



USER INTERFACE

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TUJUAN

- Mengetahui komponen-komponen User Interface (UI) aplikasi android
- Dapat menggunakan komponen secara efektif pada aplikasi android yang dibuat



KOMPONEN ANROID

- Activity
menyajikan antar muka visual yang digunakan sebagai interaksi pengguna
- Intent merupakan object yang memegang isi pesan
- Activity menyajikan antar muka. Activity berinteraksi dengan pengguna dalam jangka waktu yang lama, dan tetap aktif, bahkan pada saat idle.



FILE MANIFEST

- Sebelum android dapat memulai component aplikasi, maka android harus melihat component yang sedang berjalan.
- Untuk itu, aplikasi akan mendeklarasikan component yang mereka gunakan dalam sebuah file manifest yang digabungkan ke dalam paket file android berekstensi (.apk).
- File manifest ini berstruktur XML dan selalu diberi nama AndroidManifest.xml untuk semua aplikasi.



CONTOH FILE MANIFEST

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.pens.gui_01"
    android:versionCode="1"
    android:versionName="1.0" >
    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="16" />
    <application
        android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name="com.pens.gui_01.GUI_01"
            android:label="@string/app_name" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

KOMPONEN USER INTERFACE


- Arsitektur user interface (UI) → activity
→ komponen
- Semua yang berhubungan dengan user interface berada pada lokasi res/layout/filename.xml
- Struktur file.xml


```
<?xml version="1.0" encoding="utf-8"?>
<ViewGroup xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools"
  android:id="@+[package: ]id/resource_name"
  android:layout_width=["dimension" | "fill_parent" | "wrap_content"]
  android:layout_height=["dimension" | "fill_parent" | "wrap_content"]
  [ViewGroup-specific attributes] >
  <View
    android:id="@+[package: ]id/resource_name"
    android:layout_width=["dimension" | "fill_parent" | "wrap_content"]
    android:layout_height=["dimension" | "fill_parent" | "wrap_content"]
    [ViewGroup-specific attributes] >
    <requestFocus/>
  </View>
  <ViewGroup>
    <View />
  </ViewGroup>
  <include layout="@layout/layout_resource" />
</ViewGroup>
```

KOMPONEN USER INTERFACE

- `<ViewGroup>` → kumpulan view dimana kita dapat menentukan tata letak komponen view secara berbeda, seperti `LinearLayout`, `RelativeLayout`, `FrameLayout` serta `TableLayout`.

 GridLayout

 LinearLayout (Vertical)

 LinearLayout (Horizontal)

