

Informatics 1

Functional Programming Lecture 0

Tuesday 22 September 2009

**Why learn Haskell?**

Philip Wadler

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# Required text and reading

*Haskell: The Craft of Functional Programming*, Second Edition,  
Simon Thompson, Addison-Wesley, 1999.

Reading assignment:

Thompson, Chapters 1–3 (pp. 1–52): by Fri 25 Sep 2009.

Thompson, Chapters 4–5 (pp. 53–95): by Mon 5 Oct 2009.

Thompson, Chapters 6–7 (pp. 96–134): by Mon 12 Oct 2009.

# Computational Thinking

“In their capacity as a tool computers will be but a ripple on the surface of our culture. In their capacity as intellectual challenge, they are without precedent in the cultural history of mankind.”

Edsger Dijkstra, 1930–2002

# Why learn Haskell?

- Important to learn many languages over your career
- Learn to operate on data structures all at once rather than a piece a time
- Puts experienced and inexperienced programmers on a more equal footing

*Last updated on 18th September 2009*



**The 14th ACM SIGPLAN  
International Conference on  
Functional Programming  
(ICFP 2009)**

ICFP

*Edinburgh, Scotland  
31st August - 2nd September 2009*



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# Functional programming in the real world

- Google MapReduce, Sawzall
- Ericsson AXE phone switch
- Jane Street Capital
- Credit Suisse
- Morgan Stanley
- Standard Chartered
- Twitter
- Facebook
- Yahoo
- Erlang
- Scala
- Microsoft F#

# Functional programming is the next next thing

Features from functional languages are appearing in other languages

- Garbage collection (Java, C#, Python, Perl, Ruby, Javascript)
- Higher-order functions (Java, C#, Python, Perl, Ruby, Javascript)
- Generics (Java, C#)
- List comprehensions (C#, Python, Perl 6, Javascript)
- Type classes (C++ “concepts”)