

# PROGRAM1:VISITING CARD

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    android:background="@color/purple_200"
    >
    <ImageView
        android:id="@+id/company_logo"
        android:layout_width="100dp"
        android:layout_height="40dp"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="16dp"
        android:src="@drawable/logo"/>

    <TextView
        android:id="@+id/company_name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/header"
        android:textSize="30dp"
        android:textStyle="bold"
        android:gravity="center"
        android:textColor="@color/black"/>

    <TextView
        android:id="@+id/employee_name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/fname"
        android:textSize="20dp"
        android:textColor="@android:color/black"
        android:layout_below="@id/horizontal_line"
        android:layout_marginTop="10dp"
        android:textAlignment="center"/>

    <TextView
        android:id="@+id/job_title"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/jobtitle"
        android:textSize="20dp"
        android:textColor="@android:color/black"
        android:layout_below="@id/employee_name"
        android:layout_marginTop="10dp"
```

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        android:textAlignment="center"/>

<View
    android:id="@+id/horizontal_line"
    android:layout_width="match_parent"
    android:layout_height="2dp"
    android:background="@android:color/black"
    android:layout_below="@id/company_name"
    android:layout_marginTop="10dp"/>

<ImageView
    android:id="@+id/phone"
    android:layout_width="30dp"
    android:layout_height="25dp"
    android:layout_marginTop="10dp"
    android:src="@drawable/wp"
    android:layout_below="@+id/job_title"
    android:layout_alignParentEnd="true"
    />

<TextView
    android:id="@+id/phone_number"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@string/phonenummer"
    android:textSize="20dp"
    android:textColor="@android:color/black"
    android:layout_below="@id/job_title"
    android:layout_marginTop="10dp"
    android:textAlignment="center"/>

<TextView
    android:id="@+id/address"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@string/address"
    android:textSize="20dp"
    android:textColor="@android:color/black"
    android:layout_below="@id/phone_number"
    android:layout_marginTop="10dp"
    android:textAlignment="center"/>

<ImageView
    android:id="@+id/mail"
    android:layout_width="30dp"
    android:layout_height="25dp"
    android:layout_alignParentEnd="true"
    android:layout_marginTop="10dp"
    android:src="@drawable/gmail"
    android:layout_below="@+id/address"/>
<TextView

```

```

        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/email"
        android:textSize="20dp"
        android:textColor="@android:color/black"
        android:layout_below="@id/address"
        android:layout_marginTop="10dp"
        android:textAlignment="center"/>
<TextView
    android:id="@+id/website"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@string/website"
    android:textSize="20dp"
    android:textColor="@android:color/black"
    android:layout_below="@id/email"
    android:layout_marginTop="10dp"
    android:textAlignment="center"/>

</RelativeLayout>

```

## PROGRAM 2 : 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_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/app_head"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/app_head"
        android:textSize="25dp"
        android:textColor="@color/black"
        android:textAlignment="center"
        android:textAllCaps="true"
        />

    <EditText
        android:id="@+id/calculator_txt_value"

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        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@id/calculator_lyt_rowone"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:layout_marginBottom="50dp"
        android:autofillHints="false"
        android:gravity="right"
        android:hint="@string/CalculatorButtonZero"
        android:inputType="none"
        android:textAlignment="textEnd"
        android:textColor="@color/black"
        android:textSize="50dp"
        android:textStyle="bold"
        tools:ignore="RtlCompat" />
<LinearLayout
    android:id="@+id/calculator_lyt_rowone"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:weightSum="4"
    android:layout_above="@+id/calculator_lyt_rowtwo"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">
    <Button
        android:id="@+id/calculator_btn_seven"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonSeven"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
    <Button
        android:id="@+id/calculator_btn_eight"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonEight"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>
    <Button
        android:id="@+id/calculator_btn_nine"
        android:layout_width="80dp"

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        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonNine"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>

<Button
    android:id="@+id/calculator_btn_divide"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/purple_700"
    android:onClick="operatorClick"
    android:text="@string/CalculatorButtonDivision"
    android:textSize="25dp"/>

</LinearLayout>
<LinearLayout
    android:id="@+id/calculator_lyt_rowtwo"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:weightSum="4"
    android:layout_above="@+id/calculator_lyt_rowthree"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">
    <Button
        android:id="@+id/calculator_btn_four"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonFour"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>
    <Button
        android:id="@+id/calculator_btn_five"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"

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        android:onClick="numberClick"
        android:text="@string/CalculatorButtonFive"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>
<Button
    android:id="@+id/calculator_btn_six"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"
    android:backgroundTint="@color/bluegray"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/CalculatorButtonSix"
    android:textSize="25dp"
    style="?android:buttonBarButtonStyle"/>

<Button
    android:id="@+id/calculator_btn_multiply"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/purple_700"
    android:onClick="operatorClick"
    android:text="@string/CalculatorButtonMultiple"
    android:textSize="25dp"/>

</LinearLayout>
<LinearLayout
    android:id="@+id/calculator_lyt_rowthree"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:weightSum="4"
    android:layout_above="@+id/calculator_lyt_rowfour"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">
    <Button
        android:id="@+id/calculator_btn_one"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonOne"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>
    <Button

```