 RelativeLayout

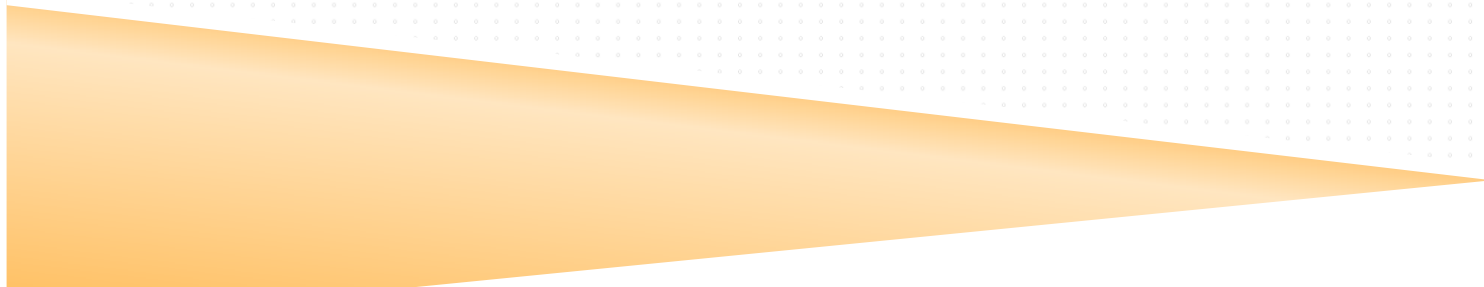
 FrameLayout

 Include Other Layout

 Fragment

 TableLayout

 TableRow  Space



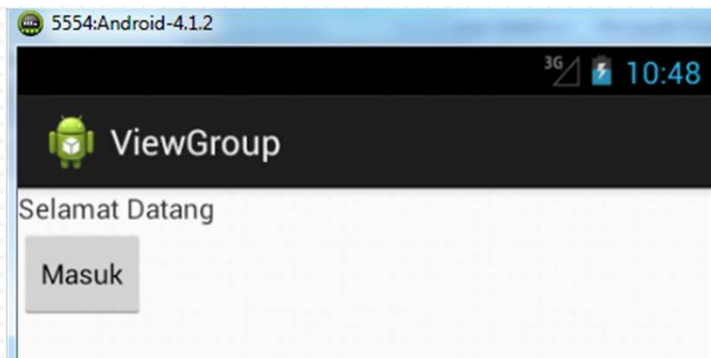
MACAM-MACAM LAYOUT

Layout Manager	Deskripsi
LinearLayout	Mengatur posisi layout pada layar secara linear (horizontal ataupun vertikal)
RelativeLayout	Mengatur posisi layout pada layar secara relative
TableLayout	Mengatur layout agar berbentuk seperti tabel
FrameLayout	Mengatur layout yang memungkinkan untuk mengubah tata letak komponen
TabLayout	Mengatur layout agar berbentuk tab



KOMPONEN USER INTERFACE

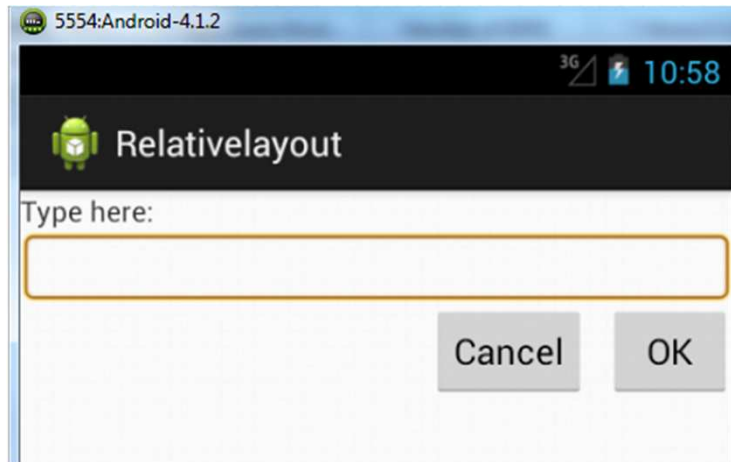
- LinearLayout



```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="wrap_content"
  android:layout_height="match_parent"
  android:orientation="vertical" >
```

KOMPONEN USER INTERFACE

- RelativeLayout



```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent">
    <TextView
        android:id="@+id/label"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Type here:"/>
```

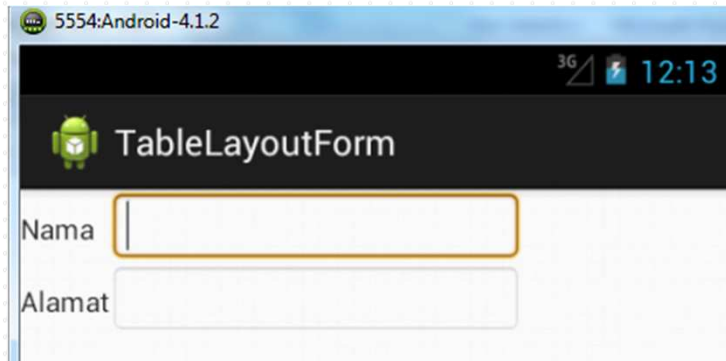
- TableLayout



```
<TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:stretchColumns="1">
    <TableRow>
        <TextView
            android:layout_column="1"
            android:text="Open..."
            android:padding="3dip"/>
        <TextView
            android:text="Ctrl-O"
            android:gravity="right"
            android:padding="3dip"/>
    </TableRow>
```

