Turiba University

(Jyoti)
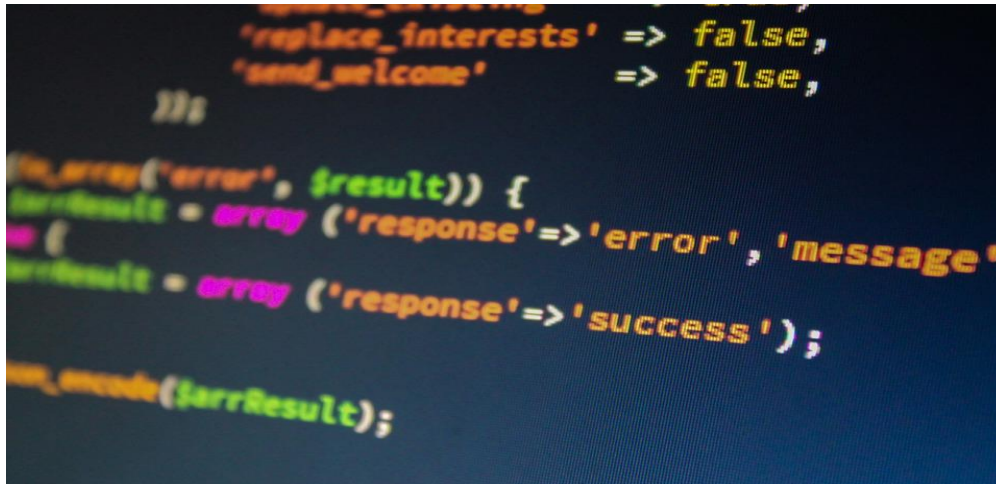
(History of Programming language)

Professional Bachelors Degree

Computer System

Author
Jyoti

Thesis Advisor
Jānis Pērkas

• **What is programming language**

A programming language is a set of rules, instructions, and syntax used to write code that tells a computer what to do. It acts as a bridge between humans and machines, websites, apps, and other t

echnology by translating human ideas into a format the computer can understand and execut

Function:

A programming language provides a specific vocabulary and grammatical rules for instructing a computer .

History

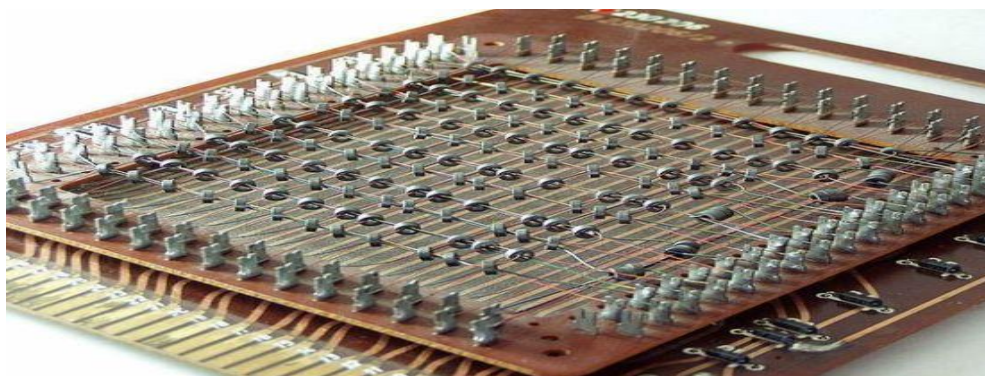FIRST GENERATION : **Low-Level Languages (1940s– 1950s)** The Dawn of

Programming: Directly interacting with hardware.

- 1st Generation: Machine Code (Binary: 1s and 0s). Challenge: Extremely error-prone and tedious.

2ND GENERATION: ASSEMBLY LANGUAGE (E.G., EDSAC ASSEMBLY, 1949). • Improvement: Uses mnemonics (like ADD, MOV) instead of just numbers, making it easier for humans. • Mechanism: Requires an Assembler to translate to machine code

The High-Level Revolution (Late 1950s–1970s) ☑

The Rise of 3rd Generation Languages (3GLs): Closer to human (English) language and portable across different machines. • Key Languages & Purpose: • FORTRAN (1957): The first widely successful high-level language, designed for mathematical computation. • LISP (1958): One of the oldest, designed for symbolic computation and AI research; introduced functional programming. • COBOL (1959): Designed for business, finance, and administrative systems; emphasized readability. • BASIC (1964): Created to make programming accessible to nonexperts

Structured & Object-Oriented Programming (1960s–1980s)

 • ALGOL (1960): Highly influential; promoted a clear, structured format.

• Pascal (1970): Designed as a teaching language to enforce structured Concep

• The Foundational Language:

• C (1972): Developed by Dennis Ritchie; a powerful, low-level highlevel language that became the foundation for operating systems (like Unix) and many later languages.

• C++ (1983): Extension of C that added OOP features ("C with Classes"); heavily used for system development and applications.

The Internet and Modern Eras (1990s–Present) 🌐

• New Paradigms & Web Development: Focus on ease of use, dynamic content, and large-scale applications.

• Python (1991): Emphasizes readability and simplicity; popular for data science, AI, and scripting. • Java (1995): Designed for portability ("Write once, run anywhere"); dominated enterprise software and Android development

Conclusion & Future Outlook ☺

• **Recap**: Programming languages have evolved from binary commands to highly abstract tools, each new language addressing the limitations of the last. • Key Takeaway: The "best" language depends on the task (e.g., Python for data, Java for enterprise, JavaScript for the web). The video, Most Popular Programming Languages - Rise & Fall (1960-2025), is relevant because it visually charts the changing popularity of programming languages

throughout history, which helps illustrate the major eras discussed in this presentation

THANK YOU