```

        android:id="@+id/calculator_btn_two"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"
        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonTwo"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>
<Button
    android:id="@+id/calculator_btn_three"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"
    android:backgroundTint="@color/bluegray"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/CalculatorButtonThree"
    android:textSize="25dp"
    style="?android:buttonBarButtonStyle"/>

<Button
    android:id="@+id/calculator_btn_subtract"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/purple_700"
    android:onClick="operatorClick"
    android:text="@string/CalculatorButtonSubtract"
    android:textSize="25dp"/>

</LinearLayout>
<LinearLayout
    android:id="@+id/calculator_lyt_rowfour"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:weightSum="4"
    android:layout_above="@+id/calculator_btn_clear"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">
    <Button
        android:id="@+id/calculator_btn_dot"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

```

```

        android:backgroundTint="@color/bluegray"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/CalculatorButtonDot"
        android:textSize="25dp"
        style="?android:buttonBarButtonStyle"/>
<Button
    android:id="@+id/calculator_btn_zero"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"
    android:backgroundTint="@color/bluegray"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/CalculatorButtonZero"
    android:textSize="25dp"
    style="?android:buttonBarButtonStyle"/>
<Button
    android:id="@+id/calculator_btn_equals"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"
    android:backgroundTint="@color/bluegray"
    android:textColor="@color/black"
    android:onClick="equalsClick"
    android:text="@string/CalculatorButtonEquals"
    android:textSize="25dp"
    style="?android:buttonBarButtonStyle"/>

<Button
    android:id="@+id/calculator_btn_add"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="1dp"
    android:layout_weight="1"
    android:backgroundTint="@color/purple_700"
    android:onClick="operatorClick"
    android:text="@string/CalculatorButtonAdd"
    android:textSize="25dp"/>

</LinearLayout>

<Button
    android:id="@+id/calculator_btn_clear"
    android:layout_width="200dp"
    android:layout_height="80dp"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginRight="5dp"

```



```
        android:backgroundTint="@color/purple_700"
        android:onClick="clearButton"
        android:text="@string/CalculatorButtonClear"
        android:textSize="20dp"/>
```

```
</RelativeLayout>
```

## STRINGS.XML

```
<resources>
    <string name="app_name">Calculator</string>
    <string name="app_head">SIMPLE CALCULATOR</string>
    <string name="CalculatorButtonZero">0</string>
    <string name="CalculatorButtonOne">1</string>
    <string name="CalculatorButtonTwo">2</string>
    <string name="CalculatorButtonThree">3</string>
    <string name="CalculatorButtonFour">4</string>
    <string name="CalculatorButtonFive">5</string>
    <string name="CalculatorButtonSix">6</string>
    <string name="CalculatorButtonSeven">7</string>
    <string name="CalculatorButtonEight">8</string>
    <string name="CalculatorButtonNine">9</string>
    <string name="CalculatorButtonAdd">+</string>
    <string name="CalculatorButtonSubtract">-</string>
    <string name="CalculatorButtonMultiple">*</string>
    <string name="CalculatorButtonDivision">/</string>
    <string name="CalculatorButtonEquals">=</string>
    <string name="CalculatorButtonDot">.</string>
    <string name="CalculatorButtonClear">Clear</string>
</resources>
```

## JAVA:

```
package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

import com.example.calculator.R;

public class MainActivity extends AppCompatActivity {

    EditText txtValue;
    String operatorValue;
```

```

Boolean isNewOperation = false;

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

    txtValue = (EditText)
findViewById(R.id.calculator_txt_value);
    txtValue.setShowSoftInputOnFocus(false);
    txtValue.setSingleLine(false);
}

//Any Button Clicked then this method is called
//In Design File - XML for each button there is a property
called as onClick which will be mapped to this method
//This method is used to display the input given by user
public void numberClick(View view) {

    //Used to automatically reset the value for next
Operation
    if(isNewOperation) {
        isNewOperation = false;
        txtValue.setText("");
    }

    String value = txtValue.getText().toString();

    switch(view.getId()) {
        case R.id.calculator_btn_zero:
            value += "0";
            break;

        case R.id.calculator_btn_one:
            value += "1";
            break;

        case R.id.calculator_btn_two:
            value += "2";
            break;

        case R.id.calculator_btn_three:
            value += "3";
            break;

        case R.id.calculator_btn_four:
            value += "4";
            break;

        case R.id.calculator_btn_five:
            value += "5";

```

```

        break;

        case R.id.calculator_btn_six:
            value += "6";
            break;

        case R.id.calculator_btn_seven:
            value += "7";
            break;

        case R.id.calculator_btn_eight:
            value += "8";
            break;

        case R.id.calculator_btn_nine:
            value += "9";
            break;

        case R.id.calculator_btn_add:
            value += "+";
            break;

        case R.id.calculator_btn_subtract:
            value += "-";
            break;

        case R.id.calculator_btn_multiply:
            value += "*";
            break;

        case R.id.calculator_btn_divide:
            value += "/";
            break;

        case R.id.calculator_btn_dot:
            value += ".";
            break;
    }
    txtValue.setText(value);
}

public void operatorClick(View view) {
    String value = txtValue.getText().toString();
    switch (view.getId()) {
        case R.id.calculator_btn_add:
            operatorValue = "+";
            value += "+";
            break;

