matches();
}
}

```

```

<?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:layout_marginStart="41dp"
        android:layout_marginTop="25dp"
        android:layout_marginEnd="80dp"
        android:layout_marginBottom="172dp"
        android:text="LOGIN ACTIVITY"
        android:textColor="#C65D5D"
        android:textSize="28sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="22dp"
        android:layout_marginTop="98dp"
        android:layout_marginEnd="346dp"
        android:layout_marginBottom="604dp"
        android:text="Username:"
        android:textSize="18sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />
    <EditText
        android:id="@+id/l_username"
        android:layout_width="166dp"

```

```

        android:layout_height="39dp"
        android:layout_marginStart="124dp"
        android:layout_marginTop="88dp"
        android:layout_marginEnd="54dp"
        android:layout_marginBottom="610dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0"/>
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="22dp"
    android:layout_marginTop="148dp"
    android:layout_marginEnd="346dp"
    android:layout_marginBottom="604dp"
    android:text="Password:"
    android:textSize="18sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.0" />
<EditText
    android:id="@+id/l_password"
    android:layout_width="166dp"
    android:layout_height="39dp"
    android:layout_marginStart="124dp"
    android:layout_marginTop="138dp"
    android:layout_marginEnd="54dp"
    android:layout_marginBottom="610dp"
    android:ems="10"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.0" />
<Button
    android:id="@+id/button_signin"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="108dp"
    android:layout_marginTop="190dp"
    android:layout_marginEnd="215dp"
    android:layout_marginBottom="517dp"
    android:text="SIGN IN"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"

```

```
        app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```
package com.example.myapplication3;

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.Toast;
public class login_activity extends AppCompatActivity {
    Button lsignin;
    EditText username, lpassword;
    int counter = 2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);
        username = (EditText) findViewById(R.id.l_username);
        lpassword = (EditText) findViewById(R.id.l_password);
        lsignin = (Button) findViewById(R.id.button_signin);
        lsignin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Bundle b = getIntent().getExtras();
                String suser = b.getString("usern");
                String spass = b.getString("pass");
                if(suser.toString().equals(username.getText().toString())
                && spass.toString().equals(lpassword.getText().toString()))
                {
                    Intent it = new Intent(getApplicationContext(),
success.class);
                    startActivity(it);
                }
                else
                {
                    Toast.makeText(getApplicationContext(), "LOGIN
FAILED", Toast.LENGTH_LONG).show();
                }
                counter--;
                if(counter == 0)
                {
                    Toast.makeText(getApplicationContext(), "FAILED LOGIN
ATTEMPTS", Toast.LENGTH_LONG).show();
                    lsignin.setEnabled(false);
                }
            }
        });
    }
}
```

```

<?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_width="match_parent"
    android:layout_height="match_parent"
    android:background="#B5D7DC"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="285dp"
        android:layout_height="149dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="72dp"
        android:layout_marginTop="300dp"
        android:layout_marginEnd="54dp"
        android:layout_marginBottom="346dp"
        android:text="SUCCESSFULL LOGIN"
        android:textAlignment="center"
        android:textColor="#C65D5D"
        android:textSize="25dp"
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</RelativeLayout>

```

```

package com.example.myapplication3;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class success extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_success);
    }
}

```

4

```

<?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_width="match_parent"

```



```
android:layout_height="match_parent"
```

```
tools:context=".MainActivity">
```

```
<Button
```

```
    android:id="@+id/button1"
```

```
    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="144dp"
```

```
    android:layout_marginRight="144dp"
```

```
    android:layout_marginBottom="335dp"
```

```
    android:text="CLICK HERE" />
```

```
</RelativeLayout>
```

JAVA

```
import androidx.appcompat.app.AppCompatActivity;
import android.app.WallpaperManager;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.graphics.drawable.BitmapDrawable;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.os.Handler;
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 AppCompatActivity {
    Button wallpaperChange;
    Timer mytimer;
    Drawable drawable;
    WallpaperManager wpm;
    int prev = 1;

