Programming Languages: Lecture 2

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Types of languages:

- Imperative – State-based and computation relies on changes of state

  Object-Oriented variant, bundles state and functions on individual members of a class

- Functional – Based on notions of mathematical functions, state plays minor role
- Declarative – Based on logical relations and axioms drawn from logic and mathematics

Abstraction levels:

- Machine Language – hides nothing, write in bitsequences
- Assembly Language – hides memory usage related to I/O, exposes the underlying architecture
- High-Level Imperative Language – hides underlying architecture and the structure of memory but exposes individual memory locations through (imperative) variables
- Functional Programming – hides memory and architecture, entirely managing these functions automatically
- Declarative Language – hides everything including algorithmic strategies