        case R.id.calculator_btn_subtract:

```

```

        operatorValue = "-";
        value += "-";
        break;

    case R.id.calculator_btn_divide:
        operatorValue = "/";
        value += "/";
        break;

    case R.id.calculator_btn_multiply:
        operatorValue = "*";
        value += "*";
        break;
    }
    txtValue.setText(value);
}

public void clearButton(View view) {
    txtValue.setText("");
}

public void equalsClick(View view) {
    String value = txtValue.getText().toString();
    double calculatedValue = 0.0;
    String[] separated;
    switch (operatorValue) {
        case "+":
            separated = value.split("\\+");
            calculatedValue =
Double.parseDouble(separated[0]) +
Double.parseDouble(separated[1]);
            break;

        case "-":
            separated = value.split("\\-");
            calculatedValue =
Double.parseDouble(separated[0]) -
Double.parseDouble(separated[1]);
            break;

        case "*":
            separated = value.split("\\*");
            calculatedValue =
Double.parseDouble(separated[0]) *
Double.parseDouble(separated[1]);
            break;

        case "/":
            separated = value.split("\\/");
            calculatedValue =
Double.parseDouble(separated[0]) /

```

```

Double.parseDouble(separated[1]);
                break;
            }

            //Restrict the Decimal value to 2 digit. Eg : 23.34567
-> 23.34
            String finalValue =
String.format("%.2f",calculatedValue);

            txtValue.setText(value + "\n" + finalValue);

            //If you have to display int value without decimal -
            //Check if the finalResult is decimal or not then
convert to Int and display

            //if((calculatedValue %1 ) == 0) {}
            //else
            //txtValue.setText(value + "\n" + finalValue);

            isNewOperation = true;
        }
    }
}

```

## PROGRAM3:SIGNUP AND LOGIN

### SIGNUP.XML

```

<?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/Signup_act"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/Signup_header"
        android:layout_margin="20dp"
        android:textAlignment="center"
        android:textColor="@color/purple_700"
        android:textSize="25dp"

```

```

/>

<EditText
    android:id="@+id/username"
    android:layout_width="300dp"
    android:layout_height="48dp"
    android:hint="username"
    android:layout_below="@+id/Signup_act"
    android:textColorHint="@color/black"
    android:layout_marginLeft="50dp"
    android:layout_marginTop="10dp"
    android:inputType="text"
/>

<EditText
    android:id="@+id/pass"
    android:layout_width="300dp"
    android:layout_height="48dp"
    android:hint="password"
    android:textColorHint="@color/black"
    android:layout_below="@+id/username"
    android:layout_marginLeft="50dp"
    android:layout_marginTop="10dp"
    android:inputType="textPassword"
/>

<TextView
    android:id="@+id/pass_note"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/Signup_button"
    android:text="@string/SignUpActivityNote"
    android:layout_margin="20dp" />

<Button
    android:id="@+id/Signup_button"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:layout_below="@+id/pass"
    android:layout_marginLeft="90dp"
    android:layout_marginTop="10dp"
    android:text="@string/Signup_button" />

</RelativeLayout>

```

## LOGIN.XML

```

<?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/Login_act"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@string/Login_header"
    android:layout_margin="20dp"
    android:textAlignment="center"
    android:textColor="@color/purple_700"
    android:textSize="25dp"
/>

<EditText
    android:id="@+id/login_username"
    android:layout_width="300dp"
    android:layout_height="48dp"
    android:hint="username"
    android:layout_below="@+id/Login_act"
    android:textColorHint="@color/black"
    android:layout_marginLeft="50dp"
    android:layout_marginTop="10dp"
    android:inputType="text"
/>

<EditText
    android:id="@+id/login_pass"
    android:layout_width="300dp"
    android:layout_height="48dp"
    android:hint="password"
    android:textColorHint="@color/black"
    android:layout_below="@+id/login_username"
    android:layout_marginLeft="50dp"
    android:layout_marginTop="10dp"
    android:inputType="textPassword"
/>

<Button
    android:id="@+id/Login_button"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:text="@string/Login_button"
    android:layout_below="@+id/login_pass"
    android:layout_marginLeft="90dp"
    android:layout_marginTop="10dp"
/>
```

```
</RelativeLayout>
```

## STRINGS.XML

```
<resources>
    <string name="app_name">Signup and login</string>
    <string name="Signup_header">Signup Activity</string>
    <string name="Signup_button">Sign Up</string>
    <string name="Login_header">Login Activity</string>
    <string name="Login_button">Sign In</string>
    <string name="SignUpActivityNote">NOTE: \n\n1. Password
should contain Uppercase and Lowercase \n2. Password should
contain Letters and Numbers \n3. Password should contain
Special Characters \n4. Minimum length of the password should
be 8</string>
</resources>
```

## SIGNUP.JAVA

```
package com.example.signupaandlogin;

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 MainActivity extends AppCompatActivity {
    EditText txtusrname,txtpass;
    Button btnsignup;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        BindUIelements();
        btnsignup.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String
username=txtusrname.getText().toString();
                String password=txtpass.getText().toString();
```



