Getting Started with Haskell

Tim Sheard

Installing GHCI

- We will use Haskell
 Platform
 2012.4
- Goto haskell.org
- Click on the Haskell
 platform

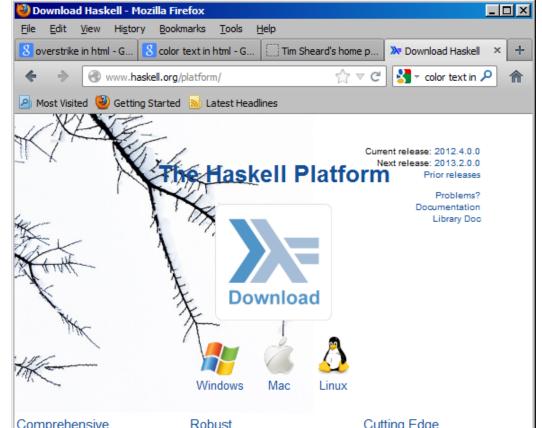
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Ine	Haskell Programming	Language
Has	kell is an advanced purely-functional programm	ing language. An open-source product of
mor	e than twenty years of cutting-edge research,	it allows rapid development of robust,
	cise, correct software. With strong support for currency and parallelism, debuggers, profilers,	
Has	kell makes it easier to produce flexible, maintain	able, high-quality software.
Learn Haskell	Use Haskell	Join the Community
 What is Haskell? Try Haskell in your browsel 	Download Haskell Language specification	 Haskell on Reddit, Stack Overflow Mailing lists, IRC channels
 Learning resources 	Eanguage specification Hackage library database	 Wiki (how to contribute)
 Books & tutorials Library documentation 	Applications and libraries	Communities and Activities Reports Haskell in industry, research and
Library documentation	 Hoogle and Hayoo API search 	education.
		 Planet Haskell , The Monad.Reade
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Headlines	Upcoming Events	Recent Package Updates
• 2012:	Recent Events	hlattillarite 🖾
• The Haskell Platform 201		See here osium
now available • GHC 7.6 is released	2012 September 13, 2012, Copen	heren
• The Haskell Platform 201		nagen,
now available o Yesod 1.0 is now available	CUFP 2012, with tutorials incl	uding
o GHC 7.4 is released	two-days of Haskell introduc	tory
 O'Reilly have announced a forthcoming back on Decello 	stend September 13-14, 2012,	
forthcoming book on Paralle Concurrent Haskell	Copenhagen, Denmark	
	24th Symposium on Impleme	
	and Application of Functional Languages.	
	August 30 - September 1, 2	012,
	Oxford, UK	
	4th Summerschool on Applie	b
	Functional Programming August 20-31, 2012, Utrech	t The

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ICFP Programming Contest 2012

Installing the platform

- Choose your operating system
 - Windows
 - Mac
 - Linux
 - On Debian
 - apt-get install ghc6
- Follow directions
- Ask me if you have problems



Comprehensive

The Haskell Platform is the easiest way to get started with programming Haskell. It comes with all you need to get up and running. Think of it as "Haskell: batteries included". Learn more.

The Haskell Platform contains only stable and widely-used tools and libraries, drawn from a pool of thousands of Haskell packages, ensuring you get the best from what is on offer.

Cutting Edge

The Haskell Platform ships with advanced features such as multicore parallelism, thread sparks and transactional memory, along with many other technologies, to help you get work done.

Getting Help

 On Windows, in the directory where GHC is installed, there is a directory called "doc"

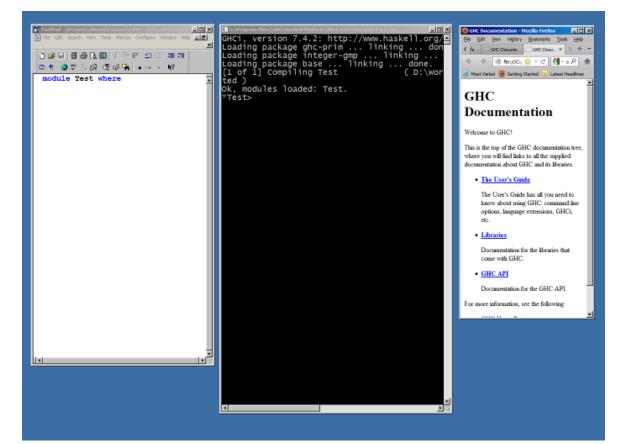
 In this directory is another directory called html, and here there is afile called "index.html"

