

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\res\\layout\\activity\_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main res layout activity\_main.xml [app] C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets\app\src\main\java\edu\udayton\concerttickets\MainActivity.java

1:Project

Resource Manager

2:Structure

Layout Captures

Build Variants

2:Favorites

Component Tree

Design Text

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

Palette

Common Text Buttons Widgets Layouts Containers Google Legacy

Switch to the main activity's Java code

Attributes

concertImageview ImageView onClick overScrollMode padding paddingTop paddingRight paddingBottom requiresFadingEdge rotation rotationX rotationY saveEnabled scaleType scaleX scaleY scrollX scrollY scrollbarAlwaysDraw scrollbarDefaultDelay scrollbarFadeDuration scrollbarSize scrollbarStyle scrollbarThumbHorizontal scrollbarThumbVertical scrollbarTrackHorizontal scrollbarTrackVertical scrollbars soundEffectsEnabled srcCompat style

Ticket Vault

Number of Tickets

Item 1

Find the Cost

FIND THE COST

ImageView

In the first 2 parts of Lesson 3, we added resources and then customized the main layout using those resources.

In this part of Lesson 3, we add the Java code for the app's functionality to the MainActivity class' onCreate method, and test using the emulator with our Google Nexus system image.

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

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ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager

Android

app manifests java edu.udayton.concerttickets MainActivity edu.udayton.concerttickets (androidTest) edu.udayton.concerttickets (test) generatedJava res drawable layout mipmap values colors.xml dimens.xml strings.xml styles.xml

Gradle Scripts

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.activity_main);
11    } // end onCreate method
12 } // end MainActivity class
```

We can start by adding line comments to tag the close of the onCreate method's and MainActivity class' statement blocks

Layout Captures 2: Favorites Build Variants

Event Log

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13:28 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

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ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites Build Variants Layout Captures 4:Event Log

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5
6 public class MainActivity extends AppCompatActivity { [ ] ←
7
8
9     @Override
10    protected void onCreate(Bundle savedInstanceState) {
11        super.onCreate(savedInstanceState);
12        setContentView(R.layout.activity_main);
13    } // end onCreate method
14 } // end MainActivity class
```

Let's add the named constant and data field (instance variable) declarations for MainActivity (described on pages 111-114 of Android Boot Camp)

However, unlike the textbook's declarations, we'll follow proper Java naming conventions and Object-Oriented Design guidelines:

1. we'll make all declarations private, since they are only used in methods in the class)
2. use the ALL CAPS naming convention for the named constant representing the cost per ticket

MainActivity

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6:54 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6     private final double COST_PER_TICKET = 79.99;
7
8     @Override
9     protected void onCreate(Bundle savedInstanceState) {
10         super.onCreate(savedInstanceState);
11         setContentView(R.layout.activity_main);
12     } // end onCreate method
13 } // end MainActivity class
14
15
16
```

Add a blank line and the declarations for the named constant representing the cost for one ticket

MainActivity

TODO Terminal Build Logcat Event Log

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8:50 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5
6 public class MainActivity extends AppCompatActivity {
7
8     private final double COST_PER_TICKET = 79.99;
9
10    private int numberOfTickets;
11    private double totalCost;
12    private String groupChoice; [ ← After another blank line, add the declarations for the data fields
13
14    @Override
15    protected void onCreate(Bundle savedInstanceState) {
16        super.onCreate(savedInstanceState)
17        setContentView(R.layout.activity_main);
18    } // end onCreate method
19
20} // end MainActivity class
```

MainActivity

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

12:32 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5
6 public class MainActivity extends AppCompatActivity {
7
8     private final double COST_PER_TICKET = 79.99;
9
10    private int numberOfTickets;
11    private double totalCost;
12    private String groupChoice;
13
14    @Override
15    protected void onCreate(Bundle savedInstanceState) {
16        super.onCreate(savedInstanceState);
17        setContentView(R.layout.activity_main); // Place cursor here
18    } // end onCreate method
19 } // end MainActivity class
20
```

We can now start adding the code for MainActivity's onCreate method  
Place the cursor at the end of the second (last) method statement, and add a blank line.

MainActivity > onCreate()

Todo Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

17:48 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5
6 public class MainActivity extends AppCompatActivity {
7
8     private final double COST_PER_TICKET = 79.99;
9
10    private int numberOfTickets;
11    private double totalCost;
12    private String groupChoice;
13
14    @Override
15    protected void onCreate(Bundle savedInstanceState) {
16        super.onCreate(savedInstanceState);
17        setContentView(R.layout.activity_main);
18
19        // set the cost button reference [ ← Add this comment line and the Button declaration (next page)
20    } // end onCreate method
21 } // end MainActivity class
22
```

MainActivity > onCreate()

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

19:41 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22 final Button btnCost = (Button) findViewById(R.id.btnCost);
23 } // end onCreate method
24 } // end MainActivity class
25
```

We added the Button reference as a named constant instead of (as the textbook does) a variable. Why?

The reason is that, although we will eventually call the method to set this Button's OnClick Listener, we will not re-assign the btnCost reference variable itself to reference another Button object. Therefore, there is no reason not to finalize the reference assignment.

In fact, when we later declare/assign them in the scope of the Button's OnClick Listener, we will also finalize the rest of the UI reference variables.

Make sure to use code completion for this Button type so that the appropriate import statement is auto-added

Note that we only need to declare/assign the btnCost Button variable in the onCreate method scope.

As for the rest of the UI reference variables, we can declare/assign those in the OnClick Listener's scope, since they are only used in the listener's onClick method.

Note that the textbook only declares/assigns the txtResult's reference variable in the listener's scope.

MainActivity > onCreate()

TODO Terminal Build Logcat Event Log

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22:57 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null; // Add this assert statement prior to declaring/creating the onClickListener for the btnCost Button
25
26    } // end onCreate method
27 } // end MainActivity class
28
29
```

Add this assert statement prior to declaring/creating the onClickListener for the btnCost Button

You can review the Java assert statement at:  
<http://docs.oracle.com/javase/7/docs/technotes/guides/language/assert.html>

MainActivity > onCreate()

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26:32 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Layout Explorer

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        } // end onCreate method
27    } // end MainActivity class
28
29
30
31
```

After adding a blank line,  
type 'View' here ...

MainActivity > onCreate()

TODO Terminal Build Logcat Event Log

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28:9 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View
27    }
28
29
30
31 }
```

... and select the View class from the code completion menu

MainActivity > onCreate()

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

28:13 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Layout Editor

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View[  } // end onCreate method
28
29    } // end MainActivity class
30
31
32
```

Type a period(.) ...

MainActivity > onCreate()

TODO Terminal Build Logcat Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View.OnClickListener onClickListener = new View.OnClickListener() {
28            @Override
29            public void onClick(View v) {
30                Intent intent = new Intent(MainActivity.this, OrderActivity.class);
31                startActivity(intent);
32            }
33        };
34
35        btnCost.setOnClickListener(onClickListener);
36    }
37}
```

... and select OnClickListener from this menu

MainActivity > onCreate()

TODO Terminal Build Logcat Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View.OnClickListener btnCostListener = new View.
28    } // end onCreate method
29 } // end MainActivity class
```

Continue typing the declaration/creation statement using code completion

View.OnClickListener (android.view.View)  
ACCESSIBILITY\_LIVE\_REGION\_ASSERTIVE (= 0x00000002)  
ACCESSIBILITY\_LIVE\_REGION\_NONE (= 0x00000000)  
ACCESSIBILITY\_LIVE\_REGION\_POLITE (= 0x00000001)  
ALPHA (= new FloatProperty<View ...>) Property<View, ...>  
AUTOFILL\_FLAG\_INCLUDE\_NOT\_IMPORTANT\_VIEWS (= 0x1) int  
AUTOFILL\_HINT\_CREDIT\_CARD\_EXPIRATION\_DATE (= "creditCa.. String  
AUTOFILL\_HINT\_CREDIT\_CARD\_EXPIRATION\_DAY (= "creditCar.. String  
AUTOFILL\_HINT\_CREDIT\_CARD\_EXPIRATION\_MONTH (= "creditC.. String  
AUTOFILL\_HINT\_CREDIT\_CARD\_EXPIRATION\_YEAR (= "creditCa.. String  
AUTOFILL\_HINT\_CREDIT\_CARD\_NUMBER (= "creditCardNumber") String  
AUTOFILL\_HINT\_CREDIT\_CARD\_SECURITY\_CODE (= "creditCardSecurityCode") String  
Press Ctrl+Shift+Space to show only variants that are suitable by type

MainActivity > onCreate()

TODO Terminal Build Logcat Event Log

expected. Identifier expected. 29:57 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View.OnClickListener btnCostListener = new View.OnClickListener() {
28            @Override
29            public void onClick(View v) {
30                // calculate total cost
31                // update UI
32            }
33        }; // end btnCostListener
34    } // end onCreate method
35} // end MainActivity class
```

Add a space and the start of the class block ...

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures 6:Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View.OnClickListener btnCostListener = new View.OnClickListener() {
28            ...
29        } // end onClickListener
30    } // end onCreate method
31} // end MainActivity class
```

... and hit the Enter key here to add a blank line to this block

MainActivity > onCreate() > new OnClickListener

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

29:76 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            @Override
29            public void onClick(View v) {
30                Intent intent = new Intent(MainActivity.this, GroupChoiceActivity.class);
31                intent.putExtra("groupChoice", groupChoice);
32                startActivity(intent);
33            }
34        };
35
36        btnCost.setOnClickListener(btnCostListener);
37    }
38}
```

Let's add the semi-colon to the end of the listener's declaration statement so we don't later forget :)

MainActivity > onCreate()

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

Android

Project

Resource Manager

Gradle Scripts

Favorites

Build Variants

Layout Captures

TODO Terminal Build Logcat

Event Log

Class 'Anonymous class derived from OnClickListener' must either be declared abstract or implement abstract method 'onClick(View)' in 'OnClickListener'

MainActivity.java

```
package edu.udayton.concerttickets;  
import ...  
public class MainActivity extends AppCompatActivity {  
    private final double COST_PER_TICKET = 79.99;  
    private int numberOfTickets;  
    private double totalCost;  
    private String groupChoice;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        // set the cost button reference  
  
        final Button btnCost = (Button) findViewById(R.id.btnCost);  
  
        // validate the btnCost reference  
  
        assert btnCost != null;  
  
        View.OnClickListener btnCostListener = new View.OnClickListener() {  
            ...  
        };  
    } // end onCreate method  
} // end MainActivity class
```

To add the onClick handler (method implementation), click at any point that is red-underlined ...

