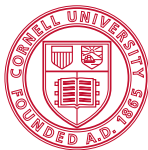


Lecture 12

Review

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Before we begin

HW4 Due Aug 6, 11am

PP Presentations, Aug 1

Outline

- Parlez Vous MATLAB?
- Programming Languages
- CS Courses

Plethora of Languages

ATS Pascal Ada
C/C++
Haskell Smalltalk
Scala Ruby OCaml
Scheme Python Lisp Assembly Perl
Fortran Lua Java Clojure
PHP

Generations

1GL Machine Code

2GL Assembly

3GL Fortran, C, C++, Java

4GL MATLAB, AMPL, SQL, R, Tex

5GL Video Killed the Radio Star?

What should we learn?

- Mother Language: English =? C++
- Second Language: Java? Python?
- Third Language? Ruby? Lua?
- Multilingual?
- Spanish, Russian, Chinese?
- For Loop? Familiar?

Toolboxes, Libraries

- Collections of functions
- Open Source
- #include, import, require ...

- Interpreter
- MATLAB, Python, Ruby, Lua

Compiling, Linking

- Compiler, Linker
- C/C++, Java, Fortran

Virtual Machine

- Machine Dependency eliminated
- Java runs on JVM

Productivity

- Write less, get done more
- Power Scripting
- Python, Ruby

Speed

- Write smart and compile!
- Fortran, C/C++, ATS

Web and Mobile

- HTML5, CSS3, JavaScript
- PHP, Perl
- Python, Ruby

- Android: Java
- iPhone: Objective-C