

Here are quizzes 1, 2, and 3. A star (*) signifies the correct response.

Quiz 1:

1. Is the following XML tag legal syntax: "`<Button> Hello world </button>` "
 - a. Yes
 - *b. No

2. Which was the first smartphone available that ran Android?
 - a. Nexus one
 - b. Motorola Droid
 - *c. HTC Dream

3. What operating system is Android based on?
 - *a. Linux
 - b. Unix
 - c. Windows

4. Is the following XML code legal syntax: "`<list><item>item 1</item> <item /> </list>` "
 - *a. Yes
 - b. No

5. Does Android version 4.4 (KitKat) natively support Fragments (not using the support library)?
 - *a. Yes
 - b. No
 - c. Unknown

6. Does Android version 2.2 (Froyo) natively support Fragments (not using the support library)?
 - a. Yes
 - *b. No
 - c. Unknown

7. Is the following XML tag legal syntax: "`Bananas apples ` "
 - a. Yes
 - *b. No

8. Which folder would contain the resource: "R.layout.first_page"
 - a. res
 - b. layout
 - *c. res/layout

9. Which folder would contain the resource: "R.drawable.a_picture"
 - a. res/layout
 - *b. res/drawable
 - c. res/pictures

10. Which folder would contain the strings.xml file for the German language?
 - *a. values-de
 - b. values-ge
 - c. values

11. Which file specifies the starting Activity for an application?
 - a. manifest.xml
 - b. app_config.xml
 - *c. AndroidManifest.xml

12. When compiling your Android project, which gets compiled first?
 - a. Java Files
 - *b. XML files

Quiz 2:

1. Which function gets called first in the Android Lifecycle:
 - a. onStart
 - *b. onCreate
 - c. onResume

2. Which function gets called last in the Android Lifecycle:
 - a. onPause
 - b. onStop
 - *c. onDestroy

3. When is the bundle parameter for the onCreate(Bundle savedInstanceState) null?
 - *a. When the application is loaded for the first time
 - b. When onSaveInstanceState was called previously

4. If the bundle parameter for the onCreate(Bundle savedInstanceState) is not null, which function gets called automatically?
 - *a. onRestoreInstanceState(Bundle savedInstanceState)
 - b. onSaveInstanceState(Bundle outState)

5. What does the first parameter in `getSharedPreferences("a_string", Context.MODE_PRIVATE)`?
 - a. The string to retrieve
 - *b. The file name
 - c. The string to save

6. When you call `putString("string_one", "string_two")`, which string that represents the value (not name)?
 - a. "string_one"
 - *b. "string_two"
 - c. Unknown

7. Which function must you call to retrieve the saved string from the sharedPreferences call: `putString("string_one", "string_two")`?
 - *a. `getString("string_one", "string_three")`
 - b. `getString("string_two", "string_three")`

8. Which function must you call to start an activity when you want to get data back?
 - a. `startActivity()`
 - b. `startActivityForData()`
 - *c. `startActivityForResult()`

9. What function must you call to end an Activity?
 - a. `endActivity()`
 - *b. `finish()`
 - c. `finishActivity()`

10. If you call `setResult(Activity.RESULT_OK)`, what will be the value of the request code parameter in `onActivityResult(int request, int result, Intent data)`?
 - a. `RESULT_OK`
 - b. 5
 - *c. Unknown

11. What is the proper format for creating a Toast message?
 - *a. `Toast.makeText(getApplicationContext(), "The message", Toast.LENGTH_SHORT);`
 - b. `Toast.makeText("The message", getApplicationContext(), Toast.LENGTH_SHORT);`
 - c. `Toast.makeText(Toast.LENGTH_SHORT, "The message", getApplicationContext());`

12. What design pattern is used when chaining many function calls for creating an AlertDialog: `dialog.setMessage().setTitle().setPositiveButton().setNegativeButton().show();`?
 - a. The alert pattern
 - *b. The builder pattern
 - c. The command pattern

13. Which Log function should I call to show warning information?

- a. Log.d()
- b. Log.i()
- *c. Log.w()

