

# Exercise 1

## Features and Constructs of Programming Languages

September 28, 2018

For this exercise you have to discuss a language construct or aspect of a programming language that you find especially useful, harmful, or interesting for other reasons. During the exercise session you will have opportunity to share the results of your investigation with your colleagues during a short presentation. As a guideline for your presentation you may use the following:

- Description
  - To which programming language does it belong?
  - What are its syntax, its semantics and its pragmatics?
  - Provide an example of an application of the construct.
- Classification
  - Which language/core concept(s) does the construct express?
  - Which requirement(s) motivate this language construct?
- Pros and cons
  - Provide examples which demonstrate the relevant pros and cons.
- Conclusion. Provide your personal opinion about the construct.
  - Does it provide a reasonable design trade-off?
  - Would it be a good idea to drop the construct?
  - If yes, how could the construct can be replaced?
  - If no, how could a future version of the language improve on the construct?

Please note that:

- Your presentation should take approximately 5 minutes. After that, a session of questions and discussion will follow.
- You may prepare slides for your presentation, but it is not mandatory.
- If you are not sure about pros and cons of the chosen language construct you can evaluate its influence on the following language design goals:
  - Simplicity
  - Expressiveness
  - (Static) Safety
  - Modularity
  - Performance
  - Productivity
  - Backwards Compatibility
- The guidelines provided above for the presentation are only recommendations. Feel free to add or remove from the presentation whatever you find appropriate.
- There are no “correct” or “incorrect” opinions when it comes to language design. Don’t be shy about presenting your opinion and participating in the other discussions.