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Programming Languages

Low-Level Languages
- Machine Language
- Assembly Language

High-Level Languages
- C and C++
- Java
- Python
- JavaScript
- Ruby
- Go
- Rust
- Others

Each language has its strengths, use cases, and community support.

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Procedural Programming
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High-Level Languages
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- Java
- Python
- JavaScript
- Ruby
- Go
- Rust
- Others

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Low-Level Languages
- Machine Language
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High-Level Languages
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- Java
- Python
- JavaScript
- Ruby
- Go
- Rust
- Others

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- Back-end: Node.js, Django, Flask, Spring

Mobile Development
- Native: Swift, Kotlin
- Cross-platform: Flutter, React Native

Cloud Computing
- AWS, Azure, Google Cloud

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Artificial Intelligence and Machine Learning
- Frameworks: TensorFlow, PyTorch

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Future of Programming

Emerging fields like quantum computing, edge computing, and the growing importance of AI-driven development.

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Programming Languages

Low-Level Languages
- Machine Language
- Assembly Language

High-Level Languages
- C and C++
- Java
- Python
- JavaScript
- Ruby
- Go
- Rust
- Others

Each language has its strengths, use cases, and community support.

Programming Paradigms

Procedural Programming
- Focuses on procedures or routines
- Example languages: C, Pascal

Object-Oriented Programming (OOP)
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Functional Programming
- Emphasizes pure functions and immutability
- Example languages: Haskell, Scala, F#, JavaScript (functional features)

Logic Programming
- Based on formal logic
- Example languages: Prolog

Data Structures and Algorithms

Understanding data structures (arrays, linked lists, trees, graphs) and algorithms (sorting, searching, dynamic programming) is essential for efficient

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Programming Languages

Low-Level Languages
- Machine Language
- Assembly Language

High-Level Languages
- C and C++
- Java
- Python
- JavaScript
- Ruby
- Go
- Rust
- Others

Each language has its strengths, use cases, and community support.

Programming Paradigms

Procedural Programming
- Focuses on procedures or routines
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