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View.OnClickListener btnCostListener = new View.OnClickListener() {
28
29    };
30
31    } // end onCreate method
32
33    // MainActivity class
34}
```

... click on the red lightbulb ...

MainActivity > onCreate() > new OnClickListener

TODO Terminal Build Logcat Event Log

Class 'Anonymous class derived from OnClickListener' must either be declared abstract or implement abstract method 'onClick(View)' in 'OnClickListener'

29:52 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat

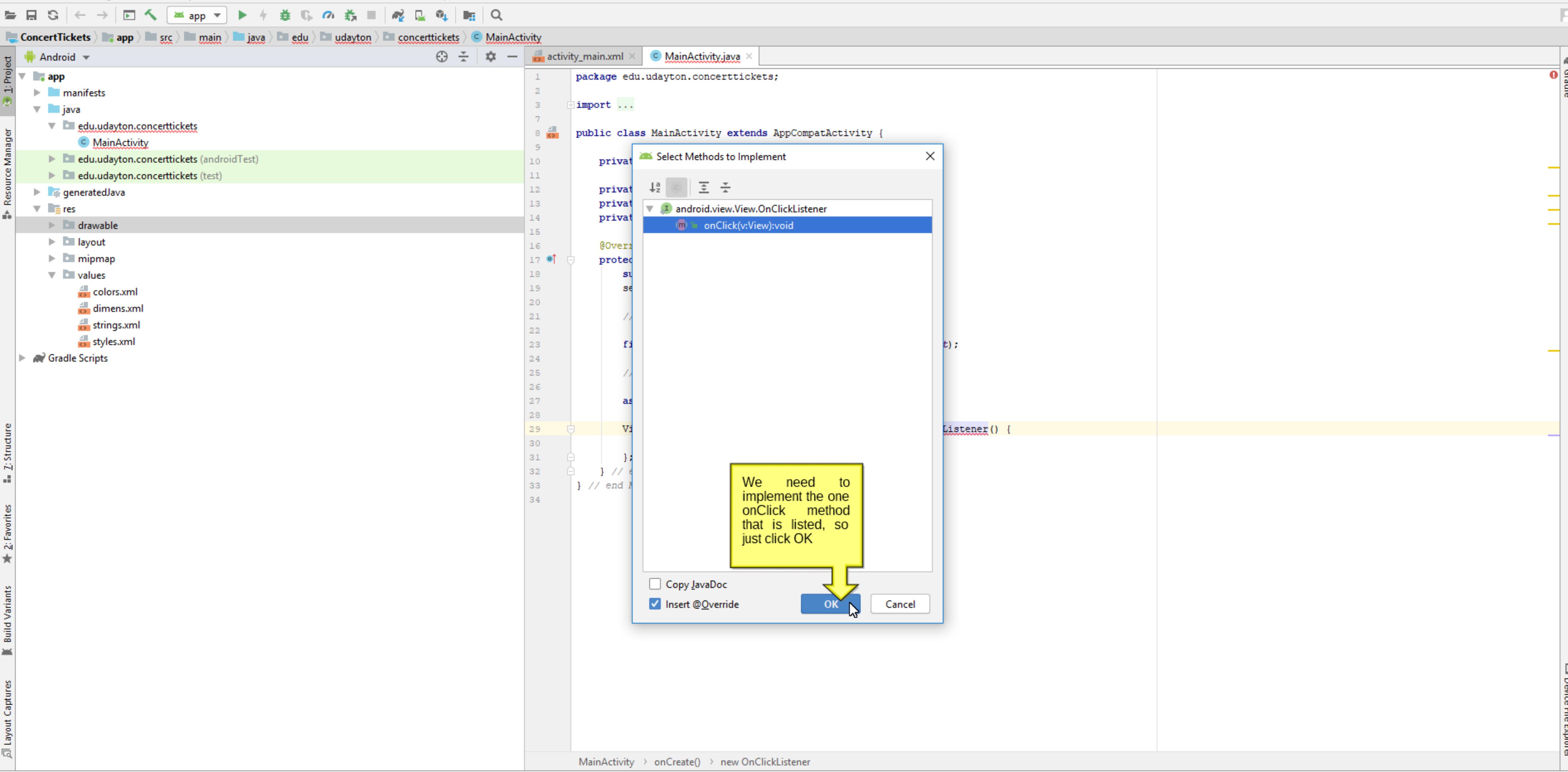
activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button) findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26
27        View.OnClickListener btnCostListener = new View.OnClickListener() {
28            @Override
29            public void onClick(View v) {
30                ...
31            }
32        };
33
34    }
}
```

... and select the implement methods option

TODO Terminal Build Logcat Event Log

Class 'Anonymous class derived from OnClickListener' must either be declared abstract or implement abstract method 'onClick(View)' in 'OnClickListener'



ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            @Override
29            public void onClick(View v) {
30
31                // end onClick handler
32            }
33        };
34    } // end onCreate method
35
36 } // end MainActivity class
37
38
```

Add this line comment to tag the end of the onClick handler's statement block

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener onClickListener = new View.OnClickListener() {
27            @Override
28            public void onClick(View v) {
29                // ...
30            }
31        };
32    }
33
34    } // end onCreate method
35
36 } // end MainActivity class
37
38 }
```

Place the cursor inside the onClickListener's block, but outside the onClick method block, and ...

MainActivity > onCreate() > new OnClickListener

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

30:13 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34
35                // end onClick handler
36            }
37
38        };
39    }
40
41    } // end onCreate method
42
43    } // end MainActivity class
44
45
```

MainActivity > onCreate() > new OnClickListener

... add the declaration/assignment statements for the rest of the UI component reference variables

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34                // calculate the total cost
35                // update the result text view
36            }
37
38        };
39    }
40
41    }
42
43 }
44
45 }
```

MainActivity > onCreate() > new OnClickListener > onClick()

Time to add the onClick handler code for the btnCost Button's listener

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

40:17 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34                // get number of tickets (user input)
35                // end onClick handler
36            };
37
38        }; // end onCreate method
39    } // end MainActivity class
40
41
42
43
44
45
```

MainActivity > onCreate() > new OnClickListener > onClick()

Before anything else, we need to get the number of tickets (user input) as the value of an int(eger) variable

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites Build Variants Layout Captures

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34                // get number of tickets (user input)
35
36                Editable Input = txtTickets.getText();
37                String InputString = Input.toString();
38            } // end onClick handler
39
40        }; // end onCreate method
41
42    } // end MainActivity class
43
44 }
```

MainActivity > onCreate() > new OnClickListener > onClick()

The data comes from the txtTickets EditText as a String (even though the EditText's input type is number)

Note that we add explicit declarations for:

1. the Input Editable object that holds the user input from the txtTickets EditText
2. the InputString String object representation of the user input extracted from the Input Editable object

So, we can now monitor the String-to-int conversion and prevent the app from crashing in the event that the Find The Cost button is tapped with no user input.

We noted that this could happen when we built the layout in Part 2 of this lesson.

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM) 44:55 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34                // get number of tickets (user input)
35
36                Editable Input = txtTickets.getText();
37                String InputString = Input.toString();
38
39                // use exception handling in case of no input
40            } // end onClick handler
41
42        };
43
44        } // end onCreate method
45
46    } // end MainActivity class
47
48
49
50
51 }
```

MainActivity > onCreate() > new OnClickListener > onClick()

To monitor the String-to-int conversion, we use Java exception handling and catch missing user input

You can review Java exception handling at:

<https://docs.oracle.com/javase/tutorial/essential/exceptions/index.html>

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites Build Variants Layout Captures

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34
35                // get number of tickets (user input)
36
37                Editable Input = txtTickets.getText();
38                String InputString = Input.toString();
39
40                // use exception handling in case of no input
41
42                try {
43
44                    } catch (Exception e) {
45
46                } // end try
47
48            } // end onClick
49
50        }; // end onClick
51
52    } // end onCreate method
53
54
55 } // end MainActivity
```

In the case that an exception is thrown, we can display it in the Logcat pane in Android Studio (shown later when we test the app in the emulator).

The Logcat shows a transcript of the app execution in the emulator. In source code, we can display output in the Logcat using one of the methods of the Log object class.

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat Device File Explorer

```
1 package edu.udayton.concerttickets;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     private final double COST_PER_TICKET = 79.99;
8
9     private int numberOfTickets;
10    private double totalCost;
11    private String groupChoice;
12
13    @Override
14    protected void onCreate(Bundle savedInstanceState) {
15        super.onCreate(savedInstanceState);
16        setContentView(R.layout.activity_main);
17
18        // set the cost button reference
19
20        final Button btnCost = (Button)findViewById(R.id.btnCost);
21
22        // validate the btnCost reference
23
24        assert btnCost != null;
25
26        View.OnClickListener btnCostListener = new View.OnClickListener() {
27
28            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
29            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
30            final TextView txtResult = (TextView)findViewById(R.id.txtResult);
31
32            @Override
33            public void onClick(View v) {
34
35                // get number of tickets (user input)
36
37                Editable Input = txtTickets.getText();
38                String InputString = Input.toString();
39
40                // use exception handling in case of no input
41
42                try {
43
44                    } catch (Exception e) {
45
46                    } // end try...catch
47
48                } // end onClick handler
49
50            };
51
52        }; // end onCreate method
53
54    }
55}
```

MainActivity > onCreate() > new OnClickListener > onClick()

Type 'Log' here ...

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

Logcat

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

51 Log

52 Log (android.util)

53 LoginFilter (android.util)

54 Logger (java.util.logging)

55 LoggingMXBean (java.util.logging)

LoggingPermission (java.util.logging)

LogManager (java.util.logging)

LogRecord (java.util.logging)

LoginException (javax.security.auth.login)

Logo (android.media.tv.TvContract.Channels)

LogPrinter (android.util)

LogWriter (android.support.v4.util)

... and select this Log class from the code completion menu

private final double CONCERT\_TICKET\_COST = 15.0;

private int numberOfTickets;

private double totalCost;

private String groupChoice;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// set the cost button reference

final Button btnCost = (Button) findViewById(R.id.btnCost);

// validate the btnCost reference

assert btnCost != null;

View.OnClickListener btnCostListener = new View.OnClickListener() {

final EditText txtTickets = (EditText) findViewById(R.id.txtTickets);

final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);

final TextView txtResult = (TextView) findViewById(R.id.txtResult);

@Override

public void onClick(View v) {

// get number of tickets (user input)

Editable Input = txtTickets.getText();

String InputString = Input.toString();

// use exception handling in case of no input

try {

} catch (Exception e) {

Log

Log (android.util)

LoginFilter (android.util)

Logger (java.util.logging)

LoggingMXBean (java.util.logging)

LoggingPermission (java.util.logging)

LogManager (java.util.logging)

LogRecord (java.util.logging)

LoginException (javax.security.auth.login)

Logo (android.media.tv.TvContract.Channels)

LogPrinter (android.util)

LogWriter (android.support.v4.util)

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

Android

Project

Resource Manager

Gradle

1: Project

app

- manifests
- java
  - edu.udayton.concertickets
    - MainActivity
  - edu.udayton.concertickets (androidTest)
  - edu.udayton.concertickets (test)
- generatedJava
- res
  - drawable
  - layout
  - mipmap
  - values
    - colors.xml
    - dimens.xml
    - strings.xml
    - styles.xml

2: Structure

3: Favorites

Build Variants

Layout Captures

4: I: Structure

Gradle Scripts

activity\_main.xml

MainActivity.java

```
private final double COST_OF_TICKET = 10.0;
```

```
private int numberOfTickets;
private double totalCost;
private String groupChoice;
```

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

    // set the cost button reference

    final Button btnCost = (Button)findViewById(R.id.btnCost);

    // validate the btnCost reference

    assert btnCost != null;

    View.OnClickListener btnCostListener = new View.OnClickListener() {

        final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
        final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
        final TextView txtResult = (TextView)findViewById(R.id.txtResult);

        @Override
        public void onClick(View v) {
            // get number of tickets (user input)

            Editable Input = txtTickets.getText();
            String InputString = Input.toString();