```

        String specialcharregex=".*[@#!$%^&+=].*";
        String uppercaseregex=".*[A-Z].*";
        String numregex=".*[0-9].*";
        String lowercaseregeex=".*[a-z].*";

        if (username.length() <= 0 &&
password.length() <= 0) {
            Toast.makeText(MainActivity.this,
"Username and password cannot be empty",
Toast.LENGTH_LONG).show();
        }
        else {

            if (!password.matches(specialcharregex)) {
                Toast.makeText(MainActivity.this,
"Password should contain special character",
Toast.LENGTH_SHORT).show();
            }
            else if
(!password.matches(uppercaseregex)) {
                Toast.makeText(MainActivity.this,
"Password should contain uppercase letter",
Toast.LENGTH_SHORT).show();
            }
            if (!password.matches(lowercaseregeex)) {
                Toast.makeText(MainActivity.this,
"Password should contain lowercase letter",
Toast.LENGTH_SHORT).show();
            }
            else if (!password.matches(numregex)) {
                Toast.makeText(MainActivity.this,
"Password shpould contain numbers",
Toast.LENGTH_SHORT).show();
            }
            else if (password.length() < 8) {
                Toast.makeText(MainActivity.this,
"Password should contain atleast 8 characters",
Toast.LENGTH_SHORT).show();
            }
            else {
                Bundle bundle=new Bundle();
                bundle.putString("username",username);
                bundle.putString("password",password);
                Intent intent=new
Intent(MainActivity.this,LoginActivity.class);
                intent.putExtras(bundle);
                startActivity(intent);
            }
        }
    }
}

```

```

        });
    }

    private void BinduiElements() {
        txtusername=(EditText) findViewById(R.id.username);
        txtpass=(EditText) findViewById(R.id.pass);
        btnsignup=(Button) findViewById(R.id.Signup_button);
    }
}

```

## LOGIN.JAVA

```

package com.example.signupaandlogin;

import androidx.appcompat.app.AppCompatActivity;

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

public class LoginActivity extends AppCompatActivity {

    EditText txtusername,txtpass;
    Button btnlogin;
    Integer clickcount=0;

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

        Bundle bundle=getIntent().getExtras();
        String signusr= bundle.getString("username");
        String signupass= bundle.getString("password");

        BindUiElement();

        btnlogin.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View view) {
                String uname=txtusername.getText().toString();
                String passw=txtpass.getText().toString();

                if(clickcount<2){
                    if(uname.equals(signusr) &&
passw.equals(signupass)){

```

```

Toast.makeText(LoginActivity.this, "Successful
Login", Toast.LENGTH_LONG).show();
    }
    else{
        clickcount++;
        Toast.makeText(LoginActivity.this,
"Login Failed", Toast.LENGTH_LONG).show();
    }
}
else {
    Toast.makeText(LoginActivity.this, "Failed
Login Attempt", Toast.LENGTH_SHORT).show();
    btnlogin.setEnabled(false);
}
}
});
}
private void BindUiElement() {
    txtusername=(EditText)
findViewById(R.id.login_usrname);
    txtpass=(EditText) findViewById(R.id.login_pass);
    btnlogin=(Button) findViewById(R.id.Login_button);
}
}

```

# PROGRAM 4:WALLPAPER CHANGE

Create new folder called wallpaper and put in all the wallpapers in that folder

## .XML

```
<?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/heading"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="WALLPAPER CHANGER"
        android:textAlignment="center"
        android:textColor="@color/purple_700"
        android:textSize="25dp"
        android:textStyle="bold" />

    <ImageView
        android:id="@+id/image"
        android:layout_width="380dp"
        android:layout_height="600dp"
        android:layout_below="@+id/heading"
        android:layout_alignParentEnd="true"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="15dp"/>

    <Button
        android:id="@+id/btn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_marginHorizontal="70dp"
        android:layout_marginBottom="10dp"
        android:text="CHANGE"/>

</RelativeLayout>
```

## .JAVA

```
package com.example.wallpaper;
```

```

import androidx.appcompat.app.AppCompatActivity;

import android.app.WallpaperManager;
import android.content.res.AssetManager;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.media.Image;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.Toast;

import java.io.InputStream;
import java.util.Random;

public class MainActivity extends AppCompatActivity {
    ImageView imgview;
    Button btnchangepaper;
    String[] wallpaperfilename;
    Handler handler=new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        BinduiElements();
        btnchangepaper.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    handler.postDelayed(SelectedImage,1000);
                }
                catch(Exception ex)
                {
                    Toast.makeText(MainActivity.this,
"Exception:"+ex.getMessage(), Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
    private void BinduiElements()
    {
        imgview=(ImageView) findViewById(R.id.image);
        btnchangepaper=(Button) findViewById(R.id.btn);
    }
    private Runnable SelectedImage=new Runnable() {
        @Override
        public void run() {
            try {

```

```

        AssetManager ast=getAssets();
        wallpaperfilename=ast.list("wallpaper");
        int randomnumber=new
Random().nextInt(wallpaperfilename.length);
        WallpaperManager wlp=
WallpaperManager.getInstance(getApplicationContext());
        InputStream
is=ast.open("wallpaper/"+wallpaperfilename[randomnumber]);
        Bitmap bitmap= BitmapFactory.decodeStream(is);
        wlp.setBitmap(bitmap);
        imgview.setImageBitmap(bitmap);
        handler.postDelayed(this,1000);
    }
    catch(Exception ex)
    {
        Toast.makeText(MainActivity.this,
"Exception:"+ex.getMessage(), Toast.LENGTH_SHORT).show();
    }
}
};
}

```

## manifest.xml

**add thus in manifest file before application tag**

