



My First App

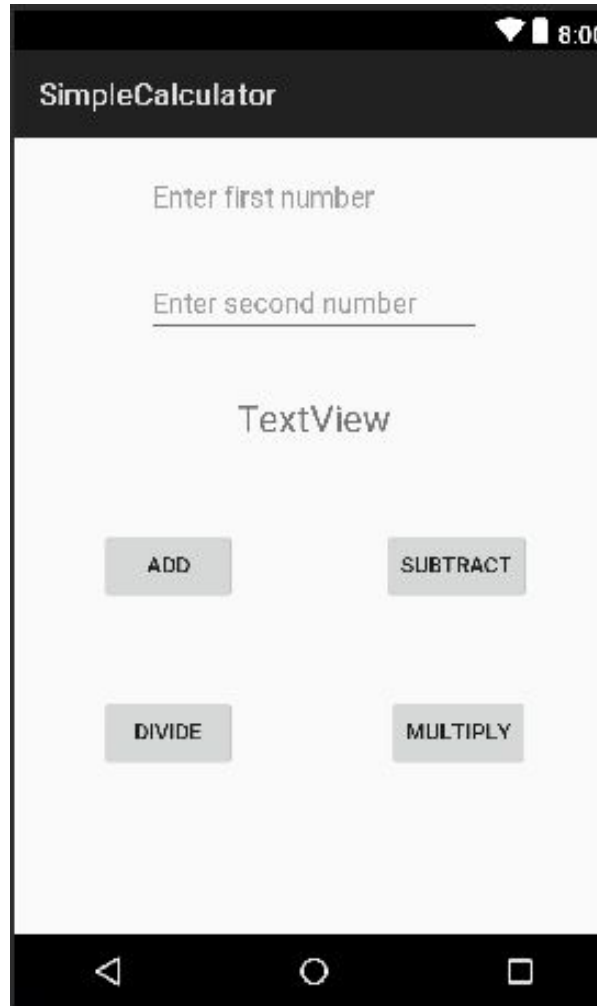
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Content



- Design – XML
- Click Events
- Coding - JAVA
- Run on Emulator/Device

Design the App as given below



The image shows a mobile app interface for a 'SimpleCalculator'. At the top, there's a dark header bar with the title 'SimpleCalculator'. Below the header, the main area is light gray. It contains two text input fields: 'Enter first number' and 'Enter second number'. Below these fields is a 'TextView' label. At the bottom of the main area, there are four buttons arranged in a 2x2 grid: 'ADD', 'SUBTRACT', 'DIVIDE', and 'MULTIPLY'. The bottom of the screen features a black navigation bar with three white icons: a back arrow, a circle, and a square.

Coding in Java File

The following is what we get by default

```
package com.example.falcon.myapplication;

import android.os.Bundle;
import android.app.Activity;
import android.view.View;

public class SimpleCalculator extends Activity {

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

In java file make reference of the views, that you have used in your Layout, as shown below:

```
public class SimpleCalculator extends Activity {  
  
    private EditText edtNumOne;  
    private EditText edtNumTWO;  
    private TextView tvResult;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_simple_calculator);  
  
        edtNumOne = findViewById(R.id.edtNumOne);  
        edtNumTWO = findViewById(R.id.edtNumTwo);  
        tvResult = findViewById(R.id.tvResult);  
    }  
}
```



Adding method to handle click event

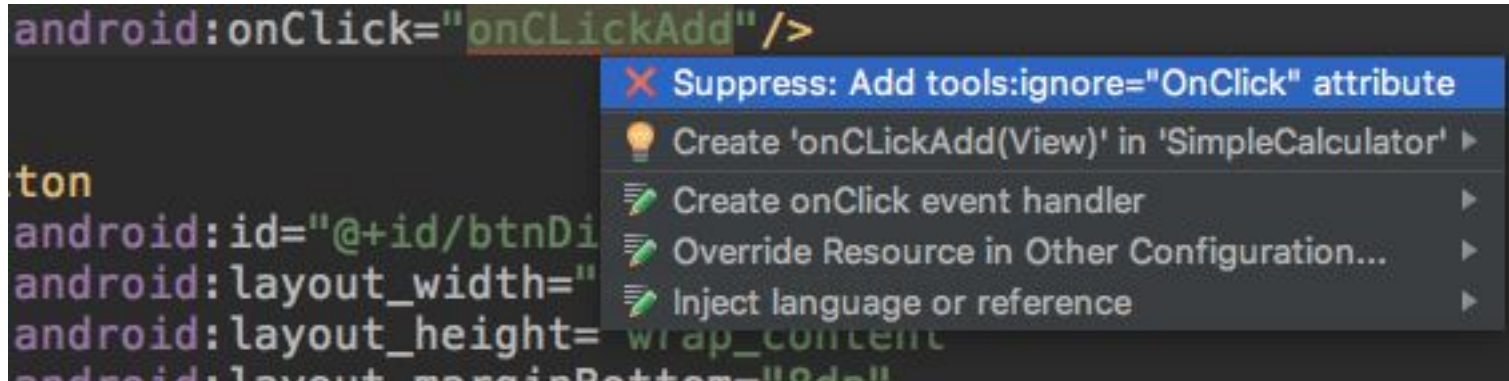
Types of adding method:



- There are ways of adding methods:
 1. From XML
 2. From Java code

1. Add the Click Event for button from XML:

- In your XML file add the following line:
 - `android:onClick="onClickAdd"`
- Now press `alt+<method name>`



- It gives the above menu, select
 - Create 'onClickAdd(View)' in 'SimpleCalculator'
- It creates a method in java file

Output:



```
public class SimpleCalculator extends Activity {  
  
    private EditText edtNumOne;  
    private EditText edtNumTWO;  
    private TextView tvResult;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_simple_calculator);  
  
        edtNumOne = findViewById(R.id.edtNumOne);  
        edtNumTWO = findViewById(R.id.edtNumTwo);  
        tvResult = findViewById(R.id.tvResult);  
    }  
  
    public void onClickAdd(View view) {  
    }  
}
```

Write the following code:

- Add the highlighted line in the method:

```
• public void onClickAdd(View view) {  
    numOne = Integer.parseInt(edtNumOne.getText().toString());  
    numTwo = Integer.parseInt(edtNumTWO.getText().toString());  
  
    tvResult.setText(numOne+numTwo);  
}
```

- This code will add two numbers given by user and show the addition of both in the TextView.

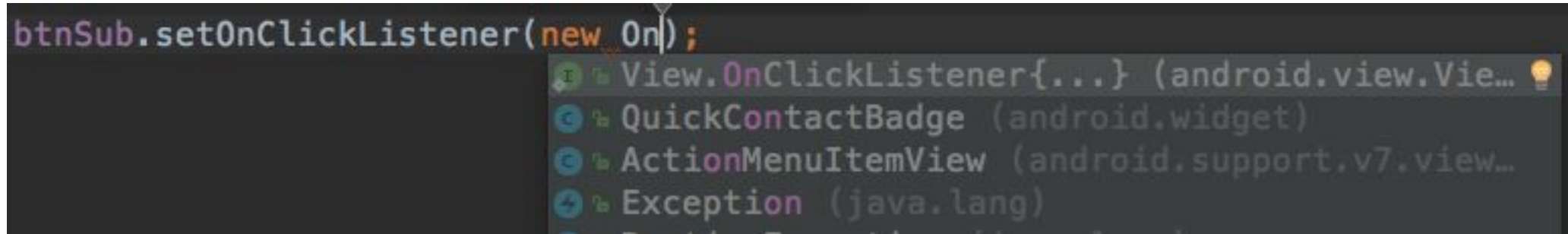
2. Add the Click Event for button from Java code:

- First make the reference of Button in Java file:
 - `private Button btnSub;`
- Now link it to the button from the XML file:
 - `btnSub = findViewById(R.id.btnSub); //in onCreate()`
- Add the following code within onCreate method:

```
btnSub.|
  m  setOnClickListener(OnClickListener l)      void
  m  getAccessibilityClassName()                CharSequence
  m  onResolvePointerIcon(MotionEvent...        PointerIcon
  m  addChildrenForAccessibility(ArrayList<...  void
  m  addExtraDataToAccessibilityNodeInfo(Ac...  void
  m  addFocusables(ArrayList<View> views, i...  void
```

- Select `setOnClickListener(OnClickListener l)` and hit enter.

- Start typing `new OnClickListener` in argument part of the method, it would give the following options, select `View.OnClickListener{...}` and hit enter:



```
btnSub.setOnClickListener(new On);
```

The dropdown menu shows the following options:

- `View.OnClickListener{...}` (android.view.Vie...
- `QuickContactBadge` (android.widget)
- `ActionMenuItemView` (android.support.v7.view...
- `Exception` (java.lang)

- Following code will be auto generated (please do not type the following code):
 - `btnSub.setOnClickListener(new View.OnClickListener() {
 @Override
 public void onClick(View v) {

 }
});`

- Add the highlighted code as shown below:
 - `btnSub.setOnClickListener(new View.OnClickListener() {
 @Override
 public void onClick(View v) {
 tvResult.setText(numOne - numTwo);
 }
});`
- Similarly, you can add other methods for Division and Multiplication, as per the technique of your choice.

