Exercise 1

The following sentences are ambiguous. Explain the source of the ambiguity, and propose, *when it's possible*, the two distinct representations that can be associated with those two sentences.

(3)   a.   Every student is reading an article.
          b.   Sam likes wild cats and dogs.
          c.   All the participants did not enjoy the meal.
          d.   Paul should be in Buenos Aires.

Exercise 2

Translate as precisely as possible the following sentences intro predicate logic. Please make sure that each formula has as many pairs of parentheses as there are binary operators.

(4)   a.   No nurse appreciate a surgeon.
          b.   Everyone is looking for something that not everyone finds.
          c.   Exactly two persons came.
          d.   All students should declare their intership if they take one.

Exercise 3

The following sentences are characterized by the fact that the indefinite, under the scope of a universal quantification, is interpreted as universal. This situation is not surprising when one remembers the equivalence between $\forall x(\varphi \to \psi)$ and $(\exists x\varphi \to \psi)$ (if ψ does not contain free occurrences of x). On the basis of this equivalence, propose for each of the following sentence two translations in fol.

(5)   a.   Paul gets upset as soon as someone is noisy.
          b.   Everybody gets upset if someone is noisy.
          c.   All the tourists who visit Paris are rich.
          d.   All the tourists who visit Paris love it.
          e.   All the tourists who visit a city are rich.
          f.   All the tourists who visit a city love it. .
          g.   If a farmer owns a donkey, he beats it.
          h.   Everyone is marked by an unrequited love.