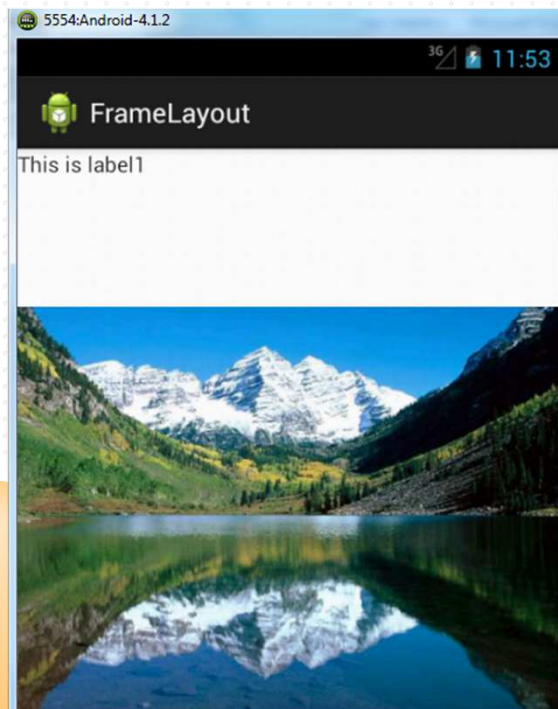
KOMPONEN USER INTERFACE

- **TableLayout**



```
<TableRow >
  <TextView
    android:layout_column="2"
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Nama"
    android:textAppearance="?android:attr/textAppearanceSmall" />
  <EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="@android:drawable/editbox_background"
    android:ems="10" >
    <requestFocus />
  </EditText>
</TableRow>
```