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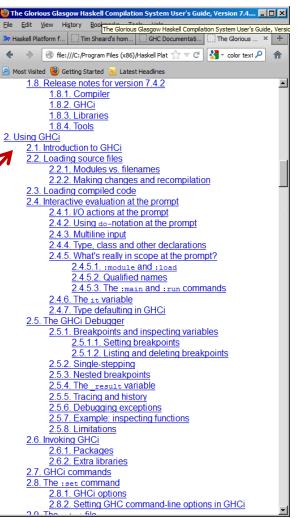
Advice

- Arrange your screen with side by side
 - windows
 - Editor
 - GHCI
 - Help



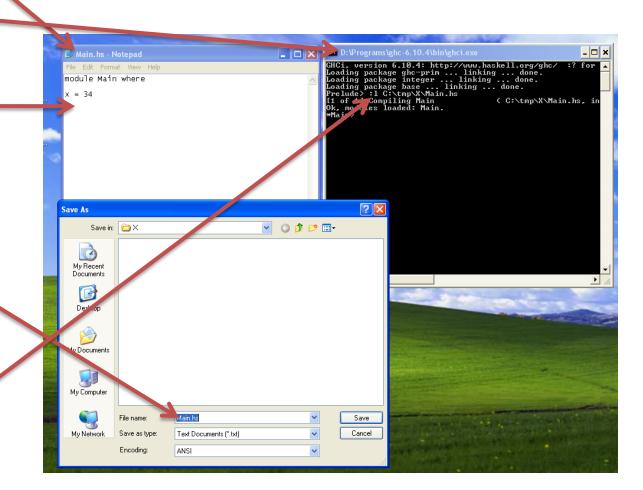
Learning what's possible

- From the index page click on "The Users Guide"
- Scroll down to "Using GHCI"
- Explore



Writing a program

- Start up an editor
- Start up ghci
- Write a program in the editor,
- save the file
- "open" the file in ghci by using
 :I C:\tmp\X\Main.hs



Setting Options

- GHCi allows the user to set many options.
- I recommend use of the "show type option" especially for new users
 C:\Program Files (x86)\Haskell Platform\2012.4.0.\bin\ghc:7.4.2: http://www.haskel
 - :set +t

C:\Program Files (x86)\Haskell Platform\2012.4.0.0\bin\ghci-7.4.2
GHCi, version 7.4.2: http://www.haske
Loading package ghc-prim linking
Loading package integer-gmp linki
Loading package base linking
[1 of 1] Compiling Test (
ted) Ok modulos loodod: Tost
Ok, modules loaded: Test. *Test> :set +t
*Test>
*Test> 3.4
3.4
it :: Double
*Test>

Interaction in Ghci

- Type an expression
- GHCI checks that it is well formed

 Well-typed
- Evaluates the expression
 - Carries out the computation
- Prints the result
- And the Type

D:\Programs\ghc-6.10.4\bin\ghci.exe	- 🗆 🗙
GHCi, version 6.10.4: http://www.haske Loading package ghc-prim linking . Loading package integer linking Loading package base linking c Prelude> :set +t	do
Prelude> Prelude> Prelude> 5 5	
it :: Integer Prelude> Prelude> 3.0 + (8.0 / 2.0) 7.0	
it :: Double Prelude> 4 + 6 -11 -1	
it :: Integer Prelude> not True False it :: Bool Prelude> [1,3] ++ [1+5,8-2] [1,3,6,6]	
it :: [Integer] Prelude> True + 2	
<pre><interactive>:1:0: No instance for (Num Bool) arising from a use of `+' at <in +="" 2="" `it':="" add="" an="" decl="" definition="" expression:="" fix:="" in="" instance="" it="Tr</pre" of="" possible="" the="" true=""></in></interactive></pre>	itera arat ue +
Prelude>	
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