```

<uses-permission
android:name="android.permission.SET_WALLPAPER"/>

```

## PROGRAM5:COUNTER APP

### .XML

```

<?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/app_title"
        android:layout_width="match_parent"

```

```
    android:layout_height="wrap_content"
    android:text="@string/app_title"
    android:textColor="@color/black"
    android:textSize="25dp"
    android:textStyle="bold"
    android:gravity="center"
    tools:ignore="InvalidId" />
```

```
<TextView
    android:id="@+id/counter"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Counter value"
    android:layout_below="@+id/app_title"
    android:textAlignment="center"
    android:layout_marginTop="60dp"
    android:textSize="20dp"
    android:textColor="@color/black"
/>
```

```
<Button
    android:id="@+id/start"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="150dp"
    android:text="start"
    android:layout_marginHorizontal="75dp"/>
```

```
<Button
    android:id="@+id/stop"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/start"
    android:layout_marginHorizontal="75dp"
    android:text="Stop"
    android:layout_marginTop="15dp"/>
```

```
<Button
    android:id="@+id/reset"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/stop"
    android:layout_marginHorizontal="75dp"
    android:layout_marginTop="15dp"
    android:text="Reset"
/>
```

```
</RelativeLayout>
```

## .JAVA

```
package com.example.counter;

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 txt_counter;
    Button start_btn, stop_btn, reset_btn;
    Handler custom=new Handler();
    int i;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        BindViewElements();
        start_btn.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                custom.postDelayed(updateTimer, 0);
            }
        });
        stop_btn.setOnClickListener(new View.OnClickListener()
{
            @Override
            public void onClick(View view) {
                custom.removeCallbacks(updateTimer);
            }
        });
        reset_btn.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                custom.postDelayed(setter, 0);
            }
        });
    }
}
```



```

private final Runnable updatetimer=new Runnable() {
    @Override
    public void run() {
        txt_counter.setText(" "+i);
        custom.postDelayed(this,100);
        ++i;
    }
};
private final Runnable setter=new Runnable() {
    @Override
    public void run() {
        i=0;
        txt_counter.setText(" "+i);
    }
};
private void Binduielements()
{
    txt_counter=(TextView) findViewById(R.id.counter);
    start_btn=(Button) findViewById(R.id.start);
    stop_btn=(Button) findViewById(R.id.stop);
    reset_btn=(Button) findViewById(R.id.reset);
}
}

```

## PROGRAM6:XML AND JSON PARSER

### .XML

```

<?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/heading"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="XML AND JSON PARSER"
    android:textColor="@color/black"
    android:textAlignment="center"
    android:textStyle="bold"

```

```

        android:textSize="25dp"
        tools:ignore="InvalidId" />

<Button
    android:id="@+id/xml_btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/heading"
    android:text="Xml parser"
    android:layout_marginLeft="35dp"
    android:layout_marginTop="15dp"
/>

<Button
    android:id="@+id/json_btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_marginTop="15dp"
    android:text="Json parser"
    android:layout_marginRight="35dp"
    android:layout_below="@+id/heading"
/>

<TextView
    android:id="@+id/xml_head"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Xml data"
    android:layout_below="@+id/xml_btn"
    android:textSize="20dp"
    android:textColor="@color/black"
    android:layout_marginTop="20dp"/>

<LinearLayout
    android:id="@+id/layout1"
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_below="@+id/xml_head"
    android:orientation="vertical">
    <TextView
        android:id="@+id/xml_data"
        android:layout_width="match_parent"
        android:layout_height="150dp"
        android:textColor="@color/black"
        android:textSize="20dp"
        android:textAlignment="center"/>
</LinearLayout>

<TextView
    android:id="@+id/json_head"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Json data"
        android:layout_below="@+id/layout1"
        android:textSize="20dp"
        android:textColor="@color/black"
        android:layout_marginTop="25dp"/>

<LinearLayout
    android:id="@+id/layout2"
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_below="@+id/json_head"
    android:orientation="vertical"
    tools:ignore="InvalidId" >
    <TextView
        android:id="@+id/json_data"
        android:layout_width="match_parent"
        android:layout_height="150dp"
        android:textColor="@color/black"
        android:textSize="20dp"
        android:textAlignment="center"
        android:layout_marginTop="15dp"
        />
</LinearLayout>

</RelativeLayout>

```

## PUT THESE IN ASSETS FOLDER

### CITYDETAILS.XML

```

<?xml version="1.0" encoding="utf-8"?>
<Details>
    <City_name>Bangalore</City_name>
    <Latitude>12.9716° N</Latitude>
    <Longitude>77.5946° E</Longitude>
    <Temperature>25°C</Temperature>
    <Humidity>57%</Humidity>
</Details>

```

### CITYDETAILS.JSON

