# 8/24/17

* Programming Language: Notational system for expressing computation in both human readable and machine readable format.
* Control abstraction
  + If stmts, loops, subroutines, libraries
* Data abstraction;
  + Double y = 3.47821;
  + Int x = 34;
  + Structs/records
  + arrays
* Object oriented programming (O.O.)
  + Combines methods and structures.
  + Encapsulation
  + Private
  + Grouping of data and methods
  + Abstraction
* Soft real time: streaming audio/video,
  + It can “fail a little”
* Hard real time
  + It **cannot** fail
* Readability criteria
  + Orthogonality
  + Support for abstraction
  + Expressivity

# 9/5/17

* Evaluation of languages for figuring out which language to use.
  + Cost
  + Speed of execution
  + Ease to learn
* Computer Architecture influence
  + Well-known computer architect: Von Neumann
  + Paradigms:
    - Imperative:
      * Sequence of steps
      * Algorithm
      * Variables to hold state
      * Loops
  + 50s: Worried about computer efficiency
  + late 1960s People efficiency becomes important.
* Logic:
  + A program is a set of facts and rules

## 9/7/17

* ALGOL is the first true high level language
  + Introduced:
    - Blocks
    - Parameters
    - Recursion
  + Problem is it didn’t have a compiler
  + Was never widely used
    - Because hard to compile
    - And lack of support from IBM
    - everyone used Fortran already
* COBOL
  + Was created to manipulate data much better
* Basic
  + Was created to make it easier for programmers and easier to learn for non-science students.