WELCOME TO HASKELL

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TEAM MEETINGS START TODAY

	Thursday	Friday
2nd Period		
		Adjective Animal
3rd Period		
4th Period		Junior Raptor Wranglers
		Team Bruce
5th Period		(defn team-name (fn [] "Team Lambda"))
		Black Perl
6th Period		
7th Period		Honest Jim's Miracle Tonic
8th Period		Deck the Halls (Scalalalala)
		Steak Jell
9th Period		Team Amethyst
10th Period	Go Forth and Multiply	

HASKELL

- Eddie Haskell?

- No, Haskell Curry

  - Mathematician

  - Pioneered *combinatory logic*

INSTALL THE HASKELL PLATFORM

- Instructions:
  - http://www.rose-hulman.edu/class/csse/resources/Haskell/

- Configure GHCi on Windows:

- Create a new folder:

  Windows 7 → C:\Users\«*UserName*»\AppData\roaming\ghc

  XP → C:\Documents and Settings\«*UserName*»\Application Data\ghc

- In the folder, create a text file: ghci.conf

  Need quotes here

- In that file, enter:
  - :set editor "C:\Program Files\Notepad++\Notepad++.exe"
    :cd «*full path to the folder where you will put Haskell files*»

  Need leading colons

  But no quotes around this

FIRST STEPS

- Launch GHCi
- At prompt try the following:
  - 6 * 7
  - :?
  - print "Hello, World"
  - :type "Hello, World"
  - 2 * -3

- 2 * (-3)
- (2, 13)
- fst (2, 13)
- snd (2, 13)
- [4, 9, 0]
- head [4, 9, 0]
- True || 42

bzzt!

bzzt!