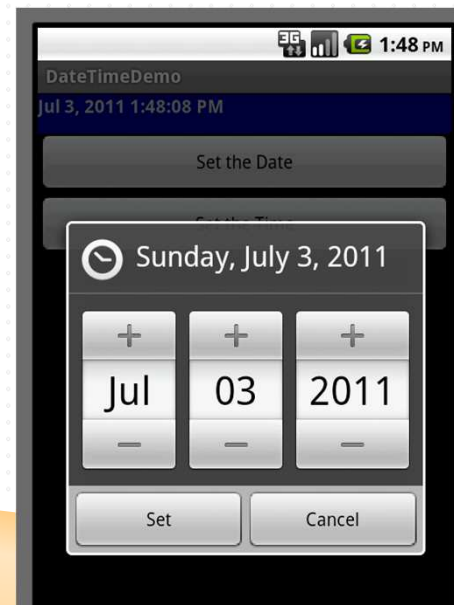
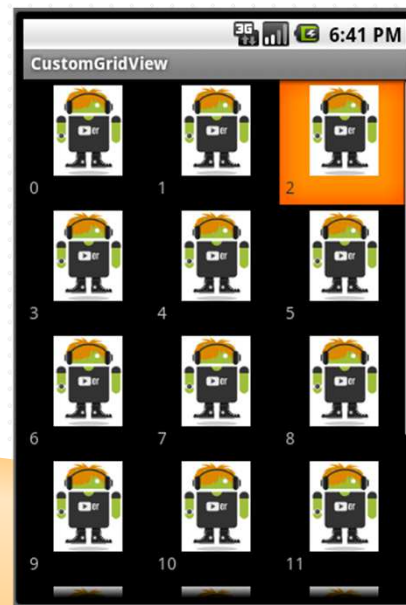
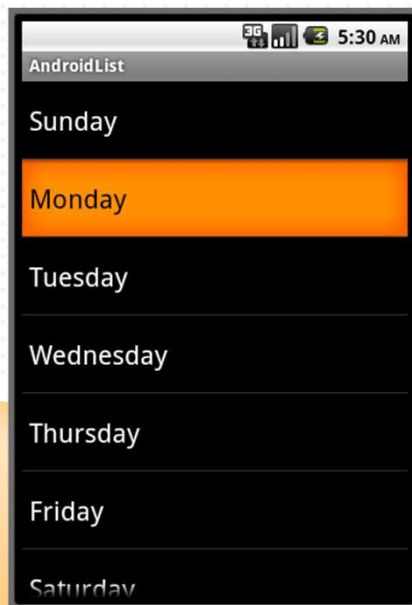
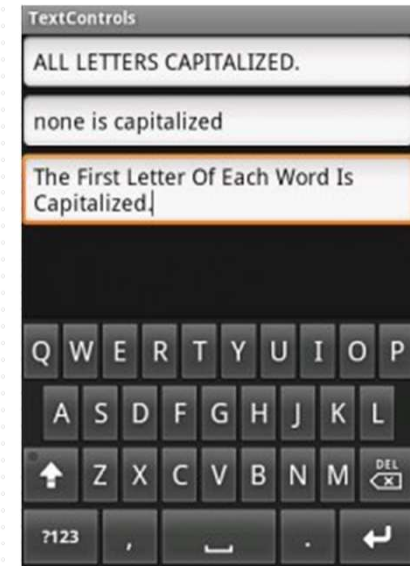
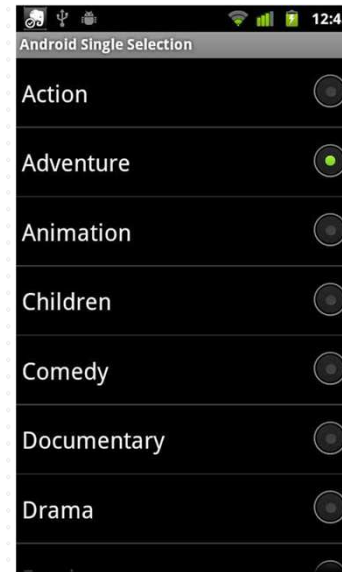
- **FrameLayout**



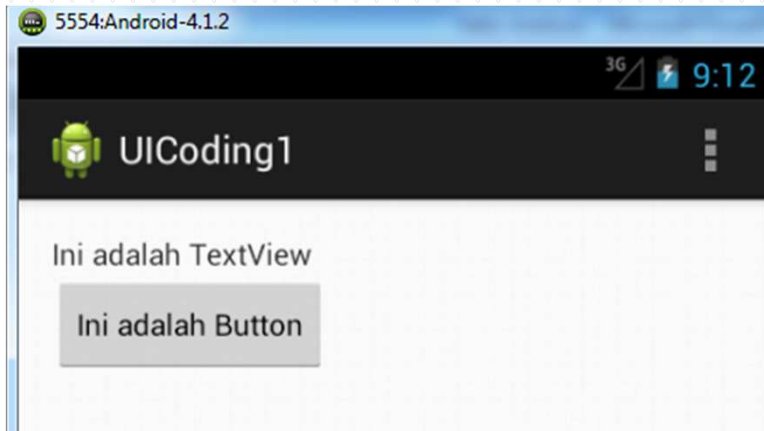
```
<FrameLayout
xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="fill_parent"
android:layout_height="fill_parent">
  <TextView
    android:id="@+id/label1"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:layout_x="100px"
    android:layout_y="100px"
    android:text="This is label1"/>
  <ImageView android:id="@+id/imageview"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:src="@drawable/lake"
    />
</FrameLayout>
```

