Practical 5

Programming UI elements

TextView, Edit Text, Buttons and Toast

Demonstration of UI Components(TextView,EditText,Button)

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| **TextView :Label Field**  In Android, [TextView](https://abhiandroid.com/ui/textview/) displays text to the user and optionally allows them to edit it programmatically. [TextView](https://abhiandroid.com/ui/textview/) is a complete text editor, however basic class is configured to not allow editing but we can edit it. | TextView Size of Plain, Large, Medium, and Small Text Android Studio |

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| **EditText: Input Field**  In Android, [EditText](https://abhiandroid.com/ui/edittext/) is a standard entry widget in android apps. It is an overlay over [TextView](https://abhiandroid.com/ui/textview/) that configures itself to be editable. [EditText](https://abhiandroid.com/ui/edittext/) is a subclass of [TextView](https://abhiandroid.com/ui/textview/) with text editing operations. We often use EditText in our applications in order to provide an input or text field, especially in forms. The most simple example of [EditText](https://abhiandroid.com/ui/edittext/) is Login or Sign-in form. | Image result for edittext android studio |

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| **Button**  In Android, Button represents a push [button.](https://abhiandroid.com/ui/button/) A Push buttons can be clicked, or pressed by the user to perform an action. There are different types of buttons used in android such as CompoundButton, [ToggleButton](https://abhiandroid.com/ui/togglebutton/), [RadioButton](https://abhiandroid.com/ui/radiobutton/). | Button Example Android |

**Calculator Application**

Activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*

<LinearLayout xmlns:android=["http://schemas.android.com/apk/res/android](http://schemas.android.com/apk/res/android)" xmlns:app="[http://schemas.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

android:orientation="horizontal" android:stretchColumns="1">

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:orientation="vertical">

<EditText android:id="@+id/et1"

android:layout\_width="match\_parent" android:layout\_height="70dp" android:ems="10" android:inputType="textPersonName" android:text="Input1" />

<EditText android:id="@+id/et2"

android:layout\_width="match\_parent" android:layout\_height="64dp" android:ems="10" android:inputType="textPersonName"

android:text="Input2" />

<Button android:id="@+id/btnAdd"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Addition" />

<Button android:id="@+id/btnSub"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Subtraction" />

<Button android:id="@+id/btnMult"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Multiplication" />

<Button android:id="@+id/btnDiv"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Division" />

<Button android:id="@+id/btnClear"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Clear" />

<TextView android:id="@+id/tv1"

android:layout\_width="match\_parent" android:layout\_height="63dp" android:text="Output"

android:textColor="@android:color/background\_dark" android:textSize="18sp"

android:textStyle="bold" app:fontFamily="casual" />

</LinearLayout>

</LinearLayout>

Main\_Activity.java

**package** MaharashtraCollege.example.profshahidansari;

**import** androidx.appcompat.app.AppCompatActivity;

**import** android.os.Bundle; **import** android.view.View; **import** android.widget.\*;

**import static** android.view.View.\*;

**public class** MainActivity **extends** AppCompatActivity { EditText **t1**,**t2**;

Button **b1**,**b2**,**b3**,**b4**,**b5**;

TextView **tv1**; **int n1**=0,**n2**=0; String **s1**,**s2**; @Override

**protected void** onCreate(Bundle savedInstanceState)

{

**super**.onCreate(savedInstanceState); setContentView(R.layout.***activity\_main***);

**t1** = (EditText) findViewById(R.id.***et1***);

**t2** = (EditText) findViewById(R.id.***et2***);

**b1** = (Button) findViewById(R.id.***btnAdd***); **b2** = (Button) findViewById(R.id.***btnSub***); **b3** = (Button) findViewById(R.id.***btnMult***); **b4** = (Button) findViewById(R.id.***btnDiv***); **b5** = (Button) findViewById(R.id.***btnClear***);

**tv1** = (TextView) findViewById(R.id.***tv1***);

**b1**.setOnClickListener(**new** OnClickListener() { @Override

**public void** onClick(View v) {

try {

String s1 = **t1**.getText().toString(); String s2 = **t2**.getText().toString(); **n1** = Integer.*parseInt*(s1);

**n2** = Integer.*parseInt*(s1);

**int** sum = **n1** + **n2**; **tv1**.setText(**"Addition ="**+sum);

}

**catch** (NumberFormatException e)

{

}

}

});

**b2**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

try {

String s1 = **t1**.getText().toString(); String s2 = **t2**.getText().toString(); **n1** = Integer.*parseInt*(s1);

**n2** = Integer.*parseInt*(s1);

**int** sub = **n1** - **n2**; **tv1**.setText(**"Subtraction ="**+sub);

}

**catch** (NumberFormatException e)

{

}

}

});

**b3**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

try {

String s1 = **t1**.getText().toString(); String s2 = **t2**.getText().toString(); **n1** = Integer.*parseInt*(s1);

**n2** = Integer.*parseInt*(s1);

**int** m = **n1** \* **n2**; **tv1**.setText(**"Multiplication ="**+m);

}

**catch** (NumberFormatException e)

{

}

}

});

**b4**.setOnClickListener(**new** View.OnClickListener() { @Override

**public void** onClick(View v) {

try {

String s1 = **t1**.getText().toString(); String s2 = **t2**.getText().toString(); **n1** = Integer.*parseInt*(s1);

**n2** = Integer.*parseInt*(s1);

**int** d = **n1** / **n2**; **tv1**.setText(**"Division ="**+d);

}

**catch** (NumberFormatException e)

{

}

}

});

**b5**.setOnClickListener(**new** OnClickListener() { @Override

**public void** onClick(View v) {

**t1**.setText(**" "**);

**t2**.setText(**" "**);

**tv1**.setText(**" "**);

}

});

}

}

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