    @Override
```

```

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    mytimer = new Timer();
    wpm = WallpaperManager.getInstance(this);
    wallpaperChange = (Button) findViewById(R.id.button1);
    wallpaperChange.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            setwallpaper();
        }
    });
}

private void setwallpaper() {
    Toast.makeText(this, "setting Wallpaper please wait.",
Toast.LENGTH_LONG).show();
    mytimer.schedule(new TimerTask() {
        @Override
        public void run() {
            if (prev == 1) {
                drawable = getResources().getDrawable(R.drawable.i1);
                prev = 2;
            } else if (prev == 2) {
                drawable = getResources().getDrawable(R.drawable.i2);
                prev = 3;
            } else if (prev == 3) {
                drawable = getResources().getDrawable(R.drawable.i3);
                prev = 4;
            } else if (prev == 4) {
                drawable = getResources().getDrawable(R.drawable.i4);
                prev = 5;
            } else if (prev == 5) {
                drawable = getResources().getDrawable(R.drawable.i5);
                prev = 1;
            }
            Bitmap wallpaper = ((BitmapDrawable) drawable).getBitmap();
            try {
                wpm.setBitmap(wallpaper);
            } catch (IOException e) {
                e.printStackTrace();
            }
        }
    }, 0, 30000);
}
}

```

```
<?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_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="332dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="41dp"
        android:layout_marginLeft="41dp"
        android:layout_marginEnd="38dp"
        android:layout_marginRight="38dp"
        android:layout_marginBottom="516dp"
        android:text="Counter Application"
        android:textSize="36sp"
        android:textStyle="bold" />

    <Button
        android:id="@+id/button1"
        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="236dp"
        android:layout_marginRight="236dp"
        android:layout_marginBottom="89dp"
        android:text="Start"
        android:textSize="30sp"
        app:backgroundTint="#4CAF50" />
<Button
    android:id="@+id/button2"
    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="55dp"
    android:layout_marginRight="55dp"
    android:layout_marginBottom="92dp"
    android:text="STOP"
    android:textSize="30sp"
    app:backgroundTint="#EC5449" />
<TextView
    android:id="@+id/textView2"
    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="165dp"
    android:layout_marginRight="165dp"
    android:layout_marginBottom="434dp"
    android:text="counter value"

```

```
        android:textSize="18sp"

        android:textStyle="bold" />
</RelativeLayout>
```

JAVA

```
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 AppCompatActivity {
    TextView txtCounter;
    Button btn_start,btn_stop;
    int count=0;
    Handler customHandler=new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        txtCounter = (TextView) findViewById(R.id.textView2);
        btn_start = (Button) findViewById(R.id.button1);
        btn_stop = (Button) findViewById(R.id.button2);
        btn_start.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                customHandler.postDelayed(updateTimerThread, 0);
            }
        });
        btn_stop.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                customHandler.removeCallbacks(updateTimerThread);
            }
        });
    }
    private final Runnable updateTimerThread =new Runnable() {
        @Override
        public void run() {
            txtCounter.setText(""+count);
            customHandler.postDelayed(this,1000);
            count++;
        }
    };
}
```

```
<?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_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="335dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="21dp"
        android:layout_marginBottom="486dp"
        android:text="Text2Speech"
        android:textSize="30sp" />

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="142dp"
        android:layout_marginBottom="377dp"
        android:ems="10"
        android:hint="Enter text here"
        android:inputType="textPersonName" />

    <Button
        android:id="@+id/convert"
```

```

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_alignParentEnd="true"

        android:layout_alignParentBottom="true"

        android:layout_marginEnd="196dp"

        android:layout_marginBottom="236dp"

        android:onClick="convert"

        android:background="#6CEC71"

        android:text="CONVERT" />
</RelativeLayout>

```

## JAVA

```

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.EditText;
import java.util.Locale;
public class MainActivity extends AppCompatActivity {
    EditText e1;
    TextToSpeech t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.editText);
        t1=new TextToSpeech(getApplicationContext(), new
TextToSpeech.OnInitListener()
        {
            @Override
            public void onInit(int status)
            {
                if(status!=TextToSpeech.ERROR){
                    t1.setLanguage(Locale.UK);
                }
            }
        });
    }
    public void convert(View V){
        String tospeak=e1.getText().toString();
        t1.speak(tospeak,TextToSpeech.QUEUE_FLUSH,null);
    }
}

```

```
}
```

8

```
<?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:id="@+id/Button11"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:backgroundTint="#4CAF50"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/button8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="169dp"
        android:layout_marginBottom="201dp"
        android:backgroundTint="#4CAF50"
        android:onClick="inputNumber"
        android:text="8" />
    <Button
        android:id="@+id/Button10"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
```



