

# Homework

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You should provide implementation of type checking and normalization for System  $F\omega$ .

You should:

- have working type checker,
- have working normalization procedure (you should reduce under lambdas),
- provide example programs in  $F\omega$ , for example `map` function over polymorphic lists.

You can omit:

- parsing, just provide clear instructions how to type check and normalize arbitrary  $F\omega$  term with your program,
- detailed error messages, your program may explode given incorrect term,
- type inference algorithm.

Good starting point is „Lectures on Curry-Howard Isomorphism” by Sorensen and Urzyczyn, chapters 12 and 13. The book is freely available online. After reading chapter 13 you may find it easier to write pure type systems type checking and normalization, as System  $F\omega$  is a special case.

Deadline is 21.06.2015. Please send solutions, questions and remarks to [sznurek@gmail.com](mailto:sznurek@gmail.com).