```

{
  "Details": {
    "City_name": "Delhi",
    "Latitude": "28.7041° N",
    "Longitude": "77.1025° E",
    "Temperature": "22",
    "Humidity": "75%"
  }
}

```

## .JAVA

```
package com.example.xmlandjsonparser;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Xml;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

import org.json.JSONObject;
import org.xmlpull.v1.XmlPullParser;

import java.io.InputStream;

public class MainActivity extends AppCompatActivity {

    Button xmlparser, jsonparser;
    TextView txtXmldata, txtJsontdata;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        BinduiData();
        xmlparser.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                ReadXmlData();
            }
        });
        jsonparser.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Readjsontdata();
            }
        });
    }
    private void BinduiData(){
        xmlparser=(Button) findViewById(R.id.xml_btn);
        jsonparser=(Button) findViewById(R.id.json_btn);
        txtXmldata=(TextView) findViewById(R.id.xml_data);
        txtJsontdata=(TextView) findViewById(R.id.json_data);
    }
    private void ReadXmlData(){
        try {
```

```

        StringBuilder stringValue=new StringBuilder();
        InputStream
is=getAssets().open("citydetails.xml");
        XmlPullParser parser= Xml.newPullParser();
        parser.setInput(is,null);
        int eventType= parser.getEventType();
        while(eventType!=XmlPullParser.END_DOCUMENT) {
            String tagname;
            if(eventType==XmlPullParser.START_DOCUMENT) { }
        else if (eventType==XmlPullParser.START_TAG) {
            tagname=parser.getName();
            if(tagname.equalsIgnoreCase("Details")) {}
            else{
                parser.next();

stringValue.append("\n"+tagname+": "+parser.getText());
            }
            } else if (eventType==XmlPullParser.END_TAG) {
            }
            eventType=parser.next();
            txtXmldata.setText(stringValue);
        }
    }
    catch (Exception ex){Toast.makeText(this, "Error",
Toast.LENGTH_SHORT).show(); }
    }
    private void Readjsondata() {
        try{
            StringBuilder stringvalue=new StringBuilder();
            InputStream
is=getAssets().open("citydetails.json");
            int size=is.available();
            byte[] buffer=new byte[size];
            is.read(buffer);
            is.close();
            String filedata=new String(buffer,"UTF-8");
            JSONObject jsonObject=new JSONObject(filedata);
            String
cityname=jsonObject.getJSONObject("Details").getString("City_name");
            if(cityname.length()>0){
                stringvalue.append("\n"+"City_name
:"+cityname);
            }
            String
latitude=jsonObject.getJSONObject("Details").getString("Latitude");
            if(latitude.length()>0)
            {
                stringvalue.append("\n"+"Latitude:"+latitude);
            }
        }
    }

```

```

        String
longitude=jsonObject.getJSONObject("Details").getString("Longitude");
        if(longitude.length()>0){

stringValue.append("\n"+"Longitude"+longitude);
        }
        String
temperature=jsonObject.getJSONObject("Details").getString("Temperature");
        if(temperature.length()>0){

stringValue.append("\n"+"Temperature:"+temperature);
        }
        String
humidity=jsonObject.getJSONObject("Details").getString("Humidity");
        if(humidity.length()>0){
            stringValue.append("\n"+"Humidity:"+humidity);
        }
        txtJsontdata.setText(stringvalue);
    }
    catch (Exception ex){

Toast.makeText(this,ex.getMessage(),Toast.LENGTH_SHORT).show();
    }
}
}

```

## PROGRAM:7 TEXT TO SPEECH APP

### .XML

```

<?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/title"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

```

```

        android:text="TEXT TO SPEECH APPLICATION"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textColor="@color/black"
        android:textStyle="bold"
        android:layout_marginTop="15dp"/>

<EditText
    android:id="@+id/textformat"
    android:layout_width="match_parent"
    android:layout_height="100dp"
    android:layout_below="@+id/title"
    android:layout_marginTop="50dp"
    android:textAlignment="textEnd"
    android:layout_marginLeft="15dp"
    android:layout_marginRight="15dp"
    android:textColorHint="@color/black"/>

<Button
    android:id="@+id/btn"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textformat"
    android:layout_marginHorizontal="75dp"
    android:text="Convert"
    android:layout_marginTop="15dp"/>

```

```
</RelativeLayout>
```

## **.JAVA**

```

package com.example.tts;

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 com.example.tts.R;

import java.util.Locale;

```

```

public class MainActivity extends AppCompatActivity {

    TextToSpeech texttospeech;
    Button btn_convert;
    EditText txtspeech;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        txtspeech=findViewById(R.id.textformat);
        btn_convert=findViewById(R.id.btn);
        texttospeech=new TextToSpeech(getApplicationContext(),
new TextToSpeech.OnInitListener() {
            @Override
            public void onInit(int status) {
                if(status!=TextToSpeech.ERROR)
                    texttospeech.setLanguage(Locale.US);
            }
        }, "com.google.android.textToSpeech");
        btn_convert.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    String
textValue=txtspeech.getText().toString();

texttospeech.speak(textValue, TextToSpeech.QUEUE_FLUSH, null, nul
l);

Toast.makeText(MainActivity.this, textValue.toString(), Toast.LE
NGTH_LONG).show();
                }
                catch (Exception ex)
                {

