

## What is the Literate Programming (Knuth 1984)?

Literate programming, introduced by Donald Knuth in 1984, is a programming paradigm that emphasizes writing code in a way that is easily understandable by humans, blending code and documentation into a coherent narrative. Unlike traditional programming, where code is the primary focus and documentation is secondary, literate programming treats the program as an essay that explains the logic and purpose of the code in natural language, interspersed with code snippets.

The core idea is to create a document that explains how the code works and why specific design choices were made, while also containing the actual source code. Knuth's approach involves writing the explanation in a human-readable manner, followed by the code in the order that makes sense for the reader, not necessarily in the order required for the compiler. This method encourages developers to think about the program's structure and logic more clearly, leading to better-designed and more maintainable software.

Knuth developed a tool called WEB that supported this concept, combining documentation with Pascal code. The WEB system allowed code to be woven into a readable document for humans (documentation) or unwoven into a machine-readable code file for the compiler. Literate programming's goal is to create programs that are both executable by the computer and easily understood by humans, bridging the gap between writing code and writing clear documentation.