Programming Assignment 1

Preparation: Read the following documentations to learn how to invoke web services using NetBeans IDE **or** Python zeep package, including SOAP based and RESTful services and parse the output in XML or JSON format. Please note that the movie API in the examples is no longer for free, the examples are only used as a reference and you are **not encouraged** to pay for any API for your assignment.

If you choose to use Java:

1. Consuming a Web Service in Java using NetBeans IDE.pdf (invoking a SOAP-based service)
2. Parsing JSON in java.pdf (invoking a RESTful service)
3. Parsing XML in java.pdf (invoking a RESTful service)

If you choose to use Python:

1. Consuming a Web Service in Python using Zeep package.pdf (invoking both a SOAP-based and a RESTful service)

Requirement: Develop an application, **excluding the one given as the example below**, that invokes at least three public web services. You are required to invoke at least one SOAP-based service with WSDL. You can find web services in www.programmableweb.com and http://vhost3.cs.rit.edu/project_web_page/webservices.html (some web services in repositories are out of date and do not work properly, so check before you use).

Example: an application that takes an address as input, and then displays the information of gas stations nearby, the local weather, and the driving direction from the given address and a selected gas station. This application invokes three services: a gas station service (such as: http://vhost3.cs.rit.edu/AltGasService/Service.svc?singleWsdl), a weather service (such as: http://www.wunderground.com/weather/api/d/docs), and a map service (such as: https://developers.google.com/maps/documentation/directions/).

Required deliverables:

1. A document that describes the design of the application and the screenshots of running the application.
2. A readme file that describe how to install and test the application.
3. The entire project package, including the .jar files, source code files, data files, configuration files, and etc.

Submission Information:

1. Zip the files to be submitted and name the zip file as $lastname_$firstname_A1.zip. **No .rar file will be accepted.**
2. Submit the zip file to the dropbox folder by **Feb. 11**.

Note:

1. You can use any programming language to develop the application, such as Java, C#, and C++, PhP, Python, and etc. Various online resources provide information on how to invoke a SOAP-based service or RESTful service (via HTTP requests).
2. The application **should have a web-based user interface**. The report should include the descriptions on how to use the application.

3. Most of the public APIs requires an API key for invocation. It may take days to get such a key so plan your work accordingly. You can also share an API key with your classmates if using the same web service.
4. You are allowed to discuss and learn in groups. However, you must design, develop, and submit the application by yourself. If there are two submissions having the exact same design, which is not very likely if working independently, the students will be asked to revise the design and resubmit the work.
5. Plagiarism checking will be performed to all the submission in this course.