Knowledge and Agent Systems
Assignment 2
Deadline: September 18th 22:00

1 Instructions

In this assignment, you will make a knowledge system about the legislation regarding tortious (unlawful) acts. The system should help you answer whether a person must repair the damage suffered as a result of a tortious act. You will use a translated version of the Dutch legislation, which is provided in Section 3.

Encode the legislation in the form of rules and make sure it follows the text as closely as possible. All articles should be implemented, not just the ones relevant to the provided cases. Do note that you cannot always encode the conditions directly into rules!

As inspiration for your design, you can look at the provided knowledge system about chores, or the one from the website. Note how (logically) complex conditions are broken up into parts.

The knowledge system has to be coded using the inference engine found here. Here you can also find an example knowledge base as well as documentation regarding the format of the XML file. If you are interested in the workings of this inference engine, you can also have a look at the source code.

After you finished building your knowledge system, you will use it to judge four legal cases, described in Section 2.

What to hand in:

1. The XML file containing your knowledge base. Please note that your XML file may not run if there is a comment on the first line, so be sure to remove any comment on the first line of the file.

2. A walkthrough of each of the four legal cases. For each case, describe step-by-step what the system asked you, how you answered (and why!), and what the resulting advice of the system was.

3. Write a short report in which you describe how you designed your knowledge system. Elaborate on the modelling choices you made.

2 Legal Cases

You may assume that all people whose ages are not mentioned are adults.

1. Jacob is an intellectually disabled man of the age of 30. While playing, and without realising that he does something wrong, he destroys the rose bushes in the garden of his neighbor Henk. Does Jacob have to repair the damages done to Henk based on a tortious act?

2. Maria is deaf. Johannes, age 11, has fallen into the water and screams for help. Maria does not notice and therefore does not save Johannes. Johannes drowns. Does Maria have to repair the damages done to Johannes' next of kin based on a tortious act?

3. Berend notices that the house of old Ank is on fire. To save her, he breaks a window of the house. He is able to get Ank out of the house in time. Ank suffers damage because she has to replace the broken window. Does Berend have to repair the damages done to Ank based on a tortious act?

4. Henk violates the legislation regarding shopping hours by opening his furniture shop on Sundays. The municipality condones Henk's practices. Leo, who owns a furniture shop in the neighbouring municipality, is not allowed to open his shop on Sundays. Leo suffers damages due to the loss of customers. Does Henk have to repair the damages done to Leo based on a tortious act?

3   Dutch Civil Code[1]

Article 6:162 Definition of a 'tortious act'

1. A person who commits a tortious act (unlawful act) against another person that can be attributed to him, must repair the damage that this other person has suffered as a result thereof.

2. As a tortious act is regarded a violation of someone else's right (entitlement) and an act or omission in violation of a duty imposed by law or of what according to unwritten law has to be regarded as proper social conduct, always as far as there was no justification for this behaviour[2].

3. A tortious act can be attributed to the tortfeasor (the person committing the tortious act) if it results from his fault or from a cause for which he is accountable by virtue of law or generally accepted principles (common opinion).

Article 6:163 Violated standard of behaviour must intend to offer protection against damage

There is no obligation to repair the damage on the ground of a tortious act if the violated standard of behaviour does not intend to offer protection against damage as suffered by the injured person[3].

Article 6:164 Children younger than 14 years

The behaviour of a child who has not yet reached the age of fourteen years, cannot be attributed to them as a tortious act.

Article 6:165 Children under influence of a mental or physical disability

Even though a person of fourteen years or older has committed an action under the influence of a mental or physical disability, the tortious act can still be attributed to them.

---

[1]Extracted from *Book 6: The law of obligations*, *Title 6.3 Tort (unlawful acts)*, *Section 6.3.1 General Provisions*

[2]An act is when you **do** something, whereas an omission is when you do **not** do something.

[3]This is somewhat legalese. The intuition behind this article is that one should consider why the law exists in the first place.