Assignment 2: An OWL Ontology for A Question-Answering Application

This assignment is done by Zefang Zhu (uwID: 20510897) individually.

A) Give a brief (one-paragraph is sufficient) description of your domain and question-answering application, why you chose an existing type of QA system, or why you decided to invent a new QA application.
   - My domain is the representation of the university library and my application is to arrange different places in the library that benefit students to study and get information they want at the university library. I decide to invent a new QA application since this ontology is specific focus on study areas and information areas instead of borrowing and returning resources system.

B) Document in detail (3-4 paragraphs) the steps in your methodology for developing the ontology. What did you find to be the pros and cons of using this strategy?
   - I strictly followed the instructions of a simple knowledge engineering methodology step-by-step. Firstly, I chose a domain of university library to focus on and define its scope. I asked some competency questions for myself. For example, "Can students work at the help desk?" and "What types of resources the library should stored?" From those questions, I have an idea of the restrictions of my ontology. For example, there are only two types people in the library, one is students, another is library stuffs.
   - Next, after brainstorming, I started to create my ontology. I created several classes and define their properties. For instance, there are several areas in the library. The electronic devices area, which including computers and printers, is used for searching and printing information, while the study area has both silent and group study rooms, and some desks for students to study and discuss. While I was developing my model, I also focus on restrictions such as there are maximum 5 students can study at one group study room and each person can borrow maximum 5 resources.
   - After that, I wanted to create individuals of my ontology. I noticed I should define data properties before I create individuals. For example, one person should have first name, last name as strings to identify who he or she is. Stuffs and students have their own ID number. After I defined data properties. I give each individuals their type and their assertion. Finally, I use OntoGraf and DLQuery to test if my ontology works.
   - I think a simple knowledge engineering strategy helps me to focus on my domain and my QA application. It is straightforward, therefore, everyone is able to create one ontology. However, it is time-consuming and costly because I need to consider a lot before I implement a real ontology. Also, it can only create a simple ontology since it is easy for a person ignore some restrictions of classes.