Institute for Informatics of the Ludwig-Maximilians-Universität München
Prof. Dr. Jasmin Blanchette
Dr. Martin Desharnais-Schäfer
Dr. Michael Kirsten
Elisabeth Lempa

Winter semester 2025/26
23.03.2026

Solution to the Retake Examination in the Seminar

Scientific and Technical English for Computer Scientists

You have **90 minutes** at your disposal. Written or electronic aids are not permitted except for normal watches. Carrying forbidden devices, even turned off, will be considered a cheating attempt.

Write your full name and matriculation number legibly on this cover sheet, as well as your name in the header on each sheet. Hand in all sheets. Leave them stapled together. Use only **pens** and **neither** the color **red nor green**.

Check that you have received all the sheets. Questions can be found on **pages 2–12**. There are 10 questions for a total of 100 points; 50 points are sufficient to pass.

You may use the blank pages at the end for your own notes. If you use these pages to answer, clearly mark what belongs to which question and indicate in the corresponding question where all parts of your answer can be found. Cross out everything that should not be graded.

With your signature, you confirm that you are sufficiently healthy at the beginning of the examination and that you accept the examination bindingly.

Last name (in CAPITAL LETTERS):

First name (in CAPITAL LETTERS):

Matriculation number:

Program of study:

Hereby I confirm the correctness of the above information: _____

Signature

Please leave the following table blank:

Question	1	2	3	4	5	6	7	8	9	10	$\sum$
Points	10	10	10	10	10	10	10	10	10	10	100
Score											

Solution to Question 1 (British vs. American English): (10 points)

Underline five Britishisms in the text below, and explain how they would be expressed in American English.

> She left the centre of the neighbourhood theatre – and moved towards the door. Something about her behaviour was 'unusual'. It was 1 January 2025. Perhaps that was the reason, she theorised.

PROPOSED SOLUTION: We identified nine expressions:

> She left the centre of the neighbourhood theatre – and moved towards the door. Something about her behaviour was 'unusual'. It was 1 January 2025. Perhaps that was the reason, she theorised.

- British English (BrE) *centre*, American English (AmE) *center*.
- BrE *neighbourhood*, AmE *neighborhood*.
- BrE *theatre*, AmE *theater*.
- BrE ' – ', AmE '—'.
- BrE *towards*, AmE *toward*.
- BrE *behaviour*, AmE *behavior*.
- BrE 'unusual'., AmE "unusual."
- BrE *1 January 2025*, AmE *January 1, 2025*.
- BrE *theorised*, AmE *theorized*.

1 point for each BrE expression and 1 point for each AmE counterpart.
If more than five expressions are provided, the worst five are graded.

Solution to Question 2 (Informality): **(10 points)**

Underline five informal expressions in the text below, and suggest a more formal alternative for each.

> Since I installed a new Linux distro, I can't use my mouse anymore. Thankfully, my keyboard still works, so I could code up a program that prints some text to the console. I didn't have to write the program from scratch. I could reuse some code written in the eighties by Alice P. Hacker.

PROPOSED SOLUTION: We identified nine expressions:

> Since I installed a new Linux distro, I can't use my mouse anymore. Thankfully, my keyboard still works, so I could code up a program that prints some text to the console. I didn't have to write the program from scratch. I could reuse some code written in the eighties by Alice P. Hacker.

- *Distro* vs. *distribution.*
- *Can't* vs. *cannot.*
- *Thankfully* vs. *fortunately.*
- *Code up* vs. *develop.*
- *Prints* vs. *outputs.*
- *Didn't* vs. *did not.*
- *From scratch* vs. *from the ground up.*
- *Written* vs. *developed.*
- *Eighties* vs. *1980s.*

1 point for each informal expression and 1 point for each formal counterpart.
If more than five expressions are provided, the worst five are graded.

Solution to Question 3 (Gender Neutrality): **(10 points)**

Rephrase the following text to make it gender-neutral. Perform the modifications in place.

> Jane Austen addresses the reader directly in the tone of a confidant. In this way, Austen gives him the confidence he requires to believe that he can comprehend the narrative fully by simply trusting his memory. He always follows Austen's grand design. Through this connection, he feels as though Austen is personally guiding him through the story.

PROPOSED SOLUTION:

> Jane Austen addresses the reader directly in the tone of a confidant. In this way, Austen gives **them** the confidence **they require** to believe that **they** can comprehend the narrative fully by simply trusting **their** memory. **They** always **follow** Austen's grand design. Through this connection, **they feel** as though Austen is personally guiding **them** through the story.

10 points if the text is gender-neutral.

3 points subtracted for each forgotten pronoun.

2 points subtracted for each verb that does not agree with its subject.

Solution to Question 4 (Verbosity): **(10 points)**

Underline five verbose expressions in the text below, and suggest a more concise alternative for each.