            // use exception handling in case of no input

            try {

            } catch (Exception e) {
                Log.e("Error", "An error occurred: " + e.getMessage());
            }
        }
    };
}
```

Log.

Note that the call to the e method requires at least 2 String arguments:

1. the message tag
2. the message text itself

Device File Explorer

TODO Terminal Build Logcat Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

Event Log

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

activity\_main.xml MainActivity.java

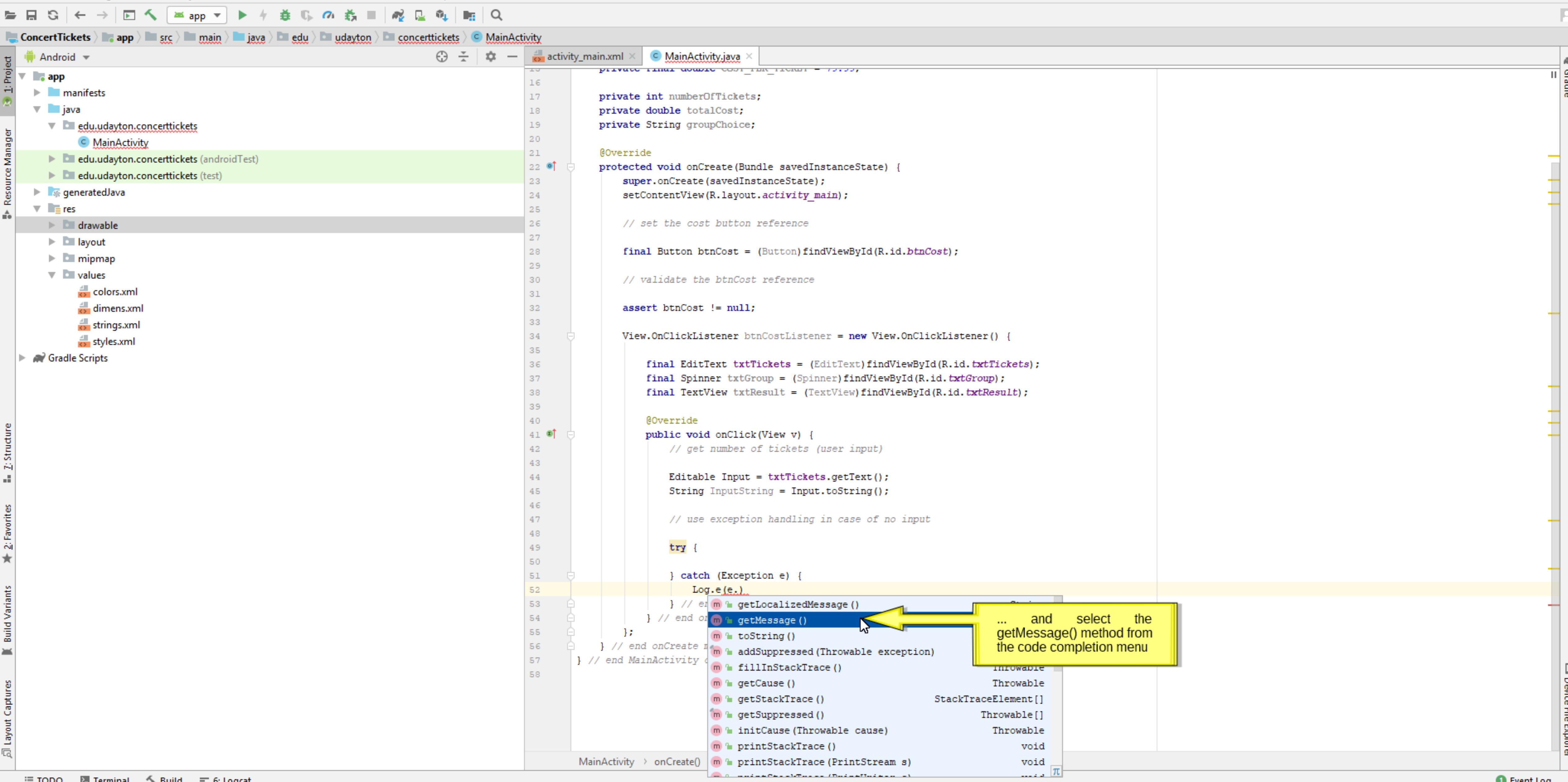
```
15
16
17     private int numberOfTickets;
18     private double totalCost;
19     private String groupChoice;
20
21     @Override
22     protected void onCreate(Bundle savedInstanceState) {
23         super.onCreate(savedInstanceState);
24         setContentView(R.layout.activity_main);
25
26         // set the cost button reference
27
28         final Button btnCost = (Button)findViewById(R.id.btnCost);
29
30         // validate the btnCost reference
31
32         assert btnCost != null;
33
34         View.OnClickListener btnCostListener = new View.OnClickListener() {
35
36             final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
37             final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
38             final TextView txtResult = (TextView)findViewById(R.id.txtResult);
39
40             @Override
41             public void onClick(View v) {
42                 // get number of tickets (user input)
43
44                 String input = txtTickets.getText();
45                 String string = Input.toString();
46
47                 on handling in case of no input
48
49             } catch (Exception e) {
50                 Log.e("Error", "An error occurred: " + e.getMessage());
51             } // end try...catch
52         } // end onClick handler
53     }; // end onCreate method
54 } // end MainActivity class
55
56
57
58
```

For the first argument, we'll use a call to e's getMessage method, so type 'e.' here ...

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat

Cannot resolve method 'e()' 52:27 CRLF 4 spaces



ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

activity\_main.xml MainActivity.java

Android

app

- manifests
- java
  - edu.udayton.concerttickets
    - MainActivity
  - edu.udayton.concerttickets (androidTest)
  - edu.udayton.concerttickets (test)
- generatedJava
- res
  - drawable
  - layout
  - mipmap
  - values
    - colors.xml
    - dimens.xml
    - strings.xml
    - styles.xml

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

MainActivity.java

```
15
16
17     private int numberOfTickets;
18     private double totalCost;
19     private String groupChoice;
20
21     @Override
22     protected void onCreate(Bundle savedInstanceState) {
23         super.onCreate(savedInstanceState);
24         setContentView(R.layout.activity_main);
25
26         // set the cost button reference
27
28         final Button btnCost = (Button)findViewById(R.id.btnCost);
29
30         // validate the btnCost reference
31
32         assert btnCost != null;
33
34         View.OnClickListener btnCostListener = new View.OnClickListener() {
35
36             final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
37             final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
38             final TextView txtResult = (TextView)findViewById(R.id.txtResult);
39
40             @Override
41             public void onClick(View v) {
42                 // get number of tickets (user input)
43
44                 Editable Input = txtTickets.getText();
45                 oString();
46
47                 For the second argument,
48                 we'll use a call to e's toString
49                 method, so type ', e.' here ...
50
51             } catch (Exception e) {
52                 Log.e(e.getMessage());
53             } // end try...catch
54         } // end onClick handler
55     };
56
57 } // end onCreate method
58 } // end MainActivity class
```

For the second argument,  
we'll use a call to e's toString  
method, so type ', e.' here ...

case of no input

Log.e(e.getMessage());

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat

Cannot resolve method 'e(java.lang.String)' 52:41 CRLF ÷ UTF-8 ÷ 4 spaces ÷

Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

Android

Project

app

- manifests
- java
  - edu.udayton.concerttickets
    - MainActivity
  - edu.udayton.concerttickets (androidTest)
  - edu.udayton.concerttickets (test)
- generatedJava
- res
  - drawable
  - layout
  - mipmap
  - values
    - colors.xml
    - dimens.xml
    - strings.xml
    - styles.xml

Resource Manager

Gradle Scripts

2: Favorites

Build Variants

Layout Captures

activity\_main.xml

MainActivity.java

```
15  
16  
17  
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54  
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57  
58
```

private final double COST\_OF\_TICKET = 10.0;  
private int numberOfTickets;  
private double totalCost;  
private String groupChoice;  
  
@Override  
protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 // set the cost button reference  
  
 final Button btnCost = (Button)findViewById(R.id.btnCost);  
  
 // validate the btnCost reference  
  
 assert btnCost != null;  
  
 View.OnClickListener btnCostListener = new View.OnClickListener() {  
  
 final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);  
 final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);  
 final TextView txtResult = (TextView)findViewById(R.id.txtResult);  
  
 @Override  
 public void onClick(View v) {  
 // get number of tickets (user input)  
  
 Editable Input = txtTickets.getText();  
 String InputString = Input.toString();  
  
 // use exception handling in case of no input  
  
 try {  
 } catch (Exception e) {  
 Log.e(e.getMessage(), e.  
 } // end try...catch  
 } // end onClick handler  
 };  
 } // end onCreate method  
} // end MainActivity class

MainActivity > onCreate() > new OnClickListener()

... and select the `toString()` method from the code completion menu

Device File Explorer

TODO Terminal Build Logcat Event Log

Cannot resolve method 'e(java.lang.String)' 52:45 CRLF ï UTF-8 ï 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

activity\_main.xml MainActivity.java

```
private final double CONCERT_TICKET_COST = 15.0;
```

```
private int numberOfTickets;
private double totalCost;
private String groupChoice;
```

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

    // set the cost button reference

    final Button btnCost = (Button)findViewById(R.id.btnCost);

    // validate the btnCost reference

    assert btnCost != null;

    View.OnClickListener btnCostListener = new View.OnClickListener() {

        final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
        final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
        final TextView txtResult = (TextView)findViewById(R.id.txtResult);

        @Override
        public void onClick(View v) {
            // get number of tickets (user input)

            Editable Input = txtTickets.getText();
            String InputString = Input.toString();

            // use exception handling in case of no input

            try {
                // convert InputString to an integer value
            } catch (Exception e) {
                Log.e(e.getMessage(), e.toString());
            } // end try...catch
        } // end onClick handler
    };
} // end onCreate method
} // end MainActivity class
} // end MainActivit
```

MainActivity > onCreate() > new OnClickListener > onClick()

We can now add the rest of the onClick method code inside the try block, starting with the conversion of the user input from the InputString to an integer value.

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures Device File Explorer

```
private int numberOfTickets;
private double totalCost;
private String groupChoice;

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

    // set the cost button reference

    final Button btnCost = (Button)findViewById(R.id.btnCost);

    // validate the btnCost reference

    assert btnCost != null;

    View.OnClickListener btnCostListener = new View.OnClickListener() {

        final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
        final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
        final TextView txtResult = (TextView)findViewById(R.id.txtResult);

        @Override
        public void onClick(View v) {
            // get number of tickets (user input)

            Editable Input = txtTickets.getText();
            String InputString = Input.toString();

            // use exception handling in case of no input

            try {
                // convert InputString to an integer value

                numberOfTickets = Integer.parseInt(InputString); [←
            } catch (Exception e) {
                Log.e(e.getMessage(), e.toString());
            } // end try...catch
        } // end onClick handler
    };
} // end onCreate method
} // end MainActivity class
}
```

MainActivity > onCreate() > new OnClickListener > onClick()

Integer.parseInt is discussed on the bottom of page 114 of Android Boot Camp

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

activity\_main.xml MainActivity.java

```
private String groupchoice;
```

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

        // set the cost button reference

        final Button btnCost = (Button)findViewById(R.id.btnCost);

        // validate the btnCost reference

        assert btnCost != null;

        View.OnClickListener btnCostListener = new View.OnClickListener() {

            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
            final TextView txtResult = (TextView)findViewById(R.id.txtResult);

            @Override
            public void onClick(View v) {
                // get number of tickets (user input)

                Editable Input = txtTickets.getText();
                String InputString = Input.toString();

                // use exception handling in case of no input

                try {
                    // convert InputString to an integer value

                    numberOfTickets = Integer.parseInt(InputString);

                    // calculate the total cost of the tickets
                } catch (Exception e) {
                    Log.e(e.getMessage(), e.toString());
                } // end try...catch
            } // end onClick handler
        };
    } // end onCreate method
} // end MainActivity class
```

MainActivity > onCreate() > new OnClickListener > onClick()

Now that we have the user input as a whole number, we can just multiply that number by the cost per ticket to get the cost for all the tickets.

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

activity\_main.xml MainActivity.java

```
private static final String groupname;
```

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

        // set the cost button reference

        final Button btnCost = (Button)findViewById(R.id.btnCost);

        // validate the btnCost reference

        assert btnCost != null;

        View.OnClickListener btnCostListener = new View.OnClickListener() {

            final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);
            final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);
            final TextView txtResult = (TextView)findViewById(R.id.txtResult);

            @Override
            public void onClick(View v) {
                // get number of tickets (user input)

                Editable Input = txtTickets.getText();
                String InputString = Input.toString();

                // use exception handling in case of no input

                try {
                    // convert InputString to an integer value

                    numberOfTickets = Integer.parseInt(InputString);

                    // calculate the total cost of the tickets

                    totalCost = COST_PER_TICKET * numberOfTickets; [ ] ← Java mathematical operators are discussed on page 116 of Android Boot Camp
                } catch (Exception e) {
                    Log.e(e.getMessage(), e.toString());
                } // end try...catch
            } // end onClick handler
        };
    } // end onCreate method
} // end MainActivity class

```

MainActivity > onCreate() > new OnClickListener > onClick()

