**Midterm for CS 639 - Android**

**Summer 2019**

**Versions 1, 2 and 3**

**Dr. Scharff**

* **Read the complete document.**
* **Complete this document. Rename it as *MidtermLastNameFirstnam2019-vX.docx. X depends on the version of the test that you must do.***
* **Do not change the order of the questions.**
* **Put your code and apk file in GitHub.**
* **Send your questions on Slack.**

**Your name: Teyi Tsai**

1. **Practical part**

**Version 1:** Develop an app that converts miles into kilometers. The app will take miles as inputs and return kms as outputs. Note: 1 miles = 1.609 km.

**Version 2:** Develop an app that converts dollars into francs CFA. The app will take dollars as inputs and return francs CFA as outputs. Note: 1 dollar = 586.84 francs CFA. CFA is a money used in West Africa.

**Version 3:** Develop an app that converts dollars into Comorian francs. The app will take dollars as inputs and return Comorian francs as outputs. Note: 1 dollar = 439.36 Comorian francs. Comoros is a country in the Indian Ocean.

It is recommended to use Fragments.

Push your code to github with the name MidtermFristNameLastNAme.

Grading criteria:

* Names of files should be respected
* Code is in GitHub
* Apk is easily accessible
* Code is formatted to be readable
* Code uses variables with well-chosen names (in Java and XML)
* The app does what it is supposed to do
* There is no crash
* Look-and-feel (UI) is modern and appealing
* The user experience (UX) to do the computation and subsequent ones is seamless and does not generate confusion (IMPORTANT)

1. **Written part**

**Each question counts as 8 points. Questions 9 and 12 are 10 points.**

1. **Version 1:**

**<Internet>**

**Version 2:**

**<uses-**permission android:name=”android permission INTERNET”/>

**Version 3:**

**<uses-**permission android:name=”android permission CALL\_PHONE>

1. **Version 1:** **<drawable>**

**Version 2:** **<res>**

**Version 3:** <value>

1. <onCreate>
2. Protected void onCreate(Bundle saveInstanceState){

Super.onCreate(saveInstanceState);

setContentView(R.layout.activity\_main)

}

1. findViewById
2. when the code start it will go from FristActivity (this class) to the other activity class which call SecondActivity.
3. Version 1: Write the code to log *information* about the value of variable *x.*

Log.i(Tag,valuex)

Version 2: Write the code to log an *error* about the value of variable *x.*

Log.e(Tag,valuex)

Version 3: Write the code to log a *warning* about the value of variable *x.*

Log.w(Tag,valuex)

1. Write the code to create a Toast that displays “*This is not a bug, but a feature!*”. The duration of the Toast is *Toast.LENGTH\_SHORT*.

Complete the code below:

Context context = getApplicationContext();

Toast toast =Toast.makeText(context,“This is not a bug, but a feature!”,Toast.LENGTH\_SHORT);

toast.show();

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

**Write your answers DIRECTLY in the code**.

public class DownloadFilesTask \_\_extends\_\_\_ AsyncTask<URL, Integer, Long> {

protected \_\_Int\_\_ doInBackground(\_\_URL\_\_... 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(\_\_Interger\_\_\_... progress) {  
         setProgressPercent(progress[0]);  
     }  
  
     protected void onPostExecute(\_\_Long\_\_\_ result) {  
         showDialog("Downloaded " + result + " bytes");  
     }  
 }

How do you execute a DownloadFilesTask t?

DownloadFilesTask t = new DownloadFilesTask();

t.get();

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

Intellij

1. What is Jetpack?

A way that the company develop to manage the UI and code together

1. Explain what is/are the difference/s between *ConstraintLayout and RelativeLayout*?

ConstrainLayout is similar like RelativeLayout but more flexible and easy to use, it is available directly from the Layout editor, and can use drag and drop instead of editing the XML.