> Owing to the fact that mathematics is the foundation of computer science, mathematics is a subject that is an essential part of the curriculum. In other words, in order to understand computer science, you must understand mathematics. For all intents and purposes, one can say that mathematics is a computer's soul. The next point I want to emphasize is that both subjects rely on logical reasoning and abstraction, in some shape or form. As far as I am concerned, logic should be taught to all schoolchildren around the world. The usefulness of logic also resides in the fact that it provides a solid foundation for rational, critical thinking.

PROPOSED SOLUTION: We identified nine expressions:

> Owing to the fact that mathematics is the foundation of computer science, mathematics is a subject that is an essential part of the curriculum. In other words, in order to understand computer science, you must understand mathematics. For all intents and purposes, one can say that mathematics is a computer's soul. The next point I want to emphasize is that both subjects rely on logical reasoning and abstraction, in some shape or form. As far as I am concerned, logic should be taught to all schoolchildren around the world. The usefulness of logic also resides in the fact that it provides a solid foundation for rational, critical thinking.

- *Owing to the fact that* vs. *Since.*
- *Is a subject that is* vs. *is.*
- *In order to* vs. *to.*
- *For all intents and purposes* vs. *Essentially* or nothing.
- *One can say that* vs. nothing.
- *The next point I want to emphasize is that* vs. *Furthermore* or nothing.
- *In some shape or form* vs. nothing.
- *As far as I am concerned* vs. *In my opinion.*
- *The usefulness of logic also resides in the fact that* vs. *Logic is useful also because.*

1 point for each verbose expression and 1 point for each concise alternative.

If more than five expressions are provided, the worst five are graded.

Solution to Question 5 (Irregular Plurals): **(10 points)**

Underline five irregular plurals in the following text, and give in each case the singular form.

> The indices of vectors and matrices are usually natural numbers (starting from 0), and similarly for the states of finite automata. Parentheses are used in logic to group terms, formulae, and other expressions. Such conventions are explained either in the appendices of theses and textbooks or in their background chapters. Additionally, these conventions help ensure clarity and consistency in mathematical and logical expressions.

PROPOSED SOLUTION: We identified seven expressions:

> The indices of vectors and matrices are usually natural numbers (starting from 0), and similarly for the states of finite automata. Parentheses are used in logic to group terms, formulae, and other expressions. Such conventions are explained either in the appendices of theses and textbooks or in their background chapters. Additionally, these conventions help ensure clarity and consistency in mathematical and logical expressions.

- Plural *indices*, singular *index*.
- Plural *matrices*, singular *matrix*.
- Plural *automata*, singular *automaton*.
- Plural *parentheses*, singular *parenthesis*.
- Plural *formulae*, singular *formula*.
- Plural *appendices*, singular *appendix*.
- Plural *theses*, singular *thesis*.

1 point for each plural and 1 point for each corresponding singular.
If more than five plurals are provided, the worst five are graded.

Solution to Question 6 (Mistakes): **(10 points)**

Underline and correct five language mistakes in the following text. Perform the corrections in place.

> Whom was it who claimed that Java is simpler than C++? Was it Bloch et. al.? When comparing Java to C++, it is true that Java stands out as the easier to learn at first. But you must consider more than a languages learning curve. What I associate to Java is its verbose syntax, garbage collector, and reflection capabilities. These effect the language's learnability for those who want to become experts and insure that Java is as difficult to thoroughly mister as its cousin C++.

PROPOSED SOLUTION: We identified eight mistakes:

> Whom was it who claimed that Java is simpler than C++? Was it Bloch et. al.? When comparing Java to C++, it is true that Java stands out as the easier to learn at first. But you must consider more than a languages learning curve. What I associate to Java is its verbose syntax, garbage collector, and reflection capabilities. These effect the language's learnability for those who want to become experts and insure that Java is as difficult to thoroughly mister as its cousin C++.

- *Whom* vs. *who*.
- *Et. al.* vs. *et al.*
- *Comparing Java to* vs. *comparing Java with*.
- *Languages* vs. *language's*.
- *Associate to* vs. *associate with*.
- *Effect* vs. *affect*.
- *Insure* vs. *ensure*.
- *Mister* vs. *master*.

1 point for each mistake and 1 point for each correction.

If more than five mistakes are provided, the worst five are graded.

Solution to Question 7 (*Which* Hunting): (10 points)

Replace all "wicked" *which*'s by *that*'s and all wrong *that*'s by *which*'s in the following text. You can assume that the punctuation is correct. Perform the modifications in place.

