WELCOME TO HASKELL

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HASKELL

- Eddie Haskell?
- No, Haskell Curry
  - Mathematician
  - Pioneered *combinatory logic*
- A variant of Alonzo Church's lambda calculus

Q1

INSTALL GLASGOW HASKELL COMPILER

- Instructions (and local copy of installer for Windows):
  - http://www.rose-hulman.edu/class/csse/resources/Haskell
- Configure GHCi:
  - Create a new folder:

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

    Vista/7 →
    - C:\Users\«*UserName*»\AppData\roaming\ghc
  - In the folder, create a 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 ← bzzt!

- 2 * (-3)

- (2, 13)

- fst (2, 13)

- snd (2, 13)

- [4, 9, 0]

- head [4, 9, 0]

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

Q2,3

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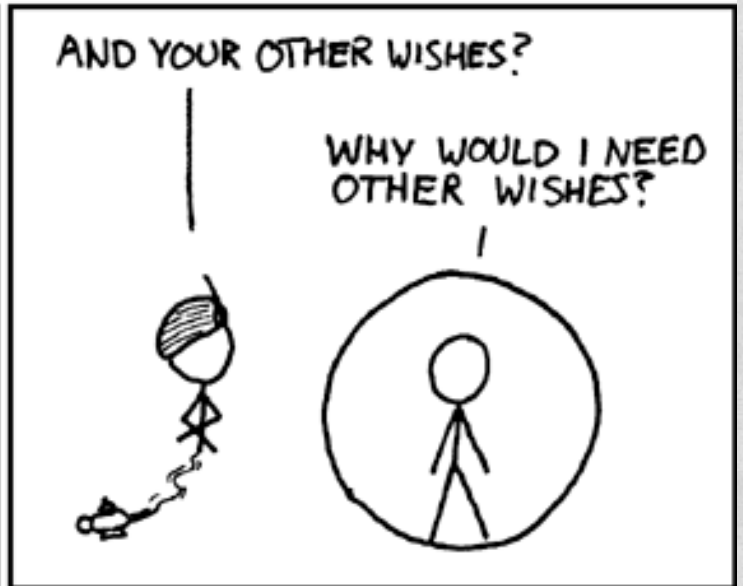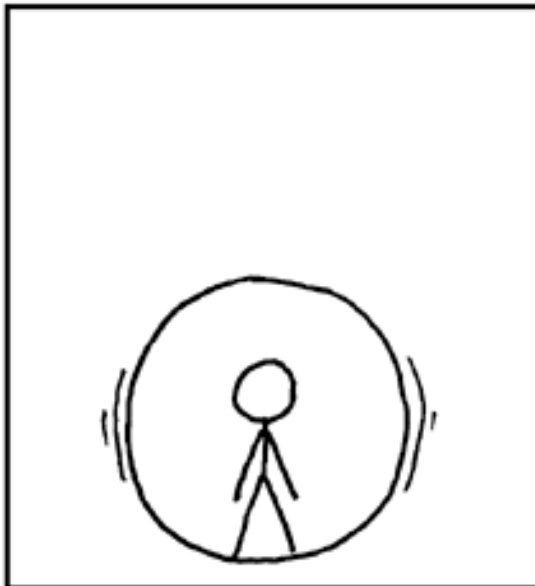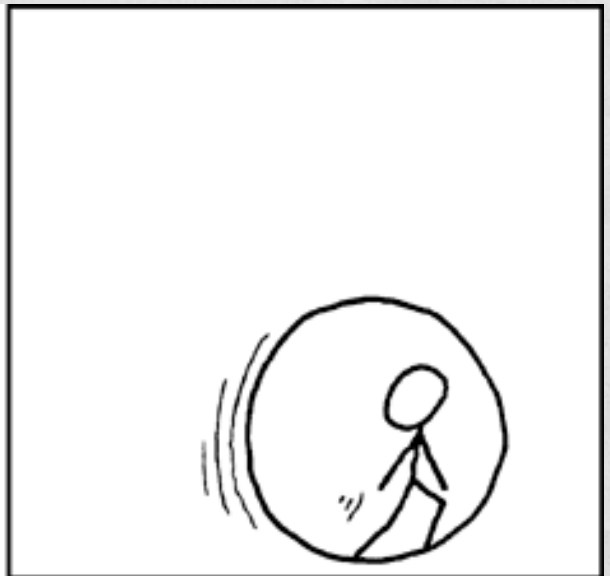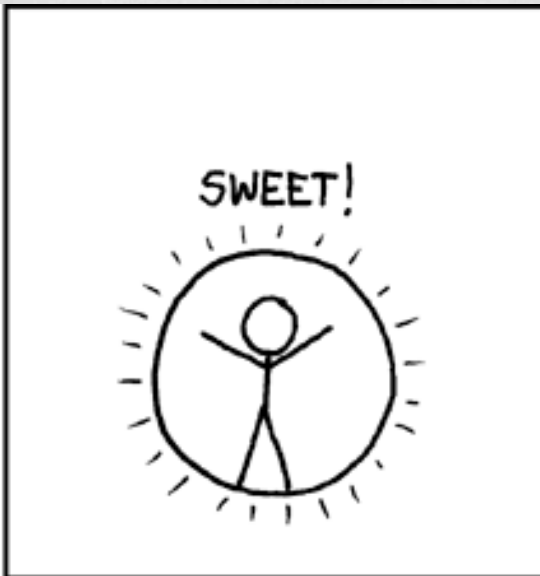
Reportedly, double-walled inflatable balls like this
exist some place. Now to find that place.

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!