**Midterm for CS 639 - Android**

**Summer 2016**

**Version 3**

**Dr. Scharff**

* **Read the complete document.**
* **Complete this document. Rename it as *LastNameFirstnameAndroidExam-S2016-v3.docx***

**and send it to Dr. Scharff by email** [**cscharff@pace.edu**](mailto:cscharff@pace.edu)**.**

* **Do not change the order of the questions.**
* **Send me the apk by email.**
* **Send me questions by email** [**cscharff@pace.edu**](mailto:cscharff@pace.edu) **or through chat:** [**scharffc@gmail.com**](mailto:scharffc@gmail.com)

**Your name:**

1. **Practical part**

Develop an app that converts dollars into Comorian francs. The app will take dollars as inputs and return francs CFA as outputs. Note: 1 dollar = 439.36 Comorian francs. Comoros is a country in the Indian Ocean.

Your app will use Fragments.

Be creative and design a good-looking user interface!

Push your code in github with the name FirstNameLastNameMidterm.

Grading criteria:

* Code is in GitHub
* Code uses fragments
* Code is indented
* Apk is easily accessible
* Code uses variables with well-chosen names
* No errors and no crash
* Look-and-feel
* Names of files should be respected

1. **Written part**
2. What is the permission that permits to make a call? Write the XML code that will be present in AndroidManifest.xml.

<uses-permission android:name="android.permission.CALL\_PHONE" />

1. What is the directory where string files are located? Explain.

The directory is in app/res/layout/values/strings.xml

This file contains strings that you may need to reuse throughout your app. It makes it easier to call the same string multiple times, as well as change the value in one place that will result in changes in the rest of the program. For example, if you change the name of your app, that uses a string value in multiple places, you only need to change it once int the strings.xml file.

1. During an Activity lifetime, what is the first callback method of the *Activity* class invoked by the system?

onCreate()

1. In order to display a Ul defined in the XML layout file *main.xml*, what *Activity* method should be called?

setContentView();

1. What *Activity* method should be called to retrieve a reference to an Android view by using the *id* attribute of an XML resource?

findViewById()

1. What does the following code achieve?

Intent intent = new Intent(FirstActivity.this, ForthActivity.class);

startActivityForResult(intent);

This code takes the context of FirstActivity.this (this currently being the context) and performs the intent in the ForthActivity.class java files.

1. Write the code to log a **warning**. The code will display “Warning” and the value of a variable *i.*

Import android.util.Log;

Log.w(“MyActivity”, “Warning ” + i)

1. Write the code to create a Toast that displays “*This is just a Toast!*”. The duration of the Toast is *Toast.LENGTH\_LONG*.

Hint: You will use the method *makeText*.

public static Toast makeText (Context context, CharSequence text, int duration)

Complete the code below:

Context context = getApplicationContext();

CharSequence text = “This is just a Toast!”;

int duration = Toast.Length\_LONG;

Toast toast = Toast.makeText(Context, text, duration);

Toast.shot();

1. Complete the code of the following AsyncTask class. What you have to complete is introduced by \_\_\_\_.

public class DownloadFilesTask \_\_1\_\_\_ AsyncTask<URL, Integer, String> {

protected \_\_2\_\_\_ doInBackground(\_\_3\_\_... urls) {  
         int count = urls.length;  
         long totalSize = 0;  
         for (int i = 0; i < count; i++) {  
             totalSize += Downloader.downloadFile(urls[i]);  
             publishProgress((int) ((i / (float) count) \* 100));  
             // Escape early if cancel() is called  
             if (isCancelled()) break;  
         }  
         return totalSize;  
     }  
  
     protected void onProgressUpdate(\_\_4\_\_\_... progress) {  
         setProgressPercent(progress[0]);  
     }  
  
     protected void onPostExecute(\_\_5\_\_\_ result) {  
         showDialog("Downloaded " + result + " bytes");  
     }  
 }

1. Extends
2. long
3. URL
4. Integer
5. long

How do you execute a DownloadFilesTask t?

DownloadFilesTask t = new DownloadFilesTask();

t.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

execute()

1. What is the name of the build system that is used in Android Studio?

Gradle