```
        android:layout_marginEnd="286dp"
        android:layout_marginBottom="115dp"
        android:onClick="inputNumber"
        android:backgroundTint="#4CAF50"
        android:text="*" />
<Button
    android:id="@+id/saveBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="80dp"
    android:layout_marginBottom="38dp"
    android:backgroundTint="#CDDC39"
    android:text="Save" />
<Button
    android:id="@+id/callBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="209dp"
    android:layout_marginBottom="35dp"
    android:backgroundTint="#F44336"
    android:text="Call" />
<Button
    android:id="@+id/clearBtn12"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
```

```
        android:layout_marginEnd="159dp"
        android:layout_marginBottom="116dp"
        android:backgroundTint="#4CAF50"
        android:onClick="inputNumber"
        android:text="0" />
<Button
    android:id="@+id/Button7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="288dp"
    android:layout_marginBottom="201dp"
    android:onClick="inputNumber"
    android:backgroundTint="#4CAF50"
    android:text="7" />
<Button
    android:id="@+id/Button9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="38dp"
    android:layout_marginBottom="201dp"
    android:onClick="inputNumber"
    android:backgroundTint="#4CAF50"
    android:text="9" />
<EditText
    android:id="@+id/phoneNumberEditText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="172dp"
    android:layout_marginBottom="543dp"
    android:onClick="inputNumber"
    android:ems="10"
    android:hint="Phone Number"
    android:inputType="phone" />
```

```
<Button
```

```
    android:id="@+id/clearBtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="48dp"
    android:layout_marginBottom="544dp"
    android:backgroundTint="#E91E63"
    android:text="Clear" />
```

```
<Button
```

```
    android:id="@+id/Button12"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="38dp"
    android:onClick="inputNumber"
    android:layout_marginBottom="108dp"
    android:backgroundTint="#4CAF50"
    android:text="#" />
```

```
<Button
```

```
    android:id="@+id/Button1"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="291dp"
android:onClick="inputNumber"
android:layout_marginBottom="380dp"
android:backgroundTint="#4CAF50"
android:text="1" />
```

<Button

```
android:id="@+id/Button4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="289dp"
android:onClick="inputNumber"
android:layout_marginBottom="296dp"
android:backgroundTint="#4CAF50"
android:text="4" />
```

<Button

```
android:id="@+id/Button5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="170dp"
android:onClick="inputNumber"
android:layout_marginBottom="295dp"
android:backgroundTint="#4CAF50"
android:text="5" />
```

```
<Button
    android:id="@+id/Button6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="35dp"
    android:layout_marginBottom="290dp"
    android:onClick="inputNumber"
    android:backgroundTint="#4CAF50"
    android:text="6" />
```

```
<Button
    android:id="@+id/Button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="172dp"
    android:onClick="inputNumber"
    android:layout_marginBottom="380dp"
    android:backgroundTint="#4CAF50"
    android:text="2" />
```

```
<Button
    android:id="@+id/Button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="48dp"
    android:onClick="inputNumber"
    android:layout_marginBottom="380dp"
```

```
        android:backgroundTint="#4CAF50"

        android:text="3" />
</RelativeLayout>
```

JAVA

```
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;
import java.net.URI;
public class MainActivity extends AppCompatActivity {
    EditText phoneNumberEditText;
    Button clearBtn,saveBtn,callBtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        phoneNumberEditText=findViewById(R.id.phoneNumberEditText);
        clearBtn=findViewById(R.id.clearBtn);
        callBtn=findViewById(R.id.callBtn);
        saveBtn=findViewById(R.id.saveBtn);
        clearBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                phoneNumberEditText.setText("");
            }
        });
        callBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String phoneNumber=phoneNumberEditText.getText().toString();
                Intent intent= new Intent(Intent.ACTION_DIAL);
                intent.setData(Uri.parse("tel:"+phoneNumber));
                startActivity(intent);
            }
        });
        saveBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String phoneNumber=phoneNumberEditText.getText().toString();
                Intent intent=new Intent(Intent.ACTION_INSERT);
                intent.setType(ContactsContract.Contacts.CONTENT_TYPE);
```

```
        intent.putExtra(ContactsContract.Intents.Insert.PHONE, phoneNum
ber);
        startActivity(intent);
    }
});
}
public void inputNumber(View v){
    Button btn=(Button)v;
    String digit=btn.getText().toString();
    String phoneNumber=phoneNumberEditText.getText().toString();
    phoneNumberEditText.setText(phoneNumber+digit);
}
}
```