

# Programming language theory, 2021 spring.

## Home work 1:

1. Read Introduction (Chapter 1) from Abby book (the one that is draft). There are given some important definitions, note them.
2. Form the questions about terms, concepts, models and programming languages you find interesting or challenging. We will discuss them on lectures.

## Answer following questions:

1. What is computational model ? (copy pastes will be ignored).
2. What is the most ancient computational model?
3. What types of computational models there are? Give short description of main difference in your own words.
4. What is programming language?
5. What programming language consists of?
6. What is syntax and semantics?
7. In terms of decidability, are those models different?

## Practice:

Take 2 programming languages based on

a) **pure** functional (Haskell, Ocaml or any other)

[https://en.wikipedia.org/wiki/List\\_of\\_programming\\_languages\\_by\\_type#Pure](https://en.wikipedia.org/wiki/List_of_programming_languages_by_type#Pure)

b) logic (PROLOG or any other you find)

[https://en.wikipedia.org/wiki/List\\_of\\_programming\\_languages\\_by\\_type#Logic-based\\_languages](https://en.wikipedia.org/wiki/List_of_programming_languages_by_type#Logic-based_languages)

computational models. In **each one** implement:

- 1) "Hello YOUR\_FULL\_NAME" program
- 2) input: n output: n! (n factorial, i.e.  $n! = 1 * 2 * \dots * n$ ).

Within one program.

## Format:

Upload your homework in teams. Send single pdf file with question answers and add the several screens: screen of your code, screen of terminal with commands you did to compile and run and with desired output (all in one screen if possible).