Toast.makeText(MainActivity.this, ex.toString(), Toast.LENGTH_SH
ORT).show();

                }
            }
        });
    }
}

```



# PROGRAM8:CALL AND SAVE

## .XML

```
<?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"
    android:background="@color/white">

    <TextView
        android:id="@+id/txt_headertext"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="5dp"
        android:layout_marginTop="5dp"
        android:layout_marginEnd="5dp"
        android:layout_marginBottom="5dp"
        android:text="CALL AND SAVE APPLICATION"
        android:textAllCaps="true"
        android:textColor="@color/black"
        android:textSize="25dp"
        android:textStyle="bold"/>

    <EditText
        android:id="@+id/edittext"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@+id/lyt_rowOne"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:layout_marginBottom="50dp"
        android:autofillHints="false"
        android:gravity="right"
        android:hint="@string/ButtonZero"
        android:inputType="none"
        android:textColor="@color/black"
        android:textSize="50dp"
        android:textStyle="bold"
        tools:ignore="LabelFor"/>

    <LinearLayout
        android:id="@+id/lyt_rowOne"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:weightSum="3"
```

```

        android:layout_above="@id/lyt_rowTwo"
        android:layout_marginLeft="5dp"
        android:layout_marginRight="5dp">
        <Button
            android:id="@+id/btn_seven"
            android:layout_width="80dp"
            android:layout_height="80dp"
            android:backgroundTint="@color/design_default_color_primary"
            android:layout_margin="2dp"
            android:layout_weight="1"
            android:textColor="@color/black"
            android:onClick="numberClick"
            android:text="@string/ButtonSeven"
            android:textSize="25dp"
            style="?android:attr/buttonBarButtonStyle"/>
        <Button
            android:id="@+id/btn_eight"
            android:layout_width="80dp"
            android:layout_height="80dp"
            android:layout_margin="2dp"
            android:layout_weight="1"

            android:backgroundTint="@color/design_default_color_primary"
            android:onClick="numberClick"
            android:text="@string/ButtonEight"
            android:textColor="@color/black"
            android:textSize="25dp"
            style="?android:attr/buttonBarButtonStyle"/>
        <Button
            android:id="@+id/btn_nine"
            android:layout_width="80dp"
            android:layout_height="80dp"
            android:layout_margin="2dp"
            android:layout_weight="1"

            android:backgroundTint="@color/design_default_color_primary"
            android:textColor="@color/black"
            android:onClick="numberClick"
            android:text="@string/ButtonNine"
            android:textSize="25dp"
            style="?android:attr/buttonBarButtonStyle"/>
    </LinearLayout>
    <LinearLayout
        android:id="@+id/lyt_rowTwo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:weightSum="3"
        android:layout_above="@id/lyt_rowThree"
        android:layout_marginLeft="5dp"
        android:layout_marginRight="5dp">

```

```

<Button
    android:id="@+id/btn_four"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"

    android:backgroundTint="@color/design_default_color_primary"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/ButtonFour"
    android:textSize="25dp"
    style="?android:attr/buttonBarButtonStyle"/>
<Button android:id="@+id/btn_five"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"

    android:backgroundTint="@color/design_default_color_primary"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/ButtonFive"
    android:textSize="25dp"
    style="?android:attr/buttonBarButtonStyle"/>
<Button android:id="@+id/btn_six"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"

    android:backgroundTint="@color/design_default_color_primary"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/ButtonSix"
    android:textSize="25dp"
    style="?android:attr/buttonBarButtonStyle"/>
</LinearLayout>
<LinearLayout android:id="@+id/lyt_rowThree"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:weightSum="3"
    android:layout_above="@id/lyt_rowFour"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">
    <Button android:id="@+id/btn_One"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

```

```

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/ButtonOne"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
<Button android:id="@+id/btn_Two"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/ButtonTwo"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
<Button android:id="@+id/btn_Three"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/ButtonThree"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
</LinearLayout>
<LinearLayout android:id="@+id/lyt_rowFour"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:weightSum="3"
        android:layout_above="@id/lyt_rowFive"
        android:layout_marginLeft="5dp"
        android:layout_marginRight="5dp">
    <Button android:id="@+id/btn_star"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:onClick="numberClick"
        android:text="@string/ButtonStar"
        android:textSize="25dp"

```

```

        style="?android:attr/buttonBarButtonStyle"/>
<Button android:id="@+id/btn_zero"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"

    android:backgroundTint="@color/design_default_color_primary"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/ButtonZero"
    android:textSize="25dp"
    style="?android:attr/buttonBarButtonStyle"/>
<Button android:id="@+id/btn_hash"
    android:layout_width="80dp"
    android:layout_height="80dp"
    android:layout_margin="2dp"
    android:layout_weight="1"

    android:backgroundTint="@color/design_default_color_primary"
    android:textColor="@color/black"
    android:onClick="numberClick"
    android:text="@string/ButtonHash"
    android:textSize="25dp"
    style="?android:attr/buttonBarButtonStyle"/>
</LinearLayout>
<LinearLayout android:id="@+id/lyt_rowFive"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:orientation="horizontal"
    android:weightSum="3"
    android:layout_marginLeft="5dp"
    android:layout_marginRight="5dp">
    <Button android:id="@+id/btn_save"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:text="@string/ButtonSave"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
    <Button android:id="@+id/btn_call"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

```