Device File Explorer

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

56:67 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

3:Favorites

Build Variants

Layout Captures

Device File Explorer

Android

app

- manifests
- java
  - edu.udayton.concertickets
    - MainActivity
  - edu.udayton.concertickets (androidTest)
  - edu.udayton.concertickets (test)
- generatedJava
- res
  - drawable
  - layout
  - mipmap
  - values
    - colors.xml
    - dimens.xml
    - strings.xml
    - styles.xml

activity\_main.xml

MainActivity.java

```
26 // set the cost button reference
27
28 final Button btnCost = (Button) findViewById(R.id.btnCost);
29
30 // validate the btnCost reference
31
32 assert btnCost != null;
33
34 View.OnClickListener btnCostListener = new View.OnClickListener() {
35
36     final EditText txtTickets = (EditText) findViewById(R.id.txtTickets);
37     final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);
38     final TextView txtResult = (TextView) findViewById(R.id.txtResult);
39
40     @Override
41     public void onClick(View v) {
42         // get number of tickets (user input)
43
44         Editable Input = txtTickets.getText();
45         String InputString = Input.toString();
46
47         // use exception handling in case of no input
48
49         try {
50             // convert InputString to an integer value
51
52             numberOfTickets = Integer.parseInt(InputString);
53
54             // calculate the total cost of the tickets
55
56             totalCost = COST_PER_TICKET * numberOfTickets;
57
58             // get the chosen group from the Spinner
59
60             groupChoice = txtGroup.getSelectedItem().toString();
61         } catch (Exception e) {
62             Log.e(e.getMessage(), e.toString());
63         } // end try...catch
64     } // end onClick handler
65 }
66 } // end onCreate method
67 } // end MainActivity class
68 }
```

We would like to display the chosen musical group is part of the output

The Spinner getSelectedItem method is discussed at the top of page 118 of Android Boot Camp

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

60:73 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

2:Structure

3:Favorites

Build Variants

Layout Captures

activity\_main.xml MainActivity.java

```
final Button btnCost = (Button) findViewById(R.id.btnCost);

// validate the btnCost reference

assert btnCost != null;

View.OnClickListener btnCostListener = new View.OnClickListener() {

    final EditText txtTickets = (EditText) findViewById(R.id.txtTickets);
    final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);
    final TextView txtResult = (TextView) findViewById(R.id.txtResult);

    @Override
    public void onClick(View v) {
        // get number of tickets (user input)

        Editable Input = txtTickets.getText();
        String InputString = Input.toString();

        // use exception handling in case of no input

        try {
            // convert InputString to an integer value

            numberOfTickets = Integer.parseInt(InputString);

            // calculate the total cost of the tickets

            totalCost = COST_PER_TICKET * numberOfTickets;

            // get the chosen group from the Spinner

            groupChoice = txtGroup.getSelectedItem().toString();

            // set up the currency formatter for the ticket cost output
        } catch (Exception e) {
            Log.e(e.getMessage(), e.toString());
        } // end try...catch
    } // end onClick handler
};

} // end onCreate method
} // end MainActivity class
}
```

MainActivity > onCreate() > new OnClickListener > onClick()

We need to output the total cost as in currency format (e.g., \$1,234.56)  
For that, we create and use a java.text.DecimalFormat object

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

2:Structure

3:Favorites

Build Variants

Layout Captures

activity\_main.xml MainActivity.java

```
30 // validate the btnCost reference
31
32 assert btnCost != null;
33
34 View.OnClickListener btnCostListener = new View.OnClickListener() {
35
36     final EditText txtTickets = (EditText) findViewById(R.id.txtTickets);
37     final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);
38     final TextView txtResult = (TextView) findViewById(R.id.txtResult);
39
40     @Override
41     public void onClick(View v) {
42         // get number of tickets (user input)
43
44         Editable Input = txtTickets.getText();
45         String InputString = Input.toString();
46
47         // use exception handling in case of no input
48
49         try {
50             // convert InputString to an integer value
51
52             numberOfTickets = Integer.parseInt(InputString);
53
54             // calculate the total cost of the tickets
55
56             totalCost = COST_PER_TICKET * numberOfTickets;
57
58             // get the chosen group from the Spinner
59
60             groupChoice = txtGroup.getSelectedItem().toString();
61
62             // set up the currency formatter for the ticket cost output
63
64         } catch (Exception e) { // Type 'Decimal' here ...
65             Log.e(e.getMessage(), e.toString());
66         } // end try...catch
67     } // end onClick handler
68 }
69
70 } // end onCreate method
71 } // end MainActivity class
72 }
```

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

64:21 CRLF ÷ UTF-8 ÷ 4 spaces ÷

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

2:Structure

3:Favorites

Build Variants

Layout Captures

activity\_main.xml MainActivity.java

Java code (MainActivity.java):

```
30 // validate the btnCost reference
31
32 assert btnCost != null;
33
34 View.OnClickListener btnCostListener = new View.OnClickListener() {
35
36     final EditText txtTickets = (EditText) findViewById(R.id.txtTickets);
37     final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);
38     final TextView txtResult = (TextView) findViewById(R.id.txtResult);
39
40     @Override
41     public void onClick(View v) {
42         // get number of tickets (user input)
43
44         Editable Input = txtTickets.getText();
45         String InputString = Input.toString();
46
47         // use exception handling in case of no input
48
49         try {
50             // convert InputString to an integer value
51
52             numberOfTickets = Integer.parseInt(InputString);
53
54             // calculate the total cost of the tickets
55
56             totalCost = COST_PER_TICKET * numberOfTickets;
57
58             // get the chosen group from the Spinner
59
60             groupChoice = txtGroup.getSelectedItem().toString();
61
62             // set up the currency formatter for the ticket cost output
63
64             DecimalFormat decimalFormat = new DecimalFormat("###,###.##");
65             txtResult.setText(decimalFormat.format(totalCost));
66
67         } catch (Exception e) {
68             e.printStackTrace();
69         }
70     } // end onClick()
71 } // end MainActivity
72 }
```

Code Completion Suggestion:

- Decimal
- DecimalFormat (java.text)
- DecimalFormatSymbols (java.text)
- DecimalFormat (android.icu.text)
- DecimalBuilder (android.text.style.TtsSpan)
- DecimalFormatSymbols (android.icu.text)
- DecimalStyle (java.time.format)
- BigDecimal (java.math)
- BigDecimal (android.icu.math)
- BigDecimalLayoutForm (java.util.Formatter)
- CompactDecimalFormat (android.icu.text)

... and select this DecimalFormat class from the code completion menu

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

64:28 CRLF ï UTF-8 ï 4 spaces ï

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

Favorites

Build Variants

Layout Captures

Device File Explorer

activity\_main.xml MainActivity.java

```
// validate the btnCost reference
assert btnCost != null;

View.OnClickListener btnCostListener = new View.OnClickListener() {
    final EditText txtTickets = (EditText) findViewById(R.id.txtTickets);
    final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);
    final TextView txtResult = (TextView) findViewById(R.id.txtResult);

    @Override
    public void onClick(View v) {
        // get number of tickets (user input)

        Editable Input = txtTickets.getText();
        String InputString = Input.toString();

        // use exception handling in case of no input

        try {
            // convert InputString to an integer value

            numberOfTickets = Integer.parseInt(InputString);

            // calculate the total cost of the tickets

            totalCost = COST_PER TICKET * numberOfTickets;

            // get the chosen group choice

            groupChoice = txtGroup.getSelectedItem().toString();

            // set up the currency formatter for the ticket cost output

            DecimalFormat currency = new DecimalFormat("$###,###.##");
        } catch (Exception e) {
            Log.e(e.getMessage(), e.toString());
        } // end try...catch
    } // end onClick handler
}; // end onCreate method
} // end MainActivity class
}
```

Complete this declaration/assignment statement for the currency formatter

The DecimalFormat object is discussed on pages 116-117 of Android Boot Camp

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat Event Log

Syncing only active variant // You can disable this experimental feature from // File -> Settings -> Experimental -> Gradle -> Only sync the active variant (today 11:01 AM)

66:79 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

activity\_main.xml

MainActivity.java

final EditText txtTickets = (EditText)findViewById(R.id.txtTickets);  
final Spinner txtGroup = (Spinner)findViewById(R.id.txtGroup);  
final TextView txtResult = (TextView)findViewById(R.id.txtResult);  
  
@Override  
public void onClick(View v) {  
 // get number of tickets (user input)  
  
 Editable Input = txtTickets.getText();  
 String InputString = Input.toString();  
  
 // use exception handling in case of no input  
  
 try {  
 // convert InputString to an integer value  
  
 numberOfTickets = Integer.parseInt(InputString);  
  
 // calculate the total cost of the tickets  
  
 totalCost = COST\_PER\_TICKET \* numberOfTickets;  
  
 // get the chosen group from the Spinner  
  
 groupChoice = txtGroup.getSelectedItem().toString();  
  
 // set up the currency formatter for the ticket cost output  
  
 DecimalFormat currency = new DecimalFormat("\$###,###.##");  
  
 // output the total ticket cost and the selected group  
  
 String OutputString = "Cost for " + groupChoice + " is " +  
 currency.format(totalCost);  
 } catch (Exception e) {  
 Log.e(e.getMessage(), e.toString());  
 } // end try...catch  
} // end onClick handler  
};  
} // end onCreate method  
} // end MainActivity class

We assign a declared String variable (named Output) to the output text

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat Profiler Run Event Log

Emulator: Process finished with exit code 0 (moments ago)

71:70 CRLF ÷ UTF-8 ÷ 4 spaces ÷

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

activity\_main.xml

MainActivity.java

final Button txtTickets = (Button) findViewById(R.id.txtTickets);  
final Spinner txtGroup = (Spinner) findViewById(R.id.txtGroup);  
final TextView txtResult = (TextView) findViewById(R.id.txtResult);

@Override  
public void onClick(View v) {  
 // get number of tickets (user input)  
  
 Editable Input = txtTickets.getText();  
 String InputString = Input.toString();  
  
 // use exception handling in case of no input  
  
 try {  
 // convert InputString to an integer value  
  
 numberOfTickets = Integer.parseInt(InputString);  
  
 // calculate the total cost of the tickets  
  
 totalCost = COST\_PER\_TICKET \* numberOfTickets;  
  
 // get the chosen group from the Spinner  
  
 groupChoice = txtGroup.getSelectedItem().toString();  
  
 // set up the currency formatter for the ticket cost output  
  
 DecimalFormat currency = new DecimalFormat("\$###,###.##");  
  
 // output the total ticket cost and the selected group  
  
 String OutputString = "Cost for " + groupChoice + " is " +  
 currency.format(totalCost);  
  
 txtResult.setText(OutputString);  
 } catch (Exception e) {  
 Log.e(e.getMessage(), e.toString());  
 } // end try...catch  
} // end onClick handler  
};  
} // end onCreate method  
} // end MainActivity class

The setText method is discussed on page 118 of Android Boot Camp

MainActivity > onCreate() > new OnClickListener > onClick()

TODO Terminal Build Logcat Profiler Run Emulator: Process finished with exit code 0 (a minute ago)

73:53 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures

activity\_main.xml MainActivity.java

```
40
41
42
43 @Override
44 public void onClick(View v) {
45     // get number of tickets (user input)
46
47     Editable Input = txtTickets.getText();
48     String InputString = Input.toString();
49
50     // use exception handling in case of no input
51
52     try {
53         // convert InputString to an integer value
54
55         numberOfTickets = Integer.parseInt(InputString);
56
57         // calculate the total cost of the tickets
58
59         totalCost = COST_PER_TICKET * numberOfTickets;
60
61         // get the chosen group from the Spinner
62
63         groupChoice = txtGroup.getSelectedItem().toString();
64
65         // set up the currency formatter for the ticket cost output
66
67         DecimalFormat currency = new DecimalFormat("$###,###.##");
68
69         // output the total ticket cost and the selected group
70
71         String OutputString = "Cost for " + groupChoice + " is " +
72             currency.format(totalCost);
73
74         txtResult.setText(OutputString);
75     } catch (Exception e) {
76         Log.e(e.getMessage(), e.toString());
77     } // end try...catch
78 } // end onClick handler
79
80 // set btnCostListener as the btnCost Button's event listener
81 } // end onCreate method
82 } // end MainActivity class
83
```

MainActivity > onCreate()

We add one last statement to the onCreate method to set the costListener as the btnCost's onClick listener

