



Review report of a final thesis

Reviewer: prof. Dr. Ing. Petr Kroha, CSc.
Student: Ivan Romanenko
Thesis title: Algorithms related to generalized palindromes in SageMath
Branch / specialization: Web and Software Engineering, specialization Software Engineering
Created on: 4 February 2024

Evaluation criteria

1. Fulfillment of the assignment

- ▶ [1] assignment fulfilled
- [2] assignment fulfilled with minor objections
- [3] assignment fulfilled with major objections
- [4] assignment not fulfilled

The work exceeds the scope, complexity and quality of the expected characteristics of bachelor's theses.

2. Main written part 100_{/100} (A)

The thesis is written in excellent English and contains demanding theoretical parts. All resources are properly used.

Unfortunately, the thesis does not contain any illustrating examples.

Some comments:

Page 1: Not defined concepts are used - G-defect. It is defined later but the reading is hard.

Page 1: "Several already existing solutions of dynamic level ancestor problem when leafs can be added to tree dynamically will be mentioned ..."

The context and connection are not explained.

Page 11: "A fixed point of a given antimorphism ..." - The term fixed point from mathematical theory of categories of topological spaces of morphisms is used here without any explanation.

Page 51: It is questionable to talk about agile methodology when it is the activity of a single programmer.

Many pages: In technical texts, we do not use "I" but "we"; also in the case of one author.

3. Non-written part, attachments 100/100 (A)

The thesis contains texts of programs but no figures. Not only one example.

4. Evaluation of results, publication outputs and awards 100/100 (A)

The thesis contributes in a significant way to the library SageMath and thus has an important international impact.

The overall evaluation 100/100 (A)

Excellent work.

Questions for the defense

Illustrate palindroms and their defects on examples.

Instructions

Fulfillment of the assignment

Assess whether the submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.

Main written part

Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies?

Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 52/2021, Art. 3.

Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.

Non-written part, attachments

Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.

Evaluation of results, publication outputs and awards

Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.

The overall evaluation

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.