

Semantic Web Technologies OWL Reasoning Assignment

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Question 1

Question 1.ttl file

Question 2

- a) The translation for the statement "Each Student had not written a habilitation" is incorrect. The provided translation, $Student \sqsubseteq \neg(\exists wrote. Habilitation)$, expresses the negation of the existence of any habilitation for any student, rather than the negation of each student having written a habilitation.
- b) The translation is correct. In this translation, the class *Chair* represents the concept of a conference chair, while *Research* and *Public* represent the concepts of research and public events, respectively. The translation states that every conference chair must organize events that are both research and public.
- c) The translation is correct. In this translation, the class *Assistant* represents the concept of an assistant, while *Staff* represents the concept of a university staff member, and *Privatissimum* represents the concept of a privatissimum. The translation states that every assistant must also be a university staff member and cannot teach in a privatissimum.

Question 3

- a) The user did not completely understand the ontological definitions. According to the definition provided, a customer is both a public organization and a municipality. This understanding, however, is wrong. A customer is an individual or entity that purchases goods or services from a business or organization. It is not the same as being a public organization or a municipality. As a result, the user misinterpreted the definitions.
- b) The user's understanding of the ontological definition is incorrect. The correct interpretation is that the definition states that if someone holds a lecture or a seminar, they are not necessarily a guest professor. The user's interpretation mistakenly assumes that holding a lecture or a seminar automatically makes someone a guest professor, which is not implied by the definition.
- c) The ontological definitions were properly interpreted by the user. In accordance with the definitions presented, all secretaries are considered university employees. However, not every employee of the university works as a secretary.