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

activity\_main.xml MainActivity.java

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45         Editable Input = txtTickets.getText();  
46         String InputString = Input.toString();  
47  
48         // use exception handling in case of no input  
49         try {  
50             // convert InputString to an integer value  
51             numberOfTickets = Integer.parseInt(InputString);  
52  
53             // calculate the total cost of the tickets  
54             totalCost = COST_PER_TICKET * numberOfTickets;  
55  
56             // get the chosen group from the Spinner  
57             groupChoice = txtGroup.getSelectedItem().toString();  
58  
59             // set up the currency formatter for the ticket cost output  
60             DecimalFormat currency = new DecimalFormat("$###,###.##");  
61  
62             // output the total ticket cost and the selected group  
63             String OutputString = "Cost for " + groupChoice + " is " +  
64             currency.format(totalCost);  
65  
66             txtResult.setText(OutputString);  
67         } catch (Exception e) {  
68             Log.e(e.getMessage(), e.toString());  
69         } // end try...catch  
70     } // end onClick handler  
71  
72     // set btnCostListener as the btnCost Button's event listener  
73  
74     btnCost.setOnClickListener(btnCostListener);  
75 } // end onCreate method  
76 } // end MainActivity class
```

This is the same way we set the button listener to display the Bruschetta recipe in Lesson 2.

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Emulator: Process finished with exit code 0 (a minute ago) 82:53 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Save All (Ctrl+S) Save all your work

activity\_main.xml MainActivity.java

```
public void onClick(View v) {
    // get number of tickets (user input)
    Editable Input = txtTickets.getText();
    String InputString = Input.toString();

    // use exception handling in case of no input
    try {
        // convert InputString to an integer value
        numberOfTickets = Integer.parseInt(InputString);

        // calculate the total cost of the tickets
        totalCost = COST_PER_TICKET * numberOfTickets;

        // get the chosen group from the Spinner
        groupChoice = txtGroup.getSelectedItem().toString();

        // set up the currency formatter for the ticket cost output
        DecimalFormat currency = new DecimalFormat("$###,###.##");

        // output the total ticket cost and the selected group
        String OutputString = "Cost for " + groupChoice + " is " +
            currency.format(totalCost);

        txtResult.setText(OutputString);
    } catch (Exception e) {
        Log.e(e.getMessage(), e.toString());
    } // end try...catch
} // end onClick handler
};

// set btnCostListener as the btnCost Button's event listener
btnCost.setOnClickListener(btnCostListener);
} // end onCreate method
} // end MainActivity class
}
```

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Save all files and settings 82:53 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets Make Project (Ctrl+F9) Main java edu udayton concerttickets MainActivity

Build the project

Android app manifests java edu.udayton.concertickets MainActivity androidTest test generatedJava res drawable layout mipmap values colors.xml dimens.xml strings.xml styles.xml Gradle Scripts

activity\_main.xml MainActivity.java

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45         Editable Input = txtTickets.getText();  
46         String InputString = Input.toString();  
47  
48         // use exception handling in case of no input  
49  
50         try {  
51             // convert InputString to an integer value  
52             numberOfTickets = Integer.parseInt(InputString);  
53  
54             // calculate the total cost of the tickets  
55  
56             totalCost = COST_PER_TICKET * numberOfTickets;  
57  
58             // get the chosen group from the Spinner  
59  
60             groupChoice = txtGroup.getSelectedItem().toString();  
61  
62             // set up the currency formatter for the ticket cost output  
63  
64             DecimalFormat currency = new DecimalFormat("$###,###.##");  
65  
66             // output the total ticket cost and the selected group  
67  
68             String OutputString = "Cost for " + groupChoice + " is " +  
69             currency.format(totalCost);  
70  
71             txtResult.setText(OutputString);  
72         } catch (Exception e) {  
73             Log.e(e.getMessage(), e.toString());  
74         } // end try...catch  
75     } // end onClick handler  
76 }  
77  
78 // set btnCostListener as the btnCost Button's event listener  
79  
80     btnCost.setOnClickListener(btnCostListener);  
81  
82 } // end onCreate method  
83 } // end MainActivity class  
84  
85
```

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Emulator: Process finished with exit code 0 (a minute ago) 82:53 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Launch the AVD Manager

ConcertTickets app src main java edu udayton concerttickets MainActivity

Android

1:Project

app manifests java edu.udayton.concertickets MainActivity androidTest test generatedJava res drawable layout mipmap values colors.xml dimens.xml strings.xml styles.xml

Resource Manager

2:Structure

Gradle Scripts

3:Favorites

Build Variants

Layout Captures

MainActivity.java

```
public void onClick(View v) {
    // get number of tickets (user input)
    Editable Input = txtTickets.getText();
    String InputString = Input.toString();

    // use exception handling in case of no input
    try {
        // convert InputString to an integer value
        numberOfTickets = Integer.parseInt(InputString);

        // calculate the total cost of the tickets
        totalCost = COST_PER_TICKET * numberOfTickets;

        // get the chosen group from the Spinner
        groupChoice = txtGroup.getSelectedItem().toString();

        // set up the currency formatter for the ticket cost output
        DecimalFormat currency = new DecimalFormat("$###,###.##");

        // output the total ticket cost and the selected group
        String OutputString = "Cost for " + groupChoice + " is " +
            currency.format(totalCost);

        txtResult.setText(OutputString);
    } catch (Exception e) {
        Log.e(e.getMessage(), e.toString());
    } // end try...catch
} // end onClick handler
};

// set btnCostListener as the btnCost Button's event listener
btnCost.setOnClickListener(btnCostListener);
} // end onCreate method
} // end MainActivity class
}
```

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Gradle build finished in 1 s 36 ms (moments ago)

82:53 CRLF UTF-8 4 spaces

Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...app\src\main\java\edu\udayton\concerttickets\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app

1:Project

Resource Manager

Gradle

Layout Captures

Build Variants

2: Favorites

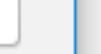
2: Structure

Android Virtual Device Manager

Your Virtual Devices

Android Studio

Type	Name	Play Store	Resolution	API	Target	CPU/ABI	Size on Disk	Launch this AVD in the emulator
Emulator	Nexus 5 Pie		1080 x 1920: xxhdpi	28	Android 9.0 (Google Play)	x86	8.5 GB	 Launch the virtual Nexus 5

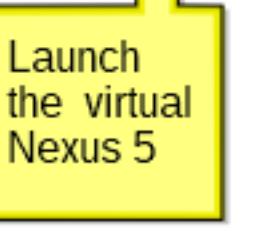
+ Create Virtual Device...  

MainActivity > onCreate()

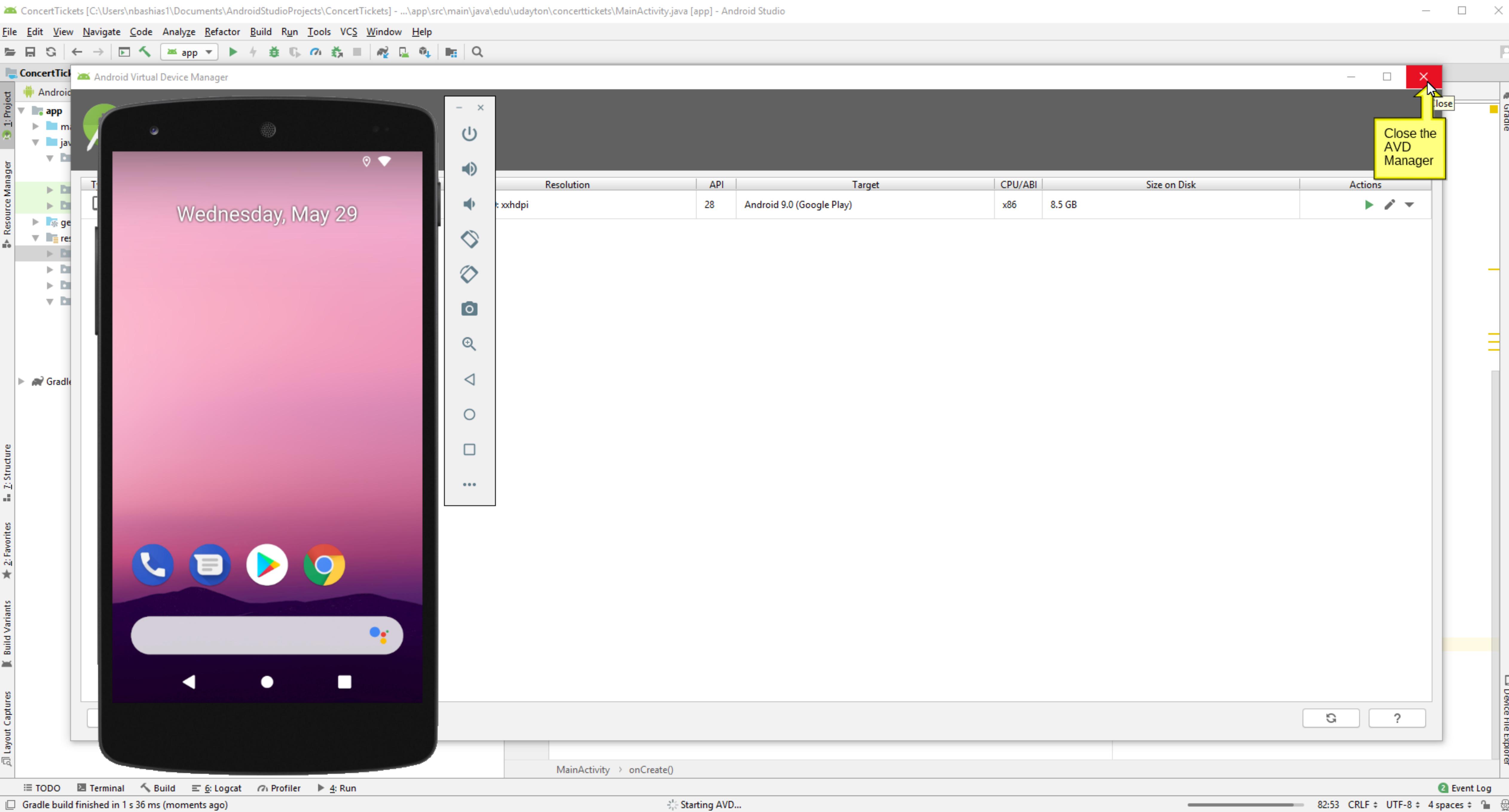
TODO Terminal Build Logcat Profiler Run

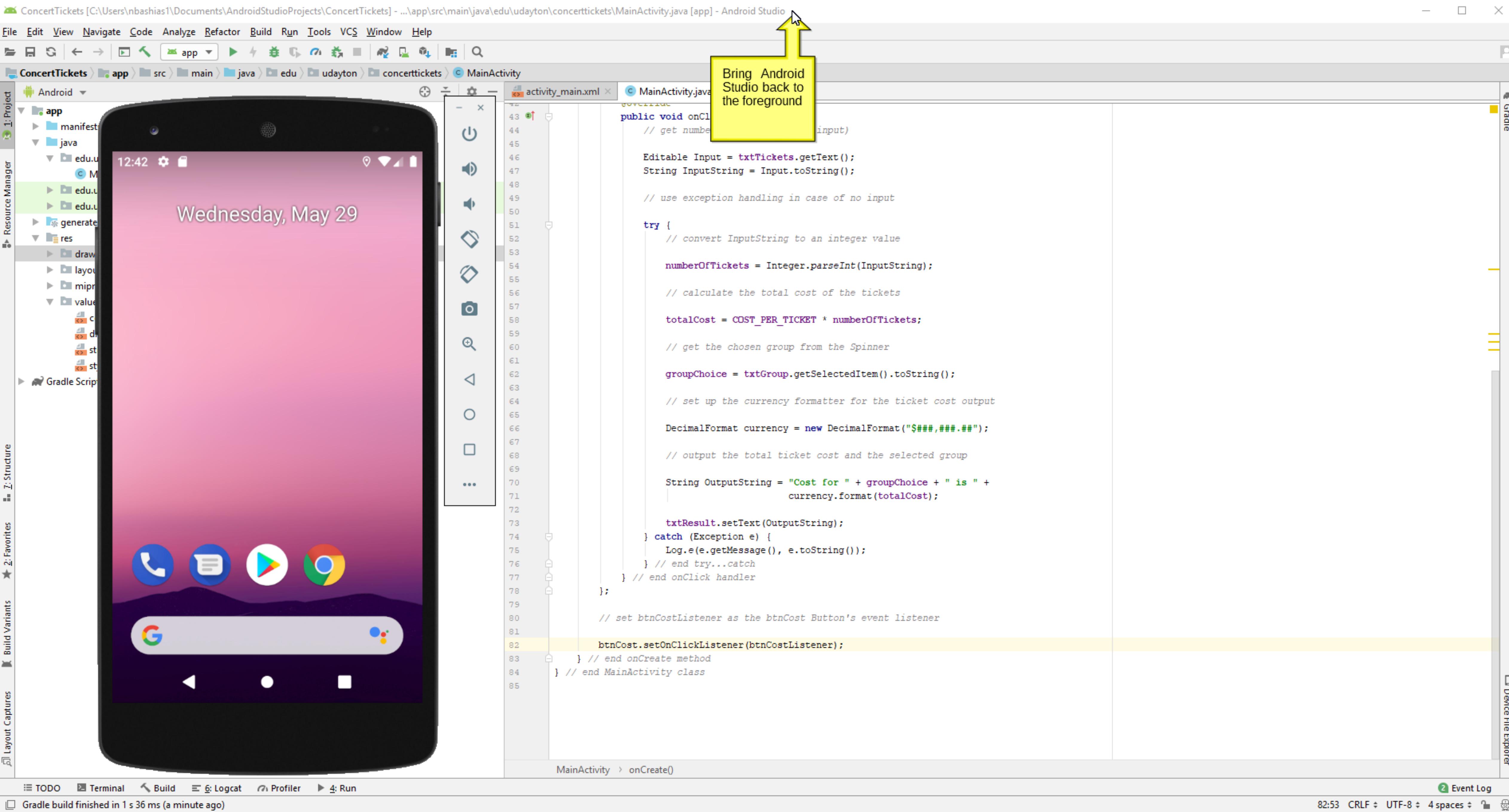
Event Log

Gradle build finished in 1 s 36 ms (moments ago) 82:53 CRLF UTF-8 4 spaces



Launch the virtual Nexus 5





ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src Run 'app' (Shift+F10) udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures 3:Logcat 4:Run

