into the kernel and placed in packages, exceeds 5500. The kernel (not in full composition) uses MATLAB and MathCad (starting from version 14, symbolic kernel MuPAD is used).

The main stages of development, additions in the Maple versions can be traced in [20], but it must be stated that machine learning, artificial intelligence, and data mining are not yet priorities for the system.

Wolfram Mathematica. Mathematica – is a computer algebra system developed by Wolfram Research company. It is one of the most powerful and widely used integrated multimedia-technology software package [6], [22]–[25]. Mathematica is recognized as a fundamental advancement in computer-aided design. It is one of the world's largest software packages by volume of modules and contains many new algorithms, as well as many unique developments. Mathematica lets users use virtually every analytic and numeric option, and it supports databases, graphics, and sound. Mathematica lets you work, analyze, manipulate, and graph almost any function of pure and applied mathematics. The system provides calculations with any specified accuracy; construction of two- and three-dimensional graphs, their animation, drawing geometric figures; importing, processing, exporting images and sound.

Mathematica has evolved from a program used primarily for mathematical and technical calculations to a tool widely used in various other areas [22], [23]. It is recognized among specialists as a development platform that fully integrates computation into the workflow from start to end, seamlessly guiding the user from initial ideas to deployed custom and industrial solutions.

Mathematica has a built-in Wolfram Language, including tools for creating programs and user interfaces, connecting external dlls, and parallel computing. The system's programming language is a typical interpreter; it's not designed to create executable files, but it incorporates the best of such programming languages as BASIC, Fortran, Pascal, and C. The Mathematica programming language supports all known paradigms: functional, structural, object-oriented, mathematical, logical, recursive, and more. It also includes visual-oriented programming tools based on the use of mathematical symbol templates, such as integral, summation, product, etc.; this language exceeds the usual general-purpose programming languages in its ability to perform mathematical and scientific computations.

Like all computer algebra, Mathematica is a type of software tool designed to manipulate mathematical formulas. Its main purpose is to automate the often tedious and in many cases difficult algebraic transformations. User works in the system with notebooks - NB documents, each document contains at least one section (cell). An explanation of the preference adopted here is a comparison with MS Excel, where the term cell is steadily and universally used. Those who have experience with Excel and Mathematica understand the difference and that in MS Excel it is cells, and in Mathematica notebooks it is more general objects.

NB documents can be opened, viewed, edited, saved, executed in their entirety, or individual cells. Notebook's interface contains many palettes (menus) and graphical tools for creating, editing, viewing documents, sending and receiving data to and from the core. Notebook includes one or several cells that can be grouped together as needed. Each cell contains at least one line of text or formulas, a digital audio or video object. Notebooks can be edited as text in any editor or in the Mathematica interface. The kernel performs the computations and can be run on the same computer as the interface, or on another computer connected through a network. Typically, the kernel is started when the computation begins. Cellss in Mathematica can be roughly divided into input and result (output) cells. In the input cells, the user enters or places commands, comments, multimedia objects, and they can be executable or otherwise; the executable cells are processed – the system returns results and displays them in output cells.

All versions of Mathematica include a powerful reference database, and the built-in Help, Documentation Center is an example of an NB document in itself. Without interrupting work on modules, you can clarify any function, option, directive, or service word; explore the capabilities of "live" examples to get and document results; and embed examples or code snippets from examples in your own code.

From the chronology of Mathematica versions. The first release of Mathematica was in June 1988, the basic concept being to create once and for all one system for different computations in a consistent and unified way. The basis for this was the creation of a new symbolic computer language for controlling, with a minimum number of inputs, the large number of objects involved in technical computation. Since its inception, all Wolfram Research Inc. developments have been regularly ranked first among IT achievements, highlighted by the media.

Release dates, additions, and updates to Mathematica are fully reflected in a number of publications and websites, e.g. [22], [23]. Experts note that the list of updates to Wolfram Mathematica reflects many completely new advances that have found application, development in other systems, and information technology. Wolfram Research Inc. developments are mostly characterized by interface continuity and the ability to use source code from previous versions.

About Mathematica features. A complete list of capabilities would require several times as much space as this presentation allows. For example, manual [24] has over 600 pages of content, but in fact it only outlines