ANATOMY OF AN ERROR MESSAGE

Prelude> **True || 42**

<interactive>:1:8:
    No instance for (Num Bool)
     arising from the literal `42' at <interactive>:1:8-9
Possible fix: add an instance declaration for (Num Bool)
In the second argument of `(||)', namely `42'
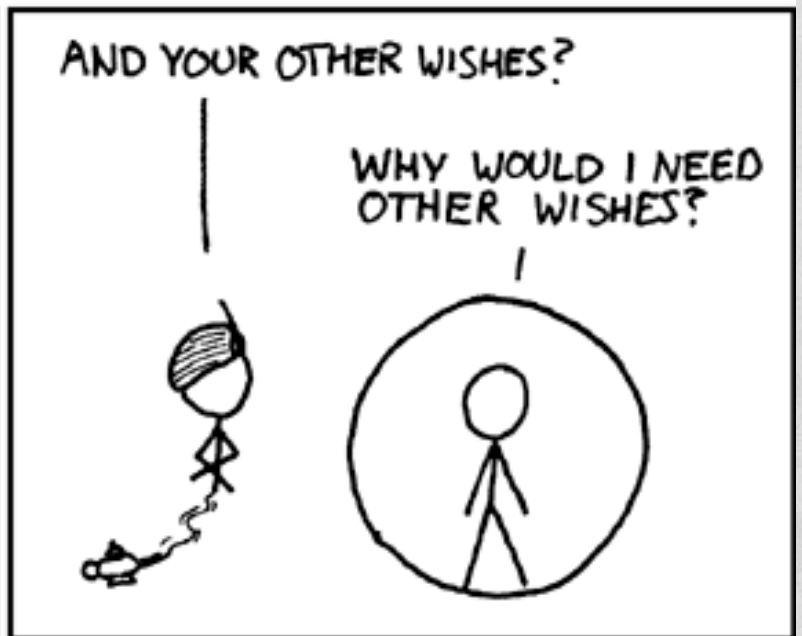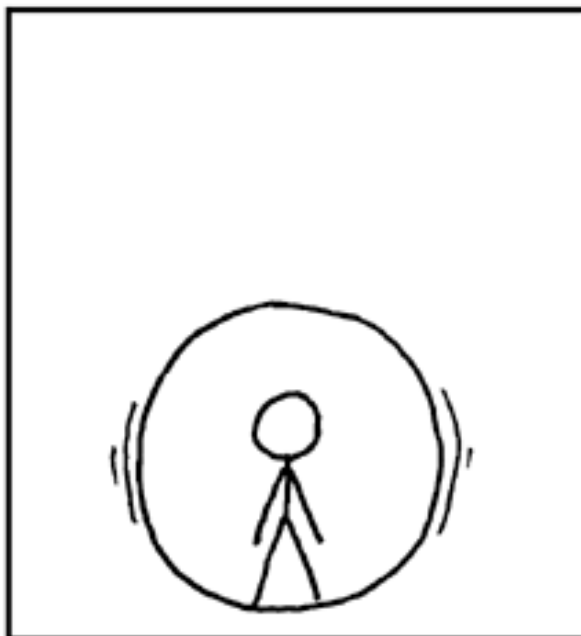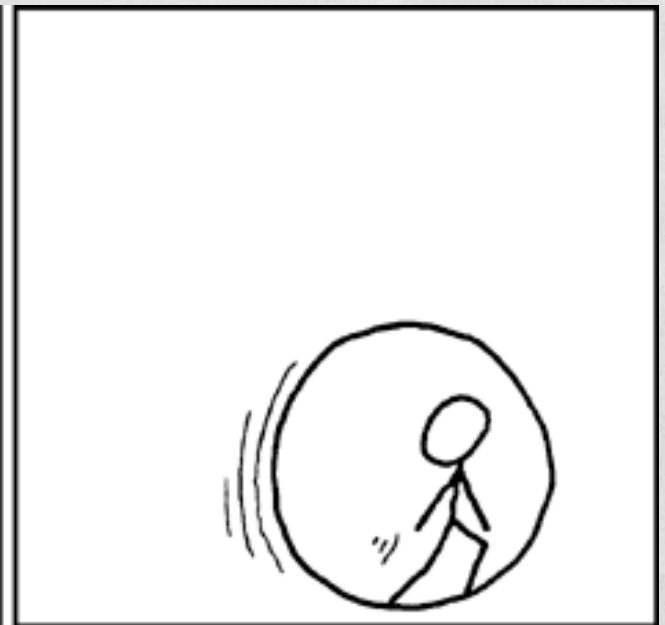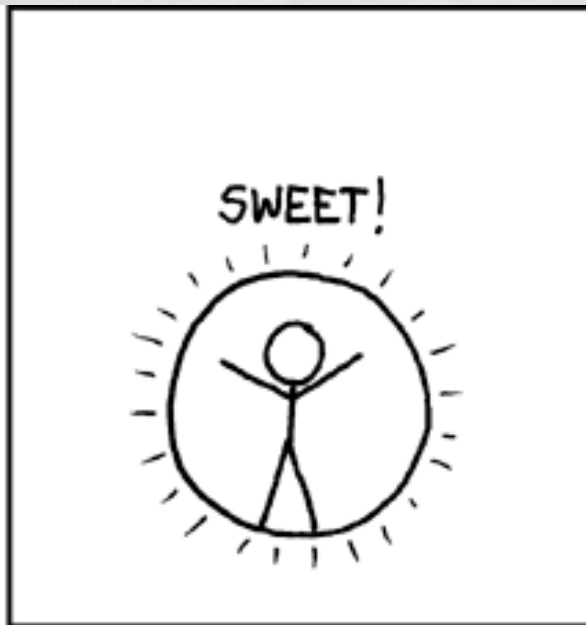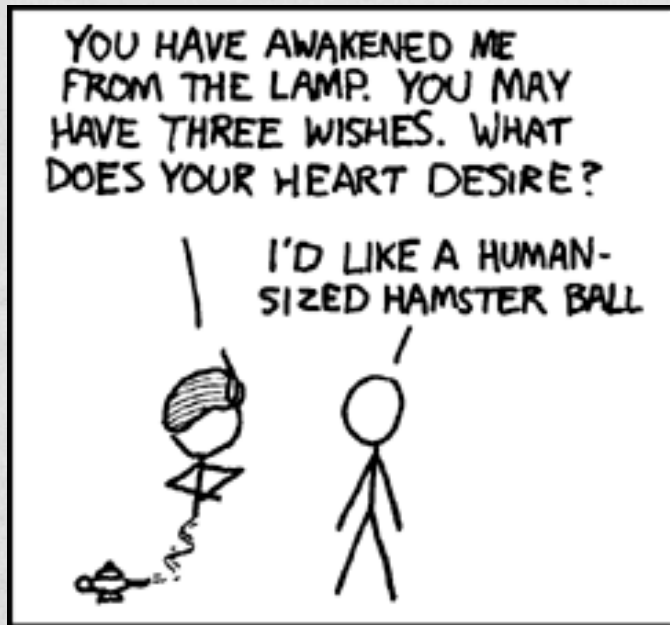In the expression: True || 42
In the definition of `it': it = True || 42

TUPLES IN HASKELL

- Tuples written comma-separated, enclosed in parens

- Can have mixed types: *(12, 16, "Sagittarius")*

- Built-in functions *fst* and *snd* give first and second elements of **pairs only**

- Because of pattern matching in Haskell, we won't use these selector functions much anyway

LISTS IN HASKELL

- Lists written comma-separated, enclosed in brackets:
  - *[ ]* or *[3, 4, 5]*
- What does *[12, 16, "Sagittarius"]* give?
  - Error! Can't mix types in lists
- Can "cons" items onto lists using *:* operator
  - *1 : [2, 3]* or *1:2:3:[]*
- Use *head* and *tail* to extract parts (like *car* and *cdr*)

Reportedly, double-walled inflatable balls like this exist some place. Now to find that place.

HASKELL DEFINITIONS

- At ghci command prompt, type
  - *:edit intro.hs*
- ghci should launch your text editor of choice
  - WARNING: Whitespace sensitive and tabs count as **8** spaces.
  - **Tell your editor to expand tabs into spaces, really, do it, I'm not kidding**
- Load code into ghci using *:load intro.hs* or *:reload*

COMING ATTRACTIONS

- To quit ghci: *:quit*

- HW6, due Monday:

  - Implement *fib*, *fastFib*, *firstN*, and *haar*

- Continue reading from *Real World Haskell*

  - Try their examples!