Problem Statement

Please write a simple Android application that will read JSON data from an earthquakes API and populate a ListView within the main activity. Each earthquake will occupy one item in the list. Please pick some identifying attributes from each earthquake to display. If the magnitude of the quake is equal or greater than 8, then distinguish these visually from other earthquakes in the list. Please refrain from using 3rd party libraries and code to handle these requests and responses.

URL For Earthquake Data

http://api.geonames.org/earthquakesJSON?formatted=true&north=44.1&south=-9.9&east=-22.4&west=55.2&username=mkoppelman

Technical Discussion

1. This app was developed using Eclipse and Android Development Tools (ADT). Since this app is a little dated, it may not compile right out of the box with Android Studio.

2. I have designed the Earthquake list for this app to contain a location pin / location marker image. Clicking on the location marker image for a particular list item in the earthquake list would open Google Maps to show that location on the map.

3. YouTube link to show the app in action: https://www.youtube.com/watch?v=Fynv2lxFc6g

4. Typically I use Volley or OkHttp or some other 3rd party Networking library, For this app, I am using DefaultHttpClient because I was asked not to use 3rd party libraries.

5. When designing/implementing a custom List Adapter implementation, I prefer to use ViewHolder pattern to make the list efficient. I have done the same for this app.

6. In this case, there were no images or media content to be loaded to the list. That's why it is not a LazyLoad list. It is my practice to use Lazy Loading when dealing with large lists. I use libraries like Picasso and UniversalImageLoader for such cases.

7. When you compile my app and run it, Google Maps would not work. This is because the API key required for Google Maps is linked to the certificate that I use to sign my app, and because you'll be using a different certificate to sign the app, Google Maps API would reject the request.

8. To test my app without network, I developed a mock web service to return the same response as the web API would. In my AsyncTask, I use a switch to switch between online mode and offline mode/test mode. Currently the app is set to be in the online mode.

9. I have taken care of screen rotation and configuration changes to the app

10. I was asked to distinguish between earthquakes with magnitude >= 8 and those with magnitude < 8. I chose to use red font to show earthquakes with magnitude >= 8, and black font for earthquakes with magnitude < 8