> I quickly saved the document which I had been working on all morning. About that document, I will say no more. I made sure to grab my warm coat, which was hanging in the closet, before I left home. The lunch I ate, that was prepared by a top chef and which looked appealing, was not to my liking. The storm, that was approaching us quickly, inspired a fear which stayed with me all afternoon. I went to the florist shop which sells my favorite flowers. I quickly bought my favorite flowers, which are lilies, before I headed home, which was not far. I put the flowers in a pot, which made me happy and reminded me that I had to water my plants.

PROPOSED SOLUTION:

> I quickly saved the document **that** I had been working on all morning. About **that** document, I will say no more. I made sure to grab my warm coat, **which** was hanging in the closet, before I left home. The lunch I ate, **which** was prepared by a top chef and **which** looked appealing, was not to my liking. The storm, **which** was approaching us quickly, inspired a fear **that** stayed with me all afternoon. I went to the florist shop **that** sells my favorite flowers. I quickly bought my favorite flowers, **which** are lilies, before I headed home, **which** was not far. I put the flowers in a pot, **which** made me happy and reminded me **that** I had to water my plants.

10 points if the text uses *which* and *that* correctly throughout.

2 points subtracted for each wrong *which* or *that*.

Solution to Question 8 (Punctuation): **(10 points)**

The following text contains some punctuation mistakes. Underline five such mistakes, and correct them directly in the text.

> The novel's wonderful irony of course, lies in the final reversal of this fantasy, when the reader, and Emma learn, that she has been the "object" of exactly such control of espousal. The larger significance, however of this scene, and of much of Emmas inner life, is Emma's self-misunderstanding. Meanwhile, Emma misperceives Frank's gestures, (dancing with her, standing by her chair) and his word (all the repartee about Dixon and things Irish), and therefore misunderstands herself.

PROPOSED SOLUTION: We identified six mistakes:

> The novel's wonderful irony of course, lies in the final reversal of this fantasy, when the reader, and Emma learn, that she has been the "object" of exactly such control of espousal. The larger significance, however of this scene, and of much of Emmas inner life, is Emma's self-misunderstanding. Meanwhile, Emma misperceives Frank's gestures, (dancing with her, standing by her chair) and his word (all the repartee about Dixon and things Irish), and therefore misunderstands herself.

- There should be a comma before *of course*.
- The comma before *and Emma* should be removed.
- There should be no comma before *that*.
- There should be a comma after *however*.
- *Emmas* should be written *Emma's*.
- The comma after *gestures* should be removed

2 points for each mistake.

If more than five mistakes are provided, the worst five are graded.

Solution to Question 9 (Revision): **(10 points)**

The following 174-word abstract is long and verbose. Shorten it by at least 25% using the haircut and amputation approaches while preserving its essence.

> A distributed system may be modeled by objects that run concurrently, each with its own processor, and communicate by remote method calls. However, objects may have to wait for response to external calls, which can lead to inefficient use of processor capacity or even to deadlock. This paper addresses this limitation by means of asynchronous method calls and conditional processor release points. Although at the cost of additional internal nondeterminism in the objects, this approach seems attractive in asynchronous or unreliable distributed environments. The concepts are illustrated by the small object-oriented language Creol and its operational semantics, which is defined using rewriting logic as a semantic framework. Thus, Creol specifications may be executed with Maude as a language interpreter, which allows an incremental development of the language constructs and their operational semantics supported by testing in Maude. However, for prototyping of highly nondeterministic systems, Maude's deterministic engine may be a limitation to practical testing. To overcome this problem, a rewrite strategy based on a pseudo-random number generator is proposed, providing Maude with nondeterministic behavior.

PROPOSED SOLUTION:

> A distributed system can be modeled by concurrent objects, each with its own processor, that communicate by remote method calls. However, objects may need to wait during external calls, which costs processor time and may deadlock. This paper proposes asynchronous method calls and conditional processor release points as a solution. Despite its nondeterminism, this approach seems attractive in asynchronous or unreliable distributed environments. The concepts are illustrated by the small object-oriented language Creol, whose semantics is defined using rewriting logic. Thus, Creol specifications can be interpreted using Maude. Moreover, we propose a Maude rewrite strategy based on a pseudo-random number generator to model nondeterminism.

The question continues on the next page.

Continuation of Question 9:

Solution to Question 10 (Citations): **(10 points)**

The following text uses poor citation style. Rewrite it to use proper citations.

> Our leading design principle has been to aim for a stylish extension of superposition, [30] following Stroustrup's zero-overhead principle: "What you don't use, you don't pay for." [25] We know of some closely related work [5] [12] [22]. In [24], a broader overview of the state of the art is given.

PROPOSED SOLUTION:

> Our leading design principle has been to aim for a stylish extension of superposition [30], following Stroustrup's zero-overhead principle: "What you don't use, you don't pay for" [25]. We know of some closely related work [5,12,22]. A broader overview of the state of the art is given elsewhere [24].

10 points for the text with correct citations throughout.

2 points subtracted per citation mistake.