

XML DOC

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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">

    <EditText
        android:id="@+id/entrada"
        android:layout_width="0dp"
        android:layout_height="47dp"
        android:layout_marginStart="34dp"
        android:layout_marginLeft="34dp"
        android:layout_marginTop="58dp"
        android:layout_marginEnd="34dp"
        android:layout_marginRight="34dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Input"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/encryptar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="28dp"
        android:layout_marginLeft="28dp"
        android:layout_marginBottom="60dp"
        android:text="Encrypt"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/output" />

    <Button
        android:id="@+id/clc"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="16dp"
        android:layout_marginRight="16dp"
        android:text="Clear"
        app:layout_constraintBaseline_toBaselineOf="@+id/encryptar"
        app:layout_constraintEnd_toEndOf="parent" />

    <Button
        android:id="@+id/decrpt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="132dp"
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        android:layout_marginLeft="132dp"
        android:layout_marginBottom="60dp"
        android:text="Decrypt"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="@+id/encryptar" />

<EditText
    android:id="@+id/key"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="29dp"
    android:layout_marginLeft="29dp"
    android:layout_marginEnd="21dp"
    android:layout_marginRight="21dp"
    android:layout_marginBottom="210dp"
    android:ems="10"
    android:inputType="textEmailSubject|textPersonName"
    android:text="1"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toStartOf="@+id/keylbl"
    app:layout_constraintHorizontal_chainStyle="spread_inside"
    app:layout_constraintStart_toStartOf="parent" />

<TextView
    android:id="@+id/keylbl"
    android:layout_width="40dp"
    android:layout_height="31dp"
    android:layout_marginEnd="245dp"
    android:layout_marginRight="245dp"
    android:layout_marginBottom="216dp"
    android:text="key"
    android:textAppearance="@style/TextAppearance.AppCompat"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/key" />

<EditText
    android:id="@+id/output"
    android:layout_width="0dp"
    android:layout_height="0dp"
    android:layout_marginStart="33dp"
    android:layout_marginLeft="33dp"
    android:layout_marginTop="164dp"
    android:layout_marginEnd="33dp"
    android:layout_marginRight="33dp"
    android:layout_marginBottom="193dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Output"
    app:layout_constraintBottom_toTopOf="@+id/encryptar"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toStartOf="parent"

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        app:layout_constraintTop_toTopOf="parent" />

</android.support.constraint.ConstraintLayout>

```

Activity code

```

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.*;
import android.view.View;
public class MainActivity extends AppCompatActivity {
    private Button encriptar;
    private Button clear;
    private EditText salida;
    private EditText entrada;
    private Button decrypt;
    private TextView key;

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

        encriptar.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                salida.setText(codificacion(entrada.getText().toString()));
            }
        });
        clear.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                salida.setText("Message");
                entrada.setText("Input");
            }
        });
        decrypt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                salida.setText(decodificacion(entrada.getText().toString()));
            }
        });
    }
    private void setupUIViews(){
        encriptar=(Button) findViewById(R.id.encriptar);
        clear=(Button) findViewById(R.id.clc);
        salida=(EditText) findViewById(R.id.output);
        entrada=(EditText) findViewById(R.id.entrada);
        decrypt=(Button) findViewById(R.id.decrpt);
        key=(TextView) findViewById(R.id.key);
    }
}

```

```

private String codificacion(String word){
    int value;
    char[] w=word.toCharArray();
    try {
        for (int i = 0; i < w.length; i++) {
            value = (int) w[i] + Integer.valueOf(key.getText().toString());
            w[i] = (char) value;
        }
    } catch (Exception e){
        return ("Key must be an integer.");
    }
    return new String(w);
}

private String decodificacion(String word){
    int value;
    char[] w=word.toCharArray();
    try{
        for(int i=0;i<w.length;i++){
            value=(int)w[i]-Integer .valueOf(key.getText().toString());
            w[i]=(char)value;
        }
    }
    catch (Exception e){
        return ("Key must be a number.");
    }
    return new String(w);
}
}

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