Programming Languages: Lecture 2

Rishabh Dhiman

6 January 2022

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