

Exercise 1

Features and Constructs of Programming Languages

For this exercise you have to discuss a language construct or aspect of 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 it belongs?
 - What are its syntax, its semantics and its pragmatics?
 - Provide an example of the construct concept application.
- Classification
 - Which language/core concept(s) does the construct express?
 - Which requirement(s) motivate this language construct?
- Pros and cons
 - Provide examples which demonstrate these pros and cons.
- Conclusion. Provide your personal opinion about the construct.
 - Does it provide a reasonable tradeoff?
 - Would it be a good idea to drop the construct?
 - If yes, how can the construct can be replaced?
 - If no, how can 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 guideline provided above for the presentation is just recommendation. Feel free to add to / remove from the presentation whatever you find appropriate.
- There are no “correct” and “incorrect” opinions, when it comes to language design. Don’t be shy to present your opinion.