Languages we love

Elise Huard - BOBKonf 2016

Menu

Level 

Low level

High level

Purpose

System language

Scripting language

Domain-specific language

Visual language

Esoteric language

Turing completeness

Declarative/Functional 🌸

vs

Imperative 🍄

```python
small_nums = [x for x in range(20) if x < 5]
```

```
small_nums = []
for i in range(20):
    if i < 5:
        small_nums.append(i)
```

Dynamically typed vs

Statically typed 

Ruby

Javascript

Clojure

smalltalk

...

```clojure
(defn current-year? [data year]
  (= (:year data) year))
```

Haskell

C

Typed Racket

...

```haskell
accumulateScore :: [Float] -> Float -> Float
accumulateScore hits score = score + sum hits
```

Type safety

```
void f(char* char_ptr) {
    double* d_ptr = (double*)char_ptr;
    (*d_ptr) = 3.5;
}
```

Type Inference 

```
int find_maximum(int a[], int n) {
  int c, max, index;
...
  return index;
}
```

```
fibs = 0 : 1 : zipWith (+) fibs (tail fibs)
```

Interpreted vs compiled

Python

Ruby

Perl

Pypy

Clojure

Haskell (ghc)

Bash

Javascript

Rubinius

erlang

C

Manual vs automatic Garbage Collection 

Interesting primitives 

Virtual Machine 

Syntax 

Syntactic Structures

(Noam Chomsky)

Computer Languages

Mathematical Notation

$$(f+g)(x) = f(x) + g(x)$$

$$(f+g)(x) = f(x) + g(x)$$

Beautiful 

Flows 

```ruby
3.days.from_now.beginning_of_day + 2.hours
```

Elegant 

```haskell
qsort :: (Ord a) => [a] -> [a]
qsort []     = []
qsort (x:xs) = qsort less ++ [x] ++ qsort more
       where less = filter (<x)  xs
             more = filter (>=x) xs
```

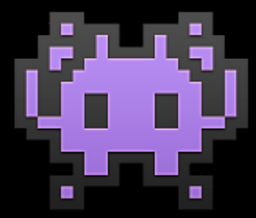
Does it make us smarter

http://gigasquidsoftware.com/blog/2015/12/20/can-a-programming-language-make-you-smarter/

Does it make programming easier?

eve

How do you choose a programming language?

Smarter people have said we should use it 

The community is a group I want to belong to 🐻🐨🐶

What do you optimise for? 💰😍🚀

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