

* IPL

Virtual box image

- Java
- pascal - perl
- C

* FTP - use cisco, or on campus
user, password !!

* term paper - compare
languages

* dotted - space between
pixels

ftp://download.cs.umd.edu

Devices - USB devices
(only one device at a time)

* Donald Knuth

languages

- provide what is legal
- styles
- semantics (intent)

* Aida Lovelace
"just programmer"

processing

- * IDE + compiler combined
- * hides details of Java

* Script not compiled before
running

Compilation - Java, C

Interpretation - Python, Perl

- legality
- syntax
- code generation

- * no translation at execution
- * slower exec speed
- * improved debugging
- * more memory
- * ↑ portability

Chapter 2

* Plankalkül - 1945

- Advanced Data structures

* Fortran - 1957

- hardware heavily influenced lang. design
- focus on speed
- only numeric

- strings & loops introduced over time

* Lisp - 1959 (scheme - same era)

- no concerns about underlying machine
- functional lang - RECURSION

Algol 58

- semicolon - physical v. logical lines
- math notation
- algorithms

Ada

- words in place of symbols

Algol 60

- block structure
- begin/end
- 1st machine ind language

COBOL 1960

- grace hopper - csci edu week
- English - like
- data driven
- hierarchy
 - x - letter
 - o - digit

Basic

- interactive
- non-science students
- free + private access

Influence

Pascal - 1971

- Wirth
- used for teaching
- looks like algol

C

- Dennis Ritchie
- modify B
- writing operating systems
- ptr-type cheating
- highly portable
- library concept
- access to hardware

Prolog

- describe relationships
- ask questions

Ada - 1983

- Big - design, people, etc
- for dept of defense
- high expectations
- competitive design
- compilers difficult - first after 5 years

Ada 95

object oriented programming

Smalltalk

- Xerox PARC
- OOP \Rightarrow inheritance, etc
- gui

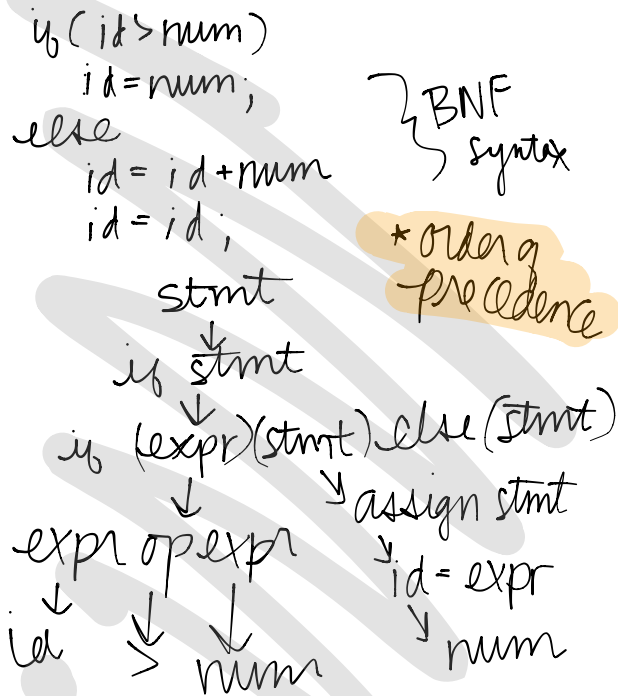
C++

- Bell Labs
- OOP
- exception handling

Java

- Sun
- based in C++

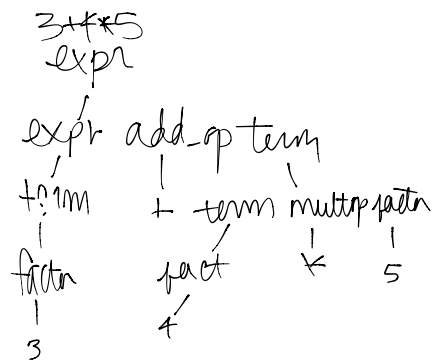
diversity - many
derivs, PORTABILITY
references, not references
(can't see variable or
manipulate)



∴ find something that can't be there - then end

leaves are always terminal

- modifying grammar
- ① same language
 - ② precedence
 - ③ not ambiguous



predigned identifiers

initial meaning but
capable of redirection

princ. of longest substring

collecting longest possible
string of non-blank chars

token delims

formatting effects tokens

free-format language

format no effect on
structure (except substring)

fixed-format lang

all tokens occur in pre-
specified locations on page

Scanner processes source
program

parser organizes tokens

into trees

tokens: usually int values

- Want to know:

* type

* name

* location