BEBERAPA MACAM COMPONENT ANDROID

- Text Control
- Button
- Check Box
- Radio Button
- List
- Grid
- Date and Time



TEXTVIEW AND BUTTON



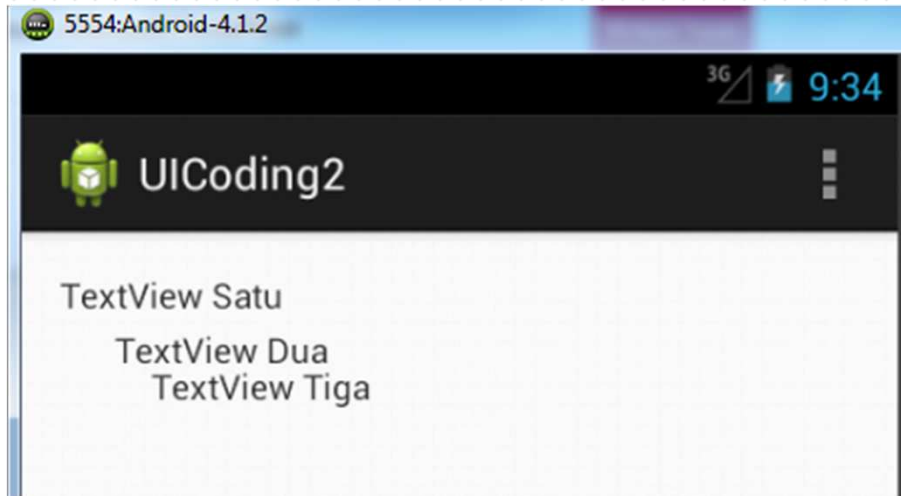
<TextView

```
android:id="@+id/textView1"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="@string/hello_world" />
```

<Button

```
android:id="@+id/button1"  
style="?android:attr/buttonStyleSmall"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_alignParentLeft="true"  
android:layout_below="@+id/textView1"  
android:text="Ini adalah Button" />
```

TEXTVIEW DENGAN ABSOLUTELAYOUT

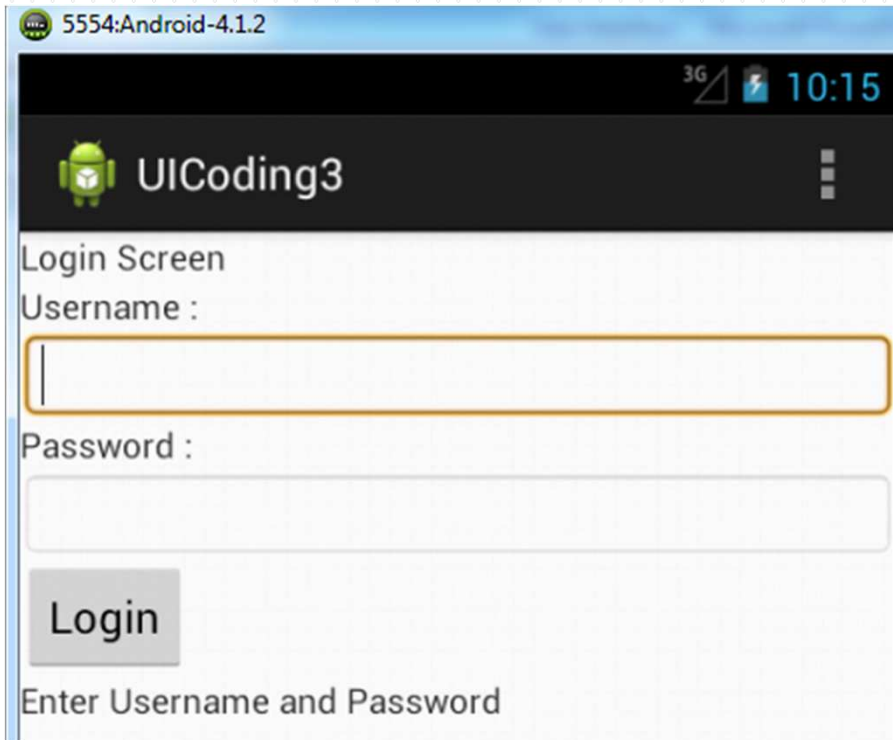


```
<TextView  
    android:id="@+id/textView2"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="TextView Satu" />
```

```
<TextView  
    android:id="@+id/textView3"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_x="30px"  
    android:layout_y="30px"  
    android:text="TextView Dua" />
```