```

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:text="@string/ButtonCall"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
    <Button android:id="@+id/btn_clear"
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_margin="2dp"
        android:layout_weight="1"

        android:backgroundTint="@color/design_default_color_primary"
        android:textColor="@color/black"
        android:text="@string/ButtonClear"
        android:textSize="25dp"
        style="?android:attr/buttonBarButtonStyle"/>
</LinearLayout>
</RelativeLayout>

```

## STRINGS.XML

```

<resources>
    <string name="app_name">Callandsave</string>
    <string name="ButtonSeven">7</string>
    <string name="ButtonEight">8</string>
    <string name="ButtonZero">0</string>
    <string name="ButtonNine">9</string>
    <string name="ButtonFour">4</string>
    <string name="ButtonFive">5</string>
    <string name="ButtonSix">6</string>
    <string name="ButtonOne">1</string>
    <string name="ButtonTwo">2</string>
    <string name="ButtonThree">3</string>
    <string name="ButtonStar">*</string>
    <string name="ButtonHash">#</string>
    <string name="ButtonSave">SAVE</string>
    <string name="ButtonCall">CALL</string>
    <string name="ButtonClear">CLEAR</string>
</resources>

```

## COLORS.XML

```

<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>

```

```

        <color name="purple_700">#FF3700B3</color>
        <color name="teal_200">#FF03DAC5</color>
        <color name="teal_700">#FF018786</color>
        <color name="black">#FF000000</color>
        <color name="white">#FFFFFFFF</color>
</resources>

```

## IN MANIFEST.XML

### ADD

```

<uses-feature
    android:name="android.hardware.telephony"
    android:required="false" />
<uses-permission
    android:name="android.permission.CALL_PHONE"/>

```

### .JAVA

```

package com.example.callandsave;

import static android.Manifest.permission.CALL_PHONE;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.content.ContextCompat;

import android.content.Intent;
import android.content.pm.PackageManager;
import android.net.Uri;
import android.os.Build;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import android.widget.Toolbar;

import com.example.callandsave.R;

public class MainActivity extends AppCompatActivity {
    EditText e1;
    Button call,save,clear;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.edittext);
    }
}

```

```

call=findViewById(R.id.btn_call);
save=findViewById(R.id.btn_save);
clear=findViewById(R.id.btn_clear);

call.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        MakeCall();
    }
});
save.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        saveContact();
    }
});
clear.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        e1.setText("");
    }
});
}

public void numberClick(View view){
    String value = e1.getText().toString();
    String id= String.valueOf(view.getId());

    if(id.equals(String.valueOf(R.id.btn_zero))){
        value += "0";
    }
    else if(id.equals(String.valueOf(R.id.btn_One))){
        value += "1";
    }
    else if(id.equals(String.valueOf(R.id.btn_Two))){
        value += "2";
    }
    else if(id.equals(String.valueOf(R.id.btn_Three))){
        value += "3";
    }
    else if(id.equals(String.valueOf(R.id.btn_four))){
        value += "4";
    }
    else if(id.equals(String.valueOf(R.id.btn_five))){
        value += "5";
    }
    else if(id.equals(String.valueOf(R.id.btn_six))){
        value += "6";
    }
    else if(id.equals(String.valueOf(R.id.btn_seven))){
        value += "7";
    }
}

```



```

        else if(id.equals(String.valueOf(R.id.btn_eight))) {
            value += "8";
        }
        else if(id.equals(String.valueOf(R.id.btn_nine))) {
            value += "9";
        }
        else if(id.equals(String.valueOf(R.id.btn_zero))) {
            value += "0";
        }
        else if(id.equals(String.valueOf(R.id.btn_star))) {
            value += "*";
        }
        else if(id.equals(String.valueOf(R.id.btn_hash))) {
            value += "#";
        }

        e1.setText(""+value);
    }

    private void MakeCall() {
        try{

            if(e1.length()>0) {
                Intent intent=new Intent(Intent.ACTION_CALL);

intent.setData(Uri.parse("tel:"+e1.getText().toString()));

                if(ContextCompat.checkSelfPermission(getApplicationContext(), C
ALL_PHONE)== PackageManager.PERMISSION_GRANTED) {
                    startActivity(intent);
                }
                else{

                    if(Build.VERSION.SDK_INT>=Build.VERSION_CODES.M) {
                        requestPermissions(new
String[]{CALL_PHONE}, 1);
                    }
                }
            }
        } catch (Exception ex) {
            Toast.makeText(this,
""+ex.getMessage().toString(), Toast.LENGTH_SHORT).show();
        }
    }

    private void saveContact() {
        try{
            Intent intent=new
Intent(ContactsContract.Intents.Insert.ACTION);

            intent.setType(ContactsContract.RawContacts.CONTENT_TYPE);
            //

```

```
intent.putExtra(ContactsContract.Intents.Insert.NAME, "A simple
contact");

intent.putExtra(ContactsContract.Intents.Insert.PHONE, e1.getTe
xt().toString());
    startActivity(intent);
} catch (Exception ex) {
    Toast.makeText(this, "Error",
Toast.LENGTH_SHORT).show();
}
}
```