Run selected configuration 82:53 CRLF UTF-8 4 spaces

Run the app in the emulator

activity\_main.xml MainActivity.java

```
public void onClick(View v) {
    // get number of tickets (user input)
    Editable Input = txtTickets.getText();
    String InputString = Input.toString();

    // use exception handling in case of no input
    try {
        // convert InputString to an integer value
        numberOfTickets = Integer.parseInt(InputString);

        // calculate the total cost of the tickets
        totalCost = COST_PER_TICKET * numberOfTickets;

        // get the chosen group from the Spinner
        groupChoice = txtGroup.getSelectedItem().toString();

        // set up the currency formatter for the ticket cost output
        DecimalFormat currency = new DecimalFormat("$###,###.##");

        // output the total ticket cost and the selected group
        String OutputString = "Cost for " + groupChoice + " is " +
            currency.format(totalCost);

        txtResult.setText(OutputString);
    } catch (Exception e) {
        Log.e(e.getMessage(), e.toString());
    } // end try...catch
} // end onClick handler
};

// set btnCostListener as the btnCost Button's event listener
btnCost.setOnClickListener(btnCostListener);
} // end onCreate method
} // end MainActivity class
}
```

MainActivity > onCreate()

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle

activity\_main.xml MainActivity.java

43 public void onClick(View v) {  
44 // get number of tickets (user input)  
45  
46 Editable Input = txtTickets.getText();  
47 String InputString = Input.toString();  
48  
49 // use exception handling in case of no input

Select Deployment Target

Connected Devices

Nexus 5 Pie (Android 9, API 28)

Create New Virtual Device

Use same selection for future launches

OK Cancel Help

OK, we'll use the emulator we just launched

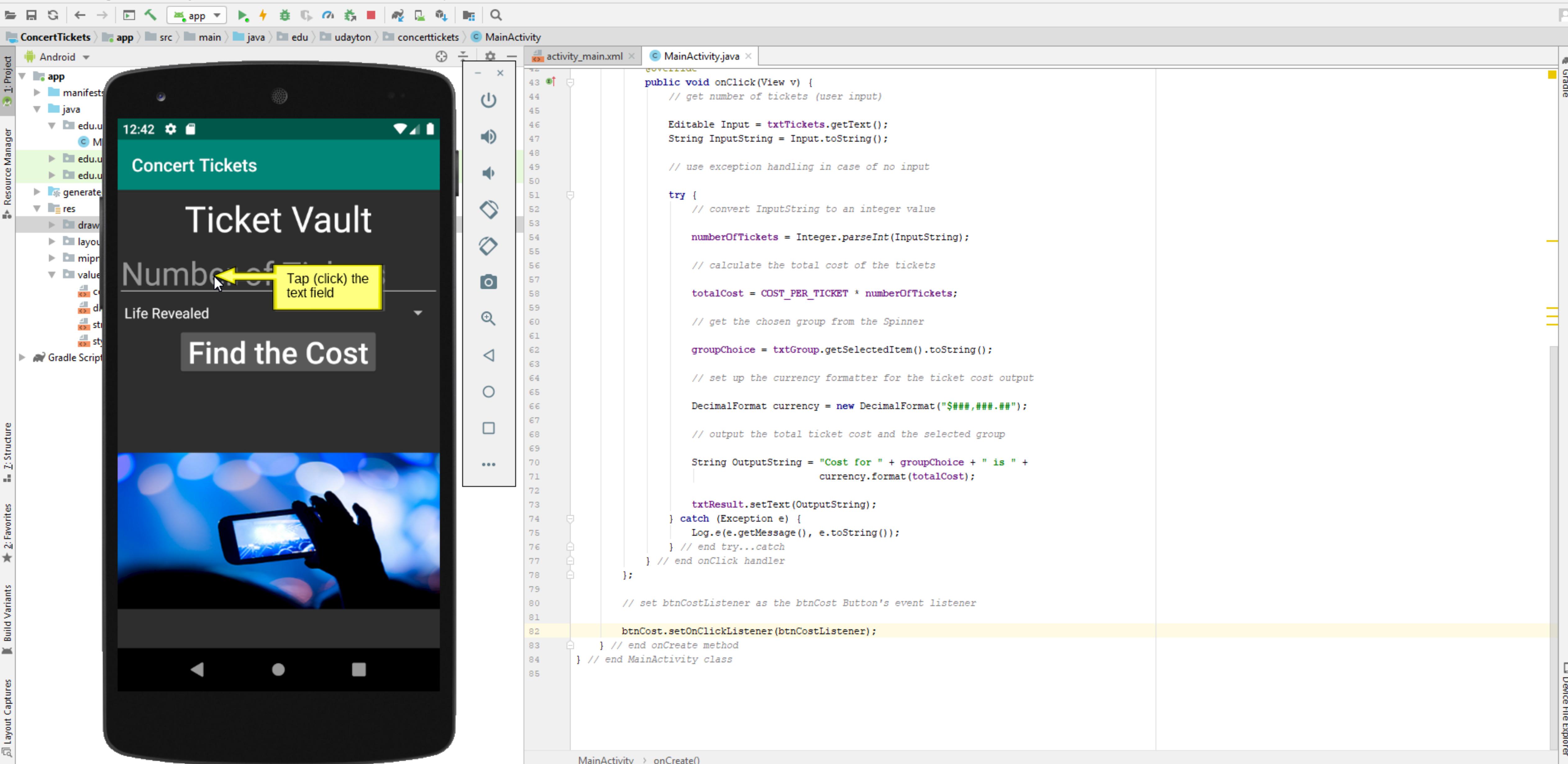
79 // set btnCostListener as the btnCost Button's event listener  
80  
81  
82 btnCost.setOnClickListener(btnCostListener);  
83 } // end onCreate method  
84 } // end MainActivity class  
85

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Run selected configuration

82:53 CRLF UTF-8 4 spaces



ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Favorites Build Variants Layout Captures Device File Explorer

activity\_main.xml MainActivity.java

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45  
46         Editable Input = txtTickets.getText();  
47         String InputString = Input.toString();  
48  
49         // use exception handling in case of no input  
50  
51         try {  
52             // convert InputString to an integer value  
53  
54             numberOfTickets = Integer.parseInt(InputString);  
55  
56             // calculate the total cost of the tickets  
57  
58             totalCost = COST_PER_TICKET * numberOfTickets;  
59  
60             // get the chosen group from the Spinner  
61  
62             groupChoice = txtGroup.getSelectedItem().toString();  
63  
64             // set up the currency formatter for the ticket cost output  
65  
66             DecimalFormat currency = new DecimalFormat("$###,###.##");  
67  
68             // output the total ticket cost and the selected group  
69  
70             String OutputString = "Cost for " + groupChoice + " is " +  
71             currency.format(totalCost);  
72  
73             txtResult.setText(OutputString);  
74         } catch (Exception e) {  
75             Log.e(e.getMessage(), e.toString());  
76         } // end try...catch  
77     } // end onClick handler  
78  
79  
80     // set btnCostListener as the btnCost Button's event listener  
81  
82     btnCost.setOnClickListener(btnCostListener);  
83 } // end onCreate method  
84 } // end MainActivity class
```

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Gradle build finished in 3 s 672 ms (moments ago) 82:53 CRLF UTF-8 4 spaces

The screenshot shows an Android application named "Concert Tickets" running in the Android Studio IDE. The app's interface includes a title bar with the text "Concert Tickets", a main title "Ticket Vault", and a subtitle "Number of Tickets". Below this is a section labeled "Life Revealed" with a button labeled "Find the Cost". A numeric keypad is displayed at the bottom. A yellow callout box with the text "Tap/click the number of tickets" points to the number 5 on the keypad. The Java code for the MainActivity.java file is visible on the right, showing the logic for calculating the total cost based on the number of tickets entered.

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures

activity\_main.xml MainActivity.java

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45  
46         Editable Input = txtTickets.getText();  
47         String InputString = Input.toString();  
48  
49         // use exception handling in case of no input  
50  
51         try {  
52             // convert InputString to an integer value  
53  
54             numberOfTickets = Integer.parseInt(InputString);  
55  
56             // calculate the total cost of the tickets  
57  
58             totalCost = COST_PER_TICKET * numberOfTickets;  
59  
60             // get the chosen group from the Spinner  
61  
62             groupChoice = txtGroup.getSelectedItem().toString();  
63  
64             // set up the currency formatter for the ticket cost output  
65  
66             DecimalFormat currency = new DecimalFormat("$###,###.##");  
67  
68             // output the total ticket cost and the selected group  
69  
70             String OutputString = "Cost for " + groupChoice + " is " +  
71             currency.format(totalCost);  
72  
73             txtResult.setText(OutputString);  
74         } catch (Exception e) {  
75             Log.e(e.getMessage(), e.toString());  
76         } // end try...catch  
77     } // end onClick handler  
78  
79     // set btnCostListener as the btnCost Button's event listener  
80     OnClickListerner(btnCostListener);  
81     // method  
82  
83 } // end MainActivity class  
84  
85 }
```

12:43 Concert Tickets Ticket Vault 5 Life Revealed Find the Cost

1 2 3 -  
4 5 6 [  
7 8 9 ]  
,

0 .

