

УДК: 519.682

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## CONTINUOUS EVOLUTION OF PROGRAMMING LANGUAGES

A long history of programming languages and their diversity.

The devices we use in our daily lives work and perform their tasks using code specified by one of most programming languages. So, by using code, people can communicate with devices and give commands to the device itself to execute.

The total number of programming languages is estimated to be between 250 and 9,000. Why such a number and variety of programming languages when it was possible to create one language and modify it for all needs and tasks, and improve it year by year by adding new functions? Programmers went the other way, creating highly specialized languages suitable for one or several tasks, but not for all at once. To create a functional program, 3 to a dozen languages are needed to perform various functions and tasks from linking to databases to displaying visual effects and animations on the screen.

Programming languages and their types

In general, all programming languages, both new and old, can be divided into two main categories: low-level languages and high-level languages.

Low-level languages are used to record computer instructions in binary code, that is, machine code consisting of the digits 0 and 1. Examples of low-level languages are machine language and assembly language. Machine language is the first generation of computer programming that uses instructions in binary form that can be directly interpreted by a central processor without the need for translation. Assembler language is the second generation of low-level computer programming. This type of language allows programmers to write computer instructions using symbolic code rather than binary code consisting only of zeros and ones.

High-level languages are programming languages that allow software developers to write computer instructions using commands written in natural languages such as English. Each high-level language has its own set of rules and grammar for writing instructions for programming any digital device. These unique sets of rules are commonly referred to as the "syntax" of a particular programming language. Each high-level programming language uses its own built-in translation program, called a compiler.

The reasons for this variety of programming languages

Technology is constantly evolving and this is the first and perhaps most important reason why we have so many programming languages. As new technologies emerge and evolve, we need more and more tools that can create software for those technologies. A problem can be so unique that there are no existing solutions to handle it, so people or companies decide to create a new language themselves.

The second reason is that different kinds of developer work require different languages. As there are different kinds of software and platforms, each requiring different tools and capabilities, programmers can specialize in one or some of them. For example, game developers use C++ or C# to create video games for PCs and consoles, while web developers use HTML, CSS, JavaScript and PHP to create websites and web applications. Software developers use C++, C#, and Java to create desktop applications, business applications, and system software. These are not the only languages you can use to accomplish these tasks. These are just examples of some of the most commonly used.

The third reason why there are so many programming languages is that not all of them are suitable for developer's or company's goals. Different developers have different goals and priorities, and some programming languages are better for certain types of tasks than others. Some developers need a super-fast and productive programming language. They want Go or C++. These languages provide very fine-grained control over system resources such as memory and threads. Other developers want a programming language in which a program can be written in days, not weeks. That's for JavaScript. It's hard to find a more versatile language. JS can be used everywhere from the backend to web and mobile applications.

To sum up, the main reason why there are so many programming languages is because you need different tools for different tasks. Each programming language has certain features and characteristics that make it suitable for specific tasks.