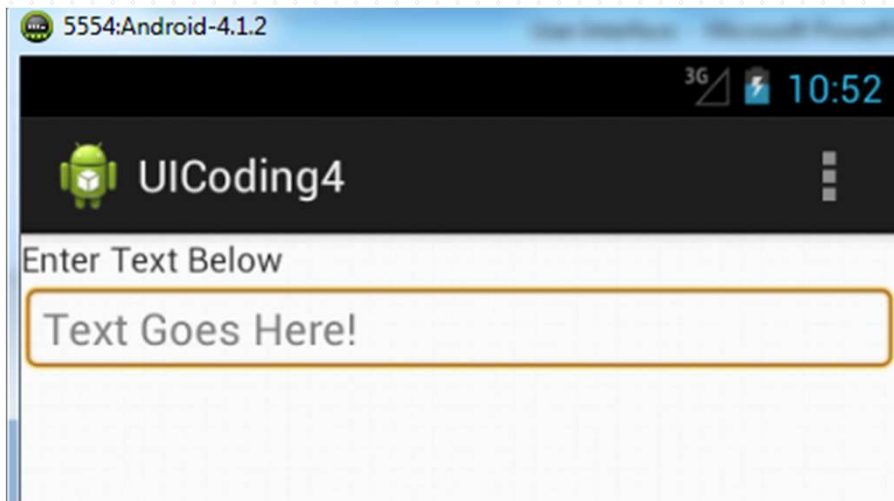
```
<TextView  
    android:id="@+id/textView1"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_x="50px"  
    android:layout_y="50px"  
    android:text="TextView Tiga" />
```

EDITTEXT



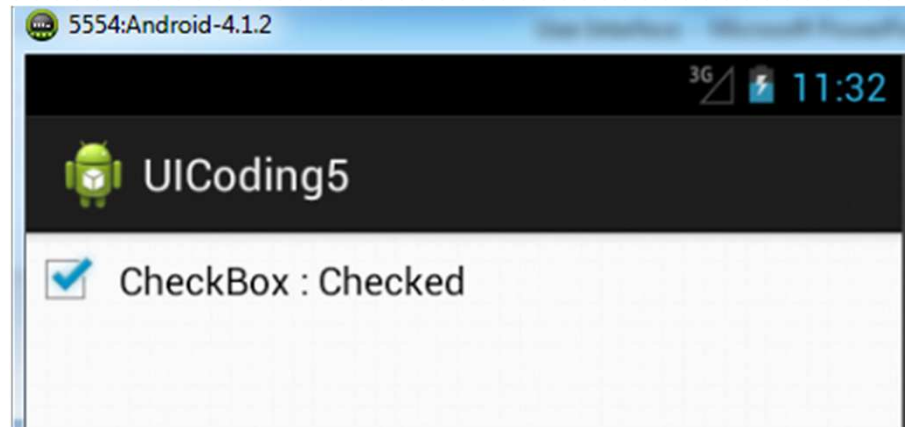
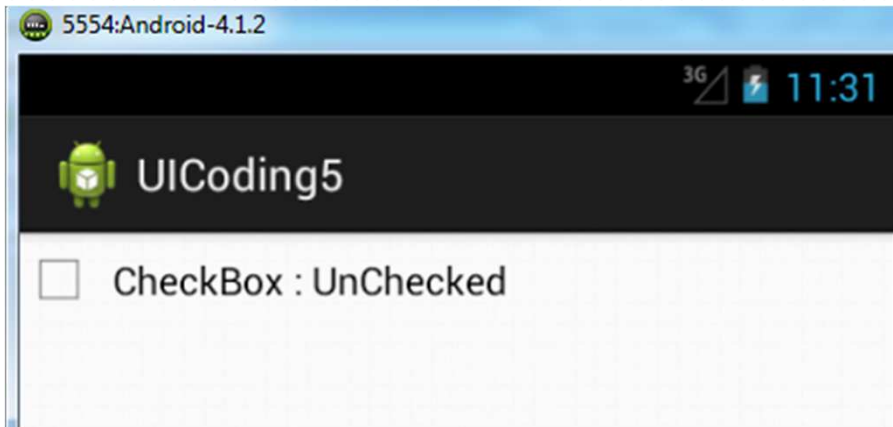
```
<TextView
    android:id="@+id/textView1"
    android:layout_width="fill_parent"
    android:layout_height="match_parent"
    android:text="Login Screen" />
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Username : " />
<EditText
    android:id="@+id/editText1"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:background="@android:drawable/editbox_background" >
</EditText>
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Password : " />
<EditText
    android:id="@+id/editText1"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:background="@android:drawable/editbox_background" >
</EditText>
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Login" />
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Enter Username and Password" />
```