Tap/click to confirm and close the soft keyboard

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager Gradle Script

2:Structure Favorites Build Variants Layout Captures Device File Explorer

activity\_main.xml MainActivity.java

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45  
46         Editable Input = txtTickets.getText();  
47         String InputString = Input.toString();  
48  
49         // use exception handling in case of no input  
50  
51         try {  
52             // convert InputString to an integer value  
53  
54             numberOfTickets = Integer.parseInt(InputString);  
55  
56             // calculate the total cost of the tickets  
57  
58             totalCost = COST_PER_TICKET * numberOfTickets;  
59  
60             // get the chosen group from the Spinner  
61  
62             groupChoice = txtGroup.getSelectedItem().toString();  
63  
64             // set up the currency formatter for the ticket cost output  
65  
66             DecimalFormat currency = new DecimalFormat("$###,###.##");  
67  
68             // output the total ticket cost and the selected group  
69  
70             String OutputString = "Cost for " + groupChoice + " is " +  
71             currency.format(totalCost);  
72  
73             txtResult.setText(OutputString);  
74         } catch (Exception e) {  
75             Log.e(e.getMessage(), e.toString());  
76         } // end try...catch  
77     } // end onClick handler  
78  
79  
80     // set btnCostListener as the btnCost Button's event listener  
81  
82     btnCost.setOnClickListener(btnCostListener);  
83 } // end onCreate method  
84 } // end MainActivity class
```

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run Event Log

Gradle build finished in 3 s 672 ms (moments ago) 82:53 CRLF UTF-8 4 spaces

The screenshot shows the Android Studio interface with the Concert Tickets application open. The left side features the Project and Resource Managers, while the right side displays the code editor for MainActivity.java and the Android Device Monitor. The main area shows a preview of the app's UI on a virtual device. A yellow callout box with the text 'Tap/click to display the group Spinner' points to a button labeled 'Life Revealed'. The code in MainActivity.java handles user input for ticket数量 and group选择, calculates the total cost, and updates the result text view.

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Script

2:Structure

Layout Captures

Build Variants

2:Favorites

Device File Explorer

Activity\_main.xml

MainActivity.java

12:43 Concert Tickets Ticket Vault 5 Life Revealed Spatial Sense Zig Zag

Tap/click to select the desired group

43 public void onClick(View v) {  
44 // get number of tickets (user input)  
45  
46 Editable Input = txtTickets.getText();  
47 String InputString = Input.toString();  
48  
49 // use exception handling in case of no input  
50  
51 try {  
52 // convert InputString to an integer value  
53  
54 numberOfTickets = Integer.parseInt(InputString);  
55  
56 // calculate the total cost of the tickets  
57  
58 totalCost = COST\_PER\_TICKET \* numberOfTickets;  
59  
60 // get the chosen group from the Spinner  
61  
62 groupChoice = txtGroup.getSelectedItem().toString();  
63  
64 // set up the currency formatter for the ticket cost output  
65  
66 DecimalFormat currency = new DecimalFormat("###,###.##");  
67  
68 // output the total ticket cost and the selected group  
69  
70 String OutputString = "Cost for " + groupChoice + " is " +  
71 currency.format(totalCost);  
72  
73 txtResult.setText(OutputString);  
74 } catch (Exception e) {  
75 Log.e(e.getMessage(), e.toString());  
76 } // end try...catch  
77 } // end onClick handler  
78  
79  
80 // set btnCostListener as the btnCost Button's event listener  
81  
82 btnCost.setOnClickListener(btnCostListener);  
83 } // end onCreate method  
84 } // end MainActivity class  
85

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Gradle build finished in 3 s 672 ms (moments ago)

82:53 CRLF UTF-8 4 spaces

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Script

2:Structure

3:Favorites

Build Variants

Layout Captures

Device File Explorer

Android

app

- manifests
- java
  - edu.udayton.concerttickets
  - generate
- res
- layout
- mipmap
- values

activity\_main.xml

MainActivity.java

12:43 Concert Tickets

Ticket Vault

5

Spatial Sense

Find the  Tap/click to show the total ticket cost and the chosen group

Find the  Tap/click to show the total ticket cost and the chosen group

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45  
46         Editable Input = txtTickets.getText();  
47         String InputString = Input.toString();  
48  
49         // use exception handling in case of no input  
50  
51         try {  
52             // convert InputString to an integer value  
53  
54             numberOfTickets = Integer.parseInt(InputString);  
55  
56             // calculate the total cost of the tickets  
57  
58             totalCost = COST_PER_TICKET * numberOfTickets;  
59  
60             // get the chosen group from the Spinner  
61  
62             groupChoice = txtGroup.getSelectedItem().toString();  
63  
64             // set up the currency formatter for the ticket cost output  
65  
66             DecimalFormat currency = new DecimalFormat("$###,###.##");  
67  
68             // output the total ticket cost and the selected group  
69  
70             String OutputString = "Cost for " + groupChoice + " is " +  
71             currency.format(totalCost);  
72  
73             txtResult.setText(OutputString);  
74         } catch (Exception e) {  
75             Log.e(e.getMessage(), e.toString());  
76         } // end try...catch  
77     } // end onClick handler  
78  
79  
80     // set btnCostListener as the btnCost Button's event listener  
81  
82     btnCost.setOnClickListener(btnCostListener);  
83 } // end onCreate method  
84 } // end MainActivity class
```

MainActivity > onCreate()

TODO Terminal Build Logcat Profiler Run

Gradle build finished in 3 s 672 ms (moments ago)

82:53 CRLF UTF-8 4 spaces

Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure Favorites Build Variants Layout Captures Device File Explorer

Android

app manifest java edu.udayton concerttickets MainActivity

activity\_main.xml MainActivity.java

12:43 Concert Tickets Ticket Vault 5 Spatial Sense Find the Cost Cost for Spatial Sense is \$399.95 Here's our output!

Find the Cost

Cost for Spatial Sense is \$399.95

Here's our output!

>MainActivity > onCreate()

```
public void onClick(View v) {
    // get number of tickets (user input)

    Editable Input = txtTickets.getText();
    String InputString = Input.toString();

    // use exception handling in case of no input

    try {
        // convert InputString to an integer value

        numberOfTickets = Integer.parseInt(InputString);

        // calculate the total cost of the tickets

        totalCost = COST_PER_TICKET * numberOfTickets;

        // get the chosen group from the Spinner

        groupChoice = txtGroup.getSelectedItem().toString();

        // set up the currency formatter for the ticket cost output

        DecimalFormat currency = new DecimalFormat("#,###.##");

        // output the total ticket cost and the selected group

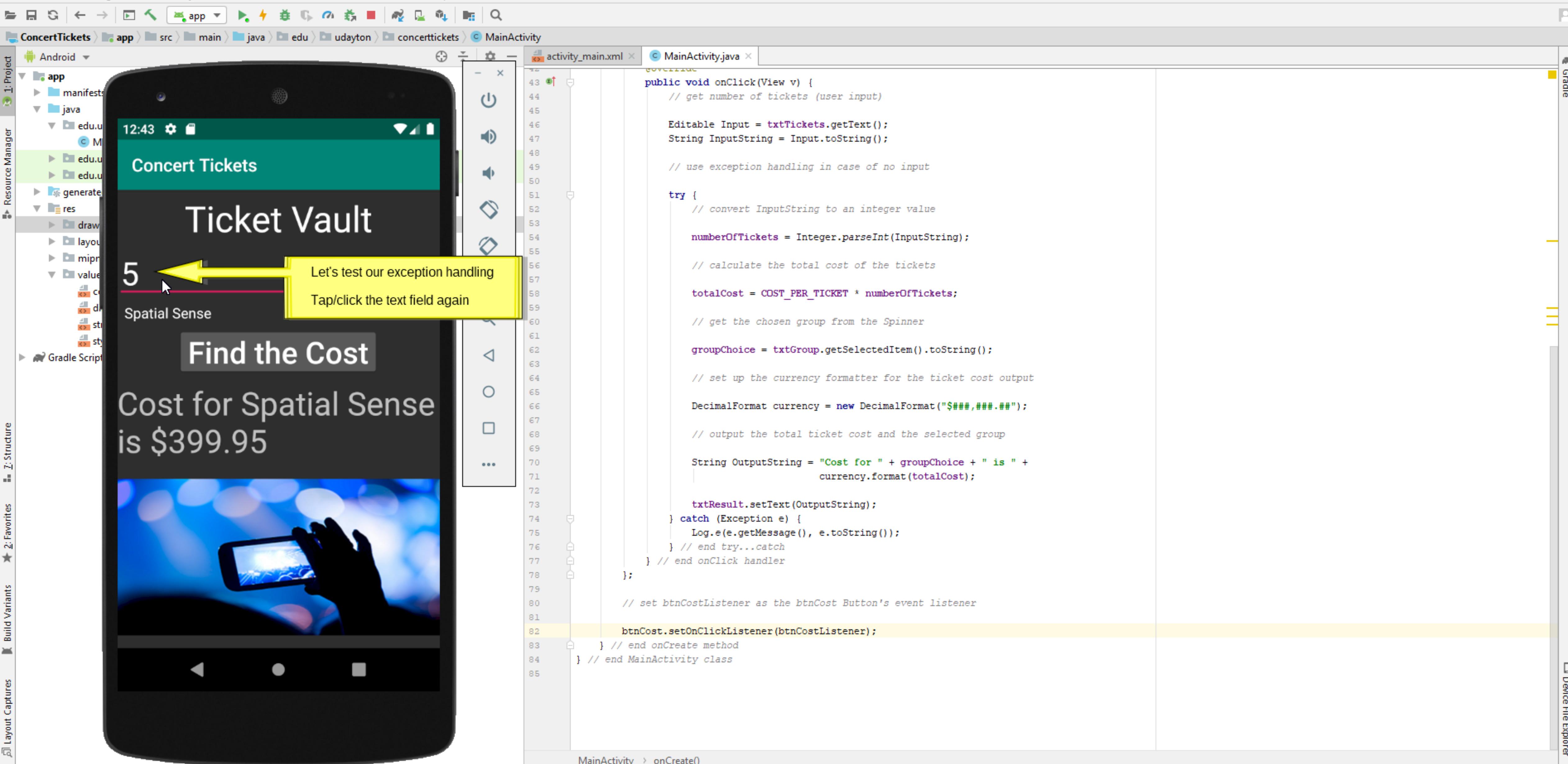
        String OutputString = "Cost for " + groupChoice + " is " +
            currency.format(totalCost);

        txtResult.setText(OutputString);
    } catch (Exception e) {
        Log.e(e.getMessage(), e.toString());
    } // end try...catch
} // end onClick handler

// set btnCostListener as the btnCost Button's event listener

btnCost.setOnClickListener(btnCostListener);

} // end onCreate method
} // end MainActivity class
```



ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites 4:Build Variants 5:Layout Captures

activity\_main.xml MainActivity.java

```
public void onClick(View v) {
    // get number of tickets (user input)
    Editable Input = txtTickets.getText();
    String InputString = Input.toString();

    // use exception handling in case of no input
    try {
        // convert InputString to an integer value
        numberOfTickets = Integer.parseInt(InputString);

        // calculate the total cost of the tickets
        totalCost = COST_PER_TICKET * numberOfTickets;

        // get the chosen group from the Spinner
        groupChoice = txtGroup.getSelectedItem().toString();

        // set up the currency formatter for the ticket cost output
        DecimalFormat currency = new DecimalFormat("#,###.##");

        // output the total ticket cost and the selected group
        String OutputString = "Cost for " + groupChoice + " is " +
            currency.format(totalCost);

        txtResult.setText(OutputString);
    } catch (Exception e) {
        Log.e(e.getMessage(), e.toString());
    } // end try...catch
} // end onClick handler
```

btnCost.setOnClickListener(btnCostListener);

```
btnCost.setOnClickListener(btnCostListener);
} // end onCreate method
} // end MainActivity class
```

MainActivity > onCreate()

12:43 Concert Tickets Ticket Vault 5 Spatial Sense Find the Cost Cost for Spatial Sense is \$399.95 1 2 3 - 4 5 6 [ 7 8 9 ] Tap/click to backspace over the previous input 0 . ✓

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project Resource Manager 2:Structure 3:Favorites Build Variants Layout Captures

activity\_main.xml MainActivity.java

```
43     public void onClick(View v) {  
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54         numberOfTickets = Integer.parseInt(InputString);  
55  
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57  
58         totalCost = COST_PER_TICKET * numberOfTickets;  
59  
60         // get the chosen group from the Spinner  
61  
62         groupChoice = txtGroup.getSelectedItem().toString();  
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65  
66         DecimalFormat currency = new DecimalFormat("###,###.##");  
67  
68         // output the total ticket cost and the selected group  
69  
70         String OutputString = "Cost for " + groupChoice + " is " +  
71             currency.format(totalCost);  
72  
73         txtResult.setText(OutputString);  
74     } catch (Exception e) {  
75         Log.e(e.getMessage(), e.toString());  
76     } // end try...catch  
77 } // end onClick handler  
78  
79 // set btnCostListener as the btnCost Button's event listener  
80  
81 btnCost.setOnClickListener(btnCostListener);  
82  
83 // end onCreate method  
84  
85 } // end MainActivity class
```

MainActivity > onCreate()

12:43 Concert Tickets Ticket Vault Number of Tickets Spatial Sense Find the Cost Cost for Spatial Sense is \$399.95 1 2 3 - 4 5 6 [ 7 8 9 ] 0 . ✓ Tap/click to close the soft keyboard

