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An overview of the programming languages.

A programming language is a notation system that serves to accurately describe programs or algorithms for a computer. Programming languages are artificial languages. From natural languages, they are distinguished by a limited number of "words" and very strict rules for recording commands (operators). Therefore, when they are used for their intended purpose, they do not allow a free interpretation of expressions that are characteristic of a natural language.

Currently, there are several hundred really used programming languages in the world. For each has its own area of application.

The first computers had to be programmed with binary machine codes. However, programming in this way is quite a laborious and complex task. To simplify this task, low-level programming languages began to appear, which allowed us to specify machine instructions in a more human-readable form. To convert them into binary code, special programs were created - translators.

An example of a low-level language is assembler. Low-level languages are focused on a specific type of processor and take into account its features, so to transfer the program in assembler to another hardware platform, it needs to be almost completely rewritten.

High-level languages are designed for the convenience and greater efficiency of applications, they are the exact opposite of low-level languages. Their distinguishing feature is the presence of semantic constructions, which describe the structures and algorithms of the programs in a capacious and brief manner. In low-level languages, their description on machine code would be too long and incomprehensible. High-level languages are platform-independent. Instead, the compiler performs the compiler function: they translate the program text into elementary machine instructions.

Among the developers of modern software the most popular the following major programming languages.

Cobol
ALGOL
Pascal
Java
C
C ++
C #
Objective C
Smalltalk
Delphi

This list of programming languages is far from complete, but these are the most popular languages, knowledge of which can be required from the programmer when hiring. All of them are high-level programming languages.

We would like to talk more about the high-level programming language - PASCAL.

Language Pascal (PASCAL) (1968-1971) - the language of procedural programming is the most popular for PCs, which is now successfully applied.

This language is remarkable because it is the first widely used language for structured programming (the first, strictly speaking, was Algol, but it did not get so widespread). For the first time the unconditional transition operator has ceased to play a fundamental role in controlling the order of execution of operators. In this language, strict type checking is also implemented, which made it possible to identify many errors at the compilation stage.

The basis of the Pascal language is the approach from the general problem to the private (simpler and smaller in scope).

The basic principles that Pascal possesses include:

- Structured programming, which is based on the use of subprograms and independent data structures;

- Programming "top-down" when the task is divided into simple, independently solvable tasks. Then the solution of the original problem is completely top-down.

The invention of high-level programming languages, as well as their continuous improvement and development, allowed a person not only to communicate with the machine and understand it, but to use computers for the most complicated calculations in the field of aircraft construction, rocket engineering, medicine and even economics.

Despite the fact that the current level of development of programming languages is at a high level, the trend of their development, as well as the development of information technologies in general, is such that it can be assumed that in the near future, human knowledge in this field will help bring to light Languages that can receive, process and transmit information in the form of thought, speech, sound or gesture.