JavaScript as a Natural Language

Converting Stories to Code

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Programming languages are *languages!*

"My name is Susan."

"Je m'appelle Susan."

Both sentences express the same concept but are structured differently. Both languages have parts of speech like subjects, objects, verbs and modifiers.

An English/JavaScript mapping

English

Javascript

noun: person, place, thing

variable: number, string, boolean, array, object

verb: action

function: task

Programming languages are *much* less ambiguous than natural languages

```
25                          // digits      ->    number
true                        // true/false  ->    boolean
"language"                  // quotes       ->    string
[1,2,3,4]                   // brackets     ->    array
{"dataType": "object"}      // braces       ->    object
doSomething()               // parens       ->    function
```

In the real world, things have names so we can tell them apart. We do the same thing in programming.

Police questioned CNN's Morgan in hacking inquiry

Bill Keveney, USA TODAY   5:47 p.m. EST February 15, 2014

The 'Piers Morgan Live' host was questioned in regards to his work as editor of England's 'Daily Mirror' newspaper.

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(Photo11: Chris Pizzello, Invision/AP)

Piers Morgan, a CNN talk host and former British newspaper editor, was interviewed late last year by London police in connection with an investigation into phone hacking at a newspaper where he had worked.

Morgan — who has been host of *Piers Morgan Live*,

Let's rewrite a story in code.

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Piers Morgan, a CNN talk host and former British newspaper editor, was interviewed late last year by London police in connection with an investigation into phone hacking at a newspaper where he had worked.

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```
var PiersMorgan  = {"job": "CNN talk host"};


function interview(interviewer, subject){
     subject.question();
     subject.release();
}


interview(police, PiersMorgan);
```

Morgan — who has been host of Piers Morgan Live, a weeknight CNN interview show, since 2011 — confirmed the meeting in a statement Friday, according to a CNN story. He has not been charged, police say.

```
PiersMorgan.previousJobs = ["host of
Piers Morgan Live", "British
newspaper editor"];


PiersMorgan.charged = false;
```

Morgan, 48, who edited the rival Daily Mirror from 1995 to 2004, has denied knowledge of phone hacking while he was editor. The talk host, who previously was a judge on America's Got Talent, was interviewed by police in December.

PiersMorgan.age = 48;

PiersMorgan.previousJobs.push("America's Got Talent judge");
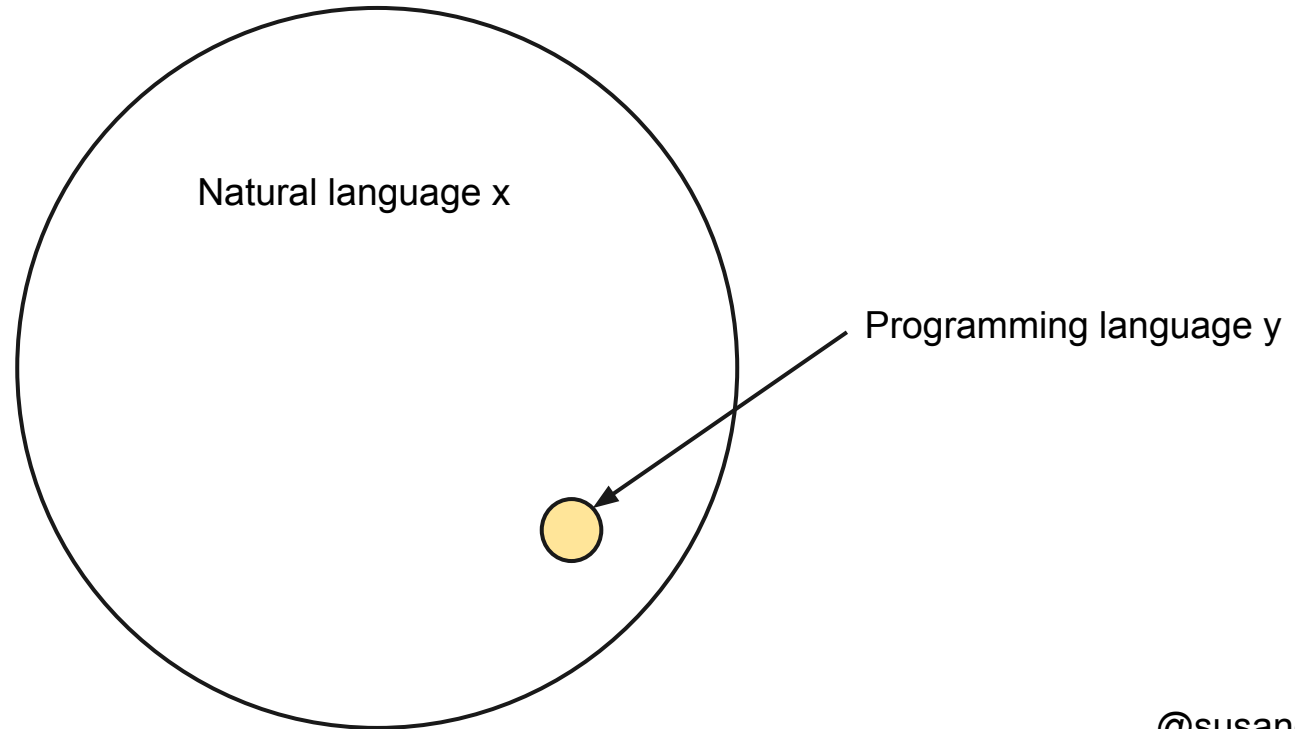
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The Whole Story

Programming languages are *much* less ambiguous than natural languages

Beware of heard, a dreadful word

That looks like beard and sounds like bird,

And dead: it's said like bed, not bead -

For goodness sake don't call it deed!

Watch out for meat and great and threat

(They rhyme with suite and straight and debt)

-excerpted from TESS

Programming languages are much *smaller* than natural languages

Natural language x

Programming language y

Programming languages are much simpler than natural languages

English-language grammatical structures:

      independent clauses

      dependent clauses

      prepositional phrases

      adjective clauses

      adverb clauses

      appositives

      participle phrases

Programming-language grammatical structures:

      conditionals

      loops

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JavaScript

It's the Latin of programming languages!

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