Device File Explorer

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...app\src\main\java\edu\udayton\concerttickets\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Script

2:Structure

3:Favorites

Build Variants

Layout Captures

activity\_main.xml

MainActivity.java

4:Run

5:Logcat

6:Profiler

7:Terminal

8:TODO

9:Device File Explorer

10:Event Log

11:Gradle build finished in 3 s 672 ms (a minute ago)

12:82:53 CRLF UTF-8 4 spaces

13:12:44 Concert Tickets

14:Ticket Vault

15:Number of Tickets

16:Spatial Sense

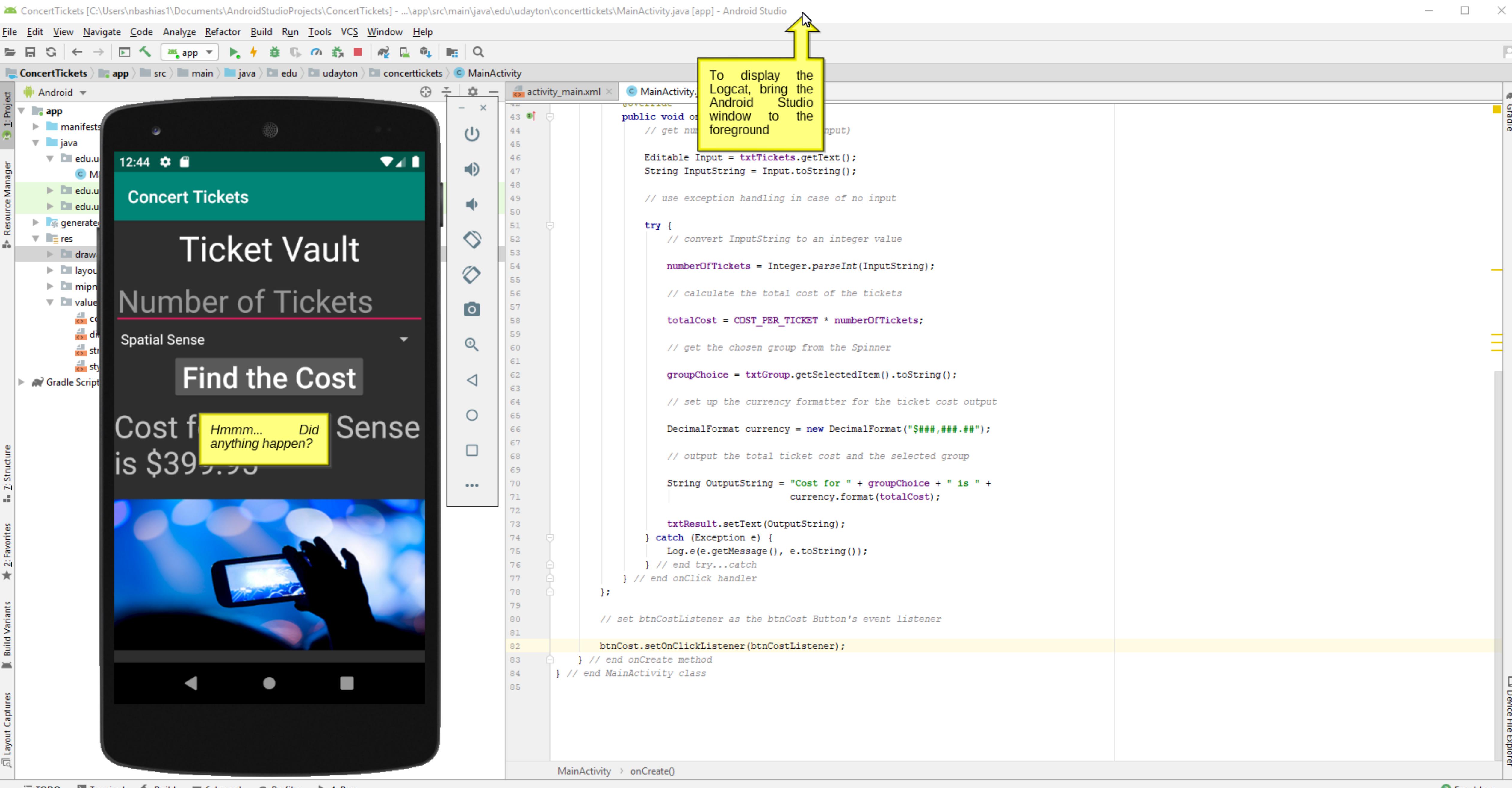
17:Find the Cost

18:Cost for Spatial Sense is \$399.95

19:Tap/click Find the Cost

20:43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85

```
public void onClick(View v) {  
    // get number of tickets (user input)  
  
    Editable Input = txtTickets.getText();  
    String InputString = Input.toString();  
  
    // use exception handling in case of no input  
  
    try {  
        // convert InputString to an integer value  
  
        numberOfTickets = Integer.parseInt(InputString);  
  
        // calculate the total cost of the tickets  
  
        totalCost = COST_PER_TICKET * numberOfTickets;  
  
        // get the chosen group from the Spinner  
  
        groupChoice = txtGroup.getSelectedItem().toString();  
  
        // set up the currency formatter for the ticket cost output  
  
        DecimalFormat currency = new DecimalFormat("###,###.##");  
  
        // output the total ticket cost and the selected group  
  
        String OutputString = "Cost for " + groupChoice + " is " +  
            currency.format(totalCost);  
  
        txtResult.setText(OutputString);  
    } catch (Exception e) {  
        Log.e(e.getMessage(), e.toString());  
    } // end try...catch  
} // end onClick handler  
  
// set btnCostListener as the btnCost Button's event listener  
  
btnCost.setOnClickListener(btnCostListener);  
} // end onCreate method  
} // end MainActivity class
```



ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

2:Favorites

Build Variants

Layout Captures

When we test our apps, it is good practice to display the Logcat as soon as we've launched our emulator (basically, before we launch our app)

activity\_main.xml

MainActivity.java

```
43     public void onClick(View v) {  
44         // get number of tickets (user input)  
45         Editable Input = txtTickets.getText();  
46         String InputString = Input.toString();  
47  
48         // use exception handling in case of no input  
49  
50         try {  
51             // convert InputString to an integer value  
52             numberOfTickets = Integer.parseInt(InputString);  
53  
54             // calculate the total cost of the tickets  
55             totalCost = COST_PER_TICKET * numberOfTickets;  
56  
57             // get the chosen group from the Spinner  
58             groupChoice = txtGroup.getSelectedItem().toString();  
59  
60             // set up the currency formatter for the ticket cost output  
61             DecimalFormat currency = new DecimalFormat("$###,###.##");  
62  
63             // output the total ticket cost and the selected group  
64             String OutputString = "Cost for " + groupChoice + " is " +  
65             currency.format(totalCost);  
66  
67             txtResult.setText(OutputString);  
68         } catch (Exception e) {  
69             Log.e(e.getMessage(), e.toString());  
70         } // end try...catch  
71     } // end onClick handler  
72  
73     // set btnCostListener as the btnCost Button's event listener  
74     btnCost.setOnClickListener(btnCostListener);  
75 } // end onCreate method  
76 } // end MainActivity class
```

MainActivity > onCreate()

TODO Terminal Build 6: Logcat Profiler Run

Gradle build finished in 3 s 672 ms (a minute ago)

82:53 CRLF UTF-8 4 spaces

Event Log

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...\\app\\src\\main\\java\\edu\\udayton\\concerttickets\\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

Gradle Scripts

2:Structure

Favorites

Logcat

Emulator Nexus\_5\_Pie Android 9

edu.udayton.concerttickets (7493)

Verbose

Regex Show only selected application

2019-05-29 12:45:34.230 1932-1946/? I/GnssLocationProvider: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:34.817 1932-1951/? E/BatteryExternalStatsWorker: no controller energy info supplied for wifi

2019-05-29 12:45:35.044 7493-edu.udayton.concerttickets E/For input string: "" java.lang.NumberFormatException: For input string: ""

2019-05-29 12:45:35.050 1626-5320/? W/audio\_hw\_generic: Not supplying enough data to HAL, expected position 4397132, only wrote 4397040

2019-05-29 12:45:35.229 1932-2912/? I/GnssLocationProvider: WakeLock acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:35.230 1932-1946/? I/GnssLocationProvider: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:36.229 1932-2912/? I/GnssLocationProvider: WakeLock acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:36.230 1932-1946/? I/GnssLocationProvider: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:36.236 2587-5445/? W/ctxmgr: [AclManager] No 2 for (acct=account#-517948760#, com.google.android.gms(10008):IndoorOutdoorProducer, vr...

2019-05-29 12:45:37.229 1932-2912/? I/GnssLocationProvider: WakeLock acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:37.230 1932-1946/? I/GnssLocationProvider: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:38.230 1932-2912/? I/GnssLocationProvider: WakeLock acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-29 12:45:38.231 1932-1946/? I/GnssLocationProvider: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

Yes! Due to our exception handling code and use of the Log object class, the exception is caught and shown in the Logcat pane, without the app crashing.

If you want to experiment, remove ("comment out") the exception handling (try...catch block), and see what happens when you re-test the app with no input.

138 chars 8243:139 CRLF 4 spaces

Gradle build finished in 3 s 672 ms (3 minutes ago)

ConcertTickets [C:\Users\nbashias1\Documents\AndroidStudioProjects\ConcertTickets] - ...app\src\main\java\edu\udayton\concerttickets\MainActivity.java [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

ConcertTickets app src main java edu udayton concerttickets MainActivity

1:Project

Resource Manager

2:Structure

Favorites

Logcat

Emulator Nexus

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@b9a20f4)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: controller energy info supplied for wifi

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: at string: """: java.lang.NumberFormatException: For input string: ""

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: enough data to HAL, expected position 4397132 , only wrote 4397040

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@4e6292)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@4e6292)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@254a463)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@254a463)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: account#=517948760#, com.google.android.gms(10008):IndoorOutdoorProducer, vrsn=13280000, 0, 3pPkg = null , 3pMdlId = null , pid = 2587). Was: 3 for 57, account#=517948760#

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@fb25860)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@fb25860)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: acquired by sendMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@ld1119)

2019-05-21 12:46:48.231 1952-1946 com.udayton.concertickets: released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@ld1119)

2019-05-21 12:45:38.231 1952-1946 com.udayton.concertickets: WakeLock released by handleMessage(REPORT\_SV\_STATUS, 0, com.android.server.location.GnssLocationProvider\$SvStatusInfo@ld1119)

activity\_main.xml

```
// get the chosen group from the Spinner  
groupChoice = txtGroup.getSelectedItem().toString();  
  
// set up the currency formatter for the ticket cost output  
DecimalFormat currency = new DecimalFormat("###,###.##");  
  
// output the total ticket cost and the selected group  
String OutputString = "Cost for " + groupChoice + " is " +  
    currency.format(totalCost);  
  
txtResult.setText(OutputString);  
catch (Exception e) {  
    e.printStackTrace();  
}  
  
This concludes Lesson 3.  
Of course, there is always room for improvement! :)  
Specifically, we should also admonish the user for mis-using  
our app, by displaying a message on the device (emulator)  
screen itself.  
For those who wish to read ahead, we use the Toast object  
class to accomplish this in Lesson 4.  
Note: Toast is discussed on page 157 of Android Boot Camp
```

MainActivity > onCreate()

Device File Explorer

Event Log

138 chars 7980:139 CRLF ï 4 spaces

The screenshot shows an Android application named "Concert Tickets" running in an emulator. The app's interface includes a title bar "Concert Tickets", a section titled "Ticket Vault", and a large input field labeled "Number of Tickets". Below this is a dropdown menu showing "Spatial Sense" as the selected option. A button labeled "Find the Cost" is present, and the resulting output is displayed as "Cost for Spatial Sense is \$399.95". The background features a blurred image of a concert stage with lights. The Java code for MainActivity.java is visible in the editor, showing logic for calculating ticket costs based on group choices. A yellow callout box contains a summary of the lesson, mentioning the completion of Lesson 3 and encouraging further improvement, specifically through the use of Toast messages.