**Exercise 1:**

Represent the following sentence by OWL:

1. Every segment can only have two end points;
2. The set of integers is divided into the set of positive integers and the set of negative integers;
3. Food factories are factories which only produce food.

**Exercise 2:**

Explain the following OWL triples in natural language:

@prefix ex: <http://example.org/>

@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .

@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .

@prefix owl: <http://www.w3.org/2002/07/owl#> .

ex:LuxuryBathroomApartment rdf:type owl:Class;

rdfs:subClassOf \_:x.

\_:x rdf:type owl:Restriction ;

owl:onProperty ex:hasBathroom ;

owl:allValuesFrom ex:LuxuryBathroom;

owl:equivalentClass ex: Apartment.

**Exercise 3:**

Are the following valid DL concepts? If not, why?

1. (

2. )

3. (

4. (

**Exercise 4:**

Express the following sentences in Description Logic.

1. Every teacher must teach someone
2. Every finger is a bodypart and is a part-of hand.
3. Zhang is a teacher of SEU