



A Few Remarks About Learning



... But First A Few Words About Academic Misconduct

- There will be zero tolerance to any form of academic misconduct
 - Fraud
 - Cheating
 - Plagiarism
 - Fabrication of material or data
- Plagiarism includes
 - Plagiarism of text
 - Plagiarism of source code
- More information in [regulations](#)
- ***Zero tolerance: zero points → Negative grade !***

About the Proper Use of AI

- The properly declared and cited use of generative AI is permitted for certain activities in this course, as stipulated by the instructor on a case-by-case basis.
- *Our expectations - which should also be **your** expectations*
 - Using AI for assignments/homework may be tempting, but
 - **You** are here **to learn** – and not just to pass exams
 - AI may support your understanding – but *don't outsource **your** thinking!*
 - We need experts who truly understand data structures & algorithms → **you!**
 - As future data scientists, **your** decisions will matter
 - *If you cheat, **you** are ultimately cheating **yourself** !*
- **Your integrity is part of **your** professional identity!**

About Arithmetics ...

- Mental arithmetics
 - $12 \cdot 11$?
 - Answer: 132
- Using a calculator
 - $7184 \cdot 131$?
 - Answer: 81345455469781
 - Wrong!
 - Correct answer: 941104

→ Why can you tell right away that the first result of the calculator was wrong?



If YOU want to learn

About Learning ...

- You only know things that you have stored readily in your head
 - The sum of what you have learned (facts, knowledge, experiences) defines the acquired literacy for your life and how independent, self-contained you are!
- Using tools to get (unknown) information is
 - Sometimes fine (finding alternatives, doing a proof-check, getting explanations...),
 - Sometimes counter-productive (if only using the result without digesting, thinking about the supplied results), e.g., for learning, for assessing, ...
- If ***you*** want to learn something, it is mandatory that ***you*** work, ***you*** experiment, ***you*** create, so that the knowledge and gained experiences get stored in ***your*** head!
 - Even frustration becomes "experience" over time and helps solve problems faster!

If YOU want to learn

Suggestions to *Ease (Sic!) Learning ...*

- Do not use any "other means" (persons, books, tools, including AI, etc.) when *learning basics, learning the foundation of a field!*
 - In groups where an advanced skilled person is kindly asked to play the role of a tutor for the non- or lesser-skilled person, please let the non- or lesser-skilled person start out to create the short programming homework assignments
 - Help as a tutor (especially in the beginning) the lesser skilled person to understand concepts that may still be "alien" or not understood
- Once *the basics of a field are well understood*, it may be helpful to use "other means", e.g. to have your code analyzed (feedback), to come up with alternatives (brainstorming), to get additional explanations, etc.

If YOU want to learn

You Must *Not* Use AI-Code for Homeworks!

- You ***must*** create the short homework programs ***on your own, manually!***
 - Use the slides and your notes
 - Study the nutshell examples
 - Study the reference documentation
 - Only use the Internet, AI for clarifying concepts (as a tutor) in addition to asking questions
- Concluding project: *You may use AI tools for researching, drafting*
 - You may use AI for brainstorming
 - You may use AI for assessing alternative implementation approaches
 - *You must code **yourself, manually!***
 - *You may create possible solutions with AI, but need to simplify and guarantee that it works according to the project's specifications!*
 - ***You must understand each detail and must be able to explain and justify all applied techniques in the code!***

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