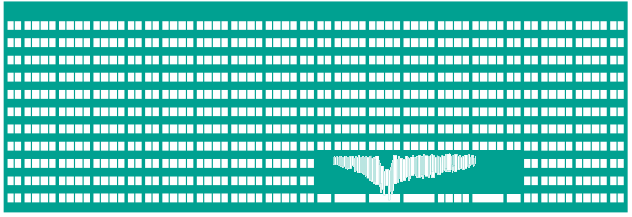
VŠB TECHNICKÁ UNIVERZITA OSTRAVA

VSB TECHNICAL UNIVERSITY OF OSTRAVA



www.vsb.cz

Functional Programming

behalek.cs.vsb.cz/wiki/Functional_Programming

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September 23, 2024

VSB TECHNICAL UNIVERSITY OF OSTRAVA | FACULTY OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE | DEPARTMENT OF COMPUTER SCIENCE

Contact + Materials

- Presentations: **Marek Běhálek** (EA404, tel: 5879, email: marek.behalek@vsb.cz)
- Laboratories: Michal Vašinek, Michal Fait, Markéta Vašinková, Jan Kozusznik, Marek Běhálek, ...
- Materials
  - Web pages `http://behalek.cs.vsb.cz/wiki`

- Basic information + Installation guide
  `http://behalek.cs.vsb.cz/wiki/index.php/Functional_programming`
- Presentations - `http://behalek.cs.vsb.cz/wiki/wiki/index.php/Functional_programming/en#presentations`
- Laboratories - `http://behalek.cs.vsb.cz/wiki/index.php/Functional_programming/en#laboratories`

Subject aims expressed by acquired skills and competences

- Not a *traditional* Functional programming course, better name should be:
  - Introduction to Functional Style of Programming
- Complement to **Programming 1** (imperative language C++)
- Focused on:
  - usage of functions - scope of variables, visibility in modules, pattern matching;
  - recursion and recursive data structures (*VS* statements, třídy, objects);
  - functional style of programming - recognize, compare to other styles of programming (imperative, object oriented);
  - solve selected problems in *purely functional* programming language **Haskell**.

Evaluation criteria - where do i get **my** points?

- Subject end with *graded credit* (100 points from laboratories, 51 - 65 Good, 66 - 85 Very Good, **86 - 100 Excellent**).
- The points can be obtained for (time schedule can change):
  - *[3rd week]* 10 points - written test - focused on basic syntax, evaluation of expressions and types.
  - *[4th week]* 10 points - written test - focused on the ability to write a simple function.
  - *[7th and 10th week]* 50 points will be assigned for two programming exercises performed directly on computers in our laboratories,
    - each exercise 25 points,
    - each approximately 1 hour long,
    - **minimum** for each will be 11 points,
    - last week in the semester, you can repeat one of these exercises.
  - *[12th week]* 30 points - programming test with home preparation.
  - *[13th week]* there will be an opportunity to repeat one of the tests.

References

Lipovaca M.

Learn You a Haskell for Great Good!: A Beginner's Guide (1st ed.).

No Starch Press, San Francisco, CA, USA, 2011 - for free at: http://learnyouahaskell.com/

Wiki Books

Haskell

for free at: https://en.wikibooks.org/wiki/Haskell

O'Sullivan B., Goerzen J., Stewart D.

Real world Haskell.

O'Reilly Media, Inc. 2008. ISBN:0596514980 - for free at: http://book.realworldhaskell.org/read/

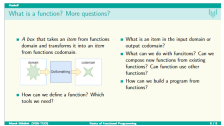
Thompson S.

The Haskell: The Craft of Functional Programming (3rd ed.).

Addison-Wesley Professional, October 2, 2011, ISBN-10: 0201882957.

Presentation Style

- The *knowledge* is on normal slides.
- Important knowledge is on the slides marked with an exclamation mark.
- Practical demonstration
  - Summarizes slides from previous the practical demonstration slide.
  - We will do them based on how much time we have → You are encouraged do it by your self.
  - They are covered by some COVID videos.
- Detailed explanation
  - Nothing really new. But gives more details.



Thank you for your attention

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