Quiz 3:

1. Which of the following functions is required for implementing the ListAdapter interface

- a*. getCount
- b. onCreate
- c. setContentView

2. What is the corresponding SQL query to this function: `db.query(true, "PURCHASES", new String [] {"Price", "Quantity"}, "Quantity > ?", new String[] {"10" }, null, null, null, null)?`

- a. `Select Price, Quantity from PURCHASES"`
- b. `Select Price,Quantity from PURCHASES where Quantity > 10`
- c*. `Select distinct Price,Quantity from PURCHASES where Quantity > 10`

3. If a database is opened and the version is the same as the previously created one on the device, which function will be called first:

- a*. `onOpen`
- b. `onUpgrade`
- c. `onDowngrade`

4. If a database is opened and the version is greater than the previously created one on the device, which function will be called first:

- a. `onOpen`
- b*. `onUpgrade`
- c. `onDowngrade`

5. If a database is opened and the version is less than the previously created one on the device, which function will be called first:

- a. `onOpen`
- b. `onUpgrade`
- c*. `onDowngrade`

6. When you write a ListView adapter class, which function gets called first when populating the ListView:

- a. `getView`
- b*. `getCount`
- c. `getItem`

7. Which of the following functions causes a ListView to start the re-population of the list:

- a. `repopulate`
- b. `getData`

c*. notifyDataSetChanged

8. This is a fragment of an SQL query clause: "? = ? AND ? NOT NULL", new String [] { "Brandname", "Nike", "CUSTOMER_NAME"}. What will be the corresponding SQL Where clause:

- a. ? = ? AND ? NOT NULL
- b. Brandname = Nike
- c. Nike = Brandname and CUSTOMER_NAME NOT NULL
- d*. Brandname = Nike and CUSTOMER_NAME NOT NULL

9. What is the ViewHolder pattern?

- a. When a ListView holds a collection of Views for each list cell
- b*. When ListView cells that are scrolled off screen get re-used for new cells coming into view on the screen
- c. When Views for cells are always created by inflating them from an XML file

10. What function for getting a database object must you call if you want to insert values?

- a. getReadableDatabase
- b*. getWritableDatabase
- c. getDatabaseReadable
- d. getDatabaseWritable

InClassExamples – In the examples posted on github:

<http://www.github.com/etorunski/InClassExamples>, there are several examples of code.

The startup activity is a listview that show the various examples of code in the lectures. The startup activity is itself using an ArrayAdapter as a data source for the list view, and has implemented an OnItemClickListener handler for selecting an item in the list.

The vibrate phone item shows how you can make an Android phone vibrate. This does not work on the emulator.

Show sensors shows how you can listen to the sensors on your Android phone, but this isn't guaranteed to work on an emulator.

SecondActivity is showing how to call startActivityForResult to start a second activity. It also shows how to pass data back to the previous activity (in this case, MainActivity).

ListActivity shows how to implement a listAdapter that uses a custom layout that was designed in AndroidStudio. It demonstrates the use of the RecyclerView pattern by scrolling down through the list. Clicking the "Re-initialize views On" button makes Android overwrite the TextView objects in the views that are being recycled. If you click the "Re-Initialize views On"

button then it won't re-initialize the views that are being recycled, so you will see the views come back on your screen as they scroll off.

The SendEmail item shows that it is possible to start an Activity through pre-defined intents. You can send data from one Activity to another Activity through using the pre-defined String names in a bundle.

Toggle flash turns the flash on your camera on, but you must manually give your app permissions to do it. On your phone, go to Settings -> Apps -> InClassExamples and enable the "Take pictures and Videos" option.

Lastly, the Cursor database option shows how to use a SimpleCursorAdapter to provide data to a listView. Click the "Add Data to Database" button to insert new items into the database. It should cause a list update. Selecting items from the database should cause them to be deleted from the database, and also show a toast demonstrating that the list position, and database id of the items are completely different numbers.

Please play with these examples, and have a look at the code. Start by setting breakpoints in the onCreate function and then go to that Activity. Step through the code and see the order of function calls.