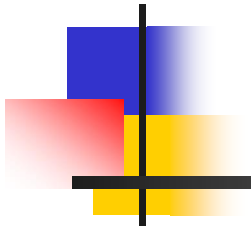


Prečo na FP záleží

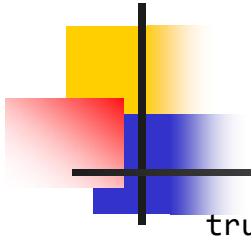
Ako úvodnú – motivačnú prednášku reprodukujem prvú časť prednášky od John Hughes:

Why Functional Programming matters

z λ-days, Krakow 2017

https://www.youtube.com/watch?v=XrNdvWqxBvA

www.cse.chalmers.se/~rjmh/Papers/whyfp.pdf



```
true  x y = x
false x y = y

ifte  c t e = c t e

two   f x = f (f x)
one   f x = f x
zero  f x = x

incr n f x = f (n f x)

add   m n f x = m f (n f x)
mul   m n f x = m (n f) x

isZero n =  n (\_ -> false) true

decr n = n (\m f x -> f (m incr zero))
           zero
           (\x -> x)
           zero
```

```
fact :: (forall a. (a->a)->a->a) -> (a->a) -> a -> a
fact n  =
     ifte (isZero n)
          one
          (mul n (fact (decr n)))

main =
  -- print $ (decr (add (mul two two) one)) (+1) 0
  -- print $ (fact (add (mul two two) one)) (+1) 0
  print $ (fact (add two
                    (add (mul two two) (mul two two))))
           (+1) 0

-- 3628800
-- (4.75 secs, 2,598,673,208 bytes)
```

https://github.com/Funkcionalne/Prednasky/blob/master/01/src/Church.hs

Haskell in FB spam filtering

Fighting spam with Haskell

Simon Marlow

One of our weapons in the fight against spam, malware, and other abuse on Facebook is a system called Sigma. Its job is to proactively identify malicious actions on Facebook, such as spam, phishing attacks, posting links to malware, etc. Bad content detected by Sigma is removed automatically so that it doesn't show up in your News Feed.

We recently completed a two-year-long major redesign of Sigma, which involved replacing the **in-house FXL language** previously used to program Sigma with **Haskell**. The Haskell-powered Sigma now runs in production, serving more than one million requests per second.

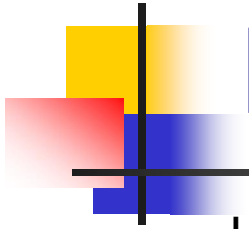
https://code.facebook.com/posts/745068642270222/fighting-spam-with-haskell/

Elixir-Erlang

Inside Erlang, The Rare Programming Language Behind WhatsApp's Success

Facebook's $19 billion acquisition is winning the messaging wars thanks to an unusual programming language.

https://www.fastcompany.com/3026758/inside-erlang-the-rare-programming-language-behind-whatsapps-success



Referencie

- Hughes: https://www.youtube.com/watch?v=XrNdvWqxBvA
- Hughes: *www.cse.chalmers.se/~rjmh/Papers/whyfp.pdf*
- Ladin: *https://www.cs.cmu.edu/~crary/819-f09/Landin66.pdf*
- Backus: *https://www.thocp.net/.../papers/**backus**_turingaward_lecture.pdf*
- Henderson: *https://cs.au.dk/~hosc/local/HOSC-15-4-pp349-365.pdf*
- Hudak: ***haskell**.cs.yale.edu/wp-content/.../03/**HaskellVsAda**-NSWC.pdf*
- FB: https://code.facebook.com/posts/745068642270222/fighting-spam-with-haskell/
- WhatsApp: https://www.fastcompany.com/3026758/inside-erlang-the-rare-programming-language-behind-whatsapps-success
- Hudak: https://ccrma.stanford.edu/~jos/pdf/FunctionalProgramming-p359-hudak.pdf