**Android Programming**

**Chapter 1**

* Learned how to configure the JDK which is embedded in the Android Studio software.
* Learned how to install the Android Studio and the Android SDK and how to configure the SDK and Android Studio.

**Chapter 2**

* Learned the comparisons and differences between Java’s syntax and the Android implementation of Java’s syntax.
* Learned that Android’s Java is based on Apache Harmony, and that now it is based on Oracle’s open source JDK.
* Learned that the supported Java syntax is based on the specific API level being targeted by the program.
* Learned the Android Build process and the activity lifestyle states and callback methods.
* Learned how to optimize Java code for Android and when to optimize my code.

**Chapter 3**

* Learned how to override superclass callback methods using other callback methods
* Learned how to implement event handler interfaces by taking out the attributes of buttons in xml files and then coding in event handlers to initialize the buttons in the Java code using the findViewById method, returning the value as the button class, setting up the event handlers using the setOnClickListener method.
* Learned how to create new static method libraries by declaring new methods in a different class, giving the method four parameters, and setting an if-else statement with a three-part Boolean, checking the Boolean parameter of the method, and then replacing any existing message that’s being displayed by text view with a setText method.
* Learned how to save and restore instance data by coding in the two methods onSaveInstanceState and onRestoreInstanceState, using my custom code before the superclass on the onSaveInstanceState method and then after the superclass on the onRestoreInstanceState method
* Learned how to manage global data using app context by coding global variables and using getter and setter methods.
* Learned how to define custom callback methods by coding a new fragment and coding in the appropriate methods in order to setup the fragment.
* Learned how to manage async tasks in fragments by hosting async tasks in fragments instead of the main code so the async task doesn’t get destroyed whenever a configuration change occurs.

**Chapter 4**

* Learned that the Android implementations of Java include packages that follow Oracle’s Java specifications.
* Learned how to store data in memory with collections by using the Android collections to lessen the amount of memory allocated to an application instead of using the normal Java collections that would use up a bit more memory.
* Learned how to manage local databases by using the android.database.sqlite package and the interfaces and classes associated with the package.
* Learned how to read text files from assets by using the Java packages to read the file and using Android’s unique classes and methods to work with the local file system or application package.
* Learned to parse JSON formatted data by using the Android SDK’s standardized package for working with JSON content.
* Learned to parse XML formatted data by using the XmlPullParser which is included in the core Android SDK.

**Chapter 5**

* Learned to create and display graphics on an Android application using Android’s graphics packages.
* Learned to manage device sensors using the classes contained in the android.hardware package.
* Learned to use text to speech by using the Text to Speech packages embedded within the Android SDK to program in code to initiate text to speech.
* Learned how to play audio files in an Android app by using the MediaPlayer class for longer sound files and the SoundPool class for smaller sound files.