EDITTEXT -- HINT



```
<TextView
    android:id="@+id/textView1"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Enter Text Below" />
<EditText
    android:id="@+id/editText1"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:background="@android:drawable/editbox_background"
    android:hint="Text Goes Here!">
</EditText>
```


CHECKBOX



main_uicoding5.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent" >

    <CheckBox
        android:id="@+id/checkBox1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CheckBox : Unchecked" />

</LinearLayout>
```

CHECKBOX

UICoding5.java

```
import android.os.Bundle;
import android.app.Activity;
import android.widget.CheckBox;
import android.widget.CompoundButton;

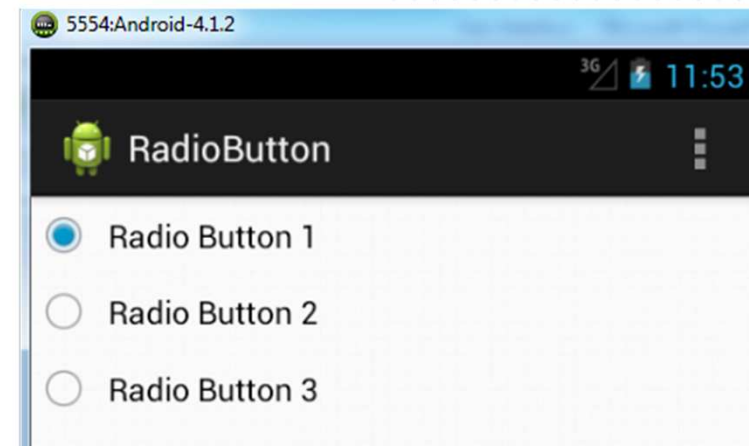
public class UICoding5 extends Activity
    implements CompoundButton.OnCheckedChangeListener {
    CheckBox cb;

    @Override
    public void onCreate(Bundle savedInstanceState){
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main_uicoding5);
        cb=(CheckBox)findViewById(R.id.checkBox1);
        cb.setOnCheckedChangeListener(this);
    }

    @Override
    public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
        if (isChecked){
            cb.setText("CheckBox : Checked");
        }
        else{
            cb.setText("CheckBox : UnChecked");
        }
    }
}
```

RADIO BUTTON

```
<RadioGroup xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="fill_parent"
  android:layout_height="fill_parent"
  android:orientation="vertical">
  <RadioButton
    android:id="@+id/radioButton1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Radio Button 1" />
  <RadioButton
    android:id="@+id/radioButton2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Radio Button 2" />
  <RadioButton
    android:id="@+id/radioButton3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Radio Button 3" />
</RadioGroup>
```



TABHOST

- Dalam dunia aplikasi TabHost ini masuk kedalam kelompok horizontal menu

