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Research on the Optimization Effect of Algorithm in Computer Programming Language

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Abstract

With the further development of The Times, Computers are becoming more and more indispensable as a main tool in our daily life, Computer science was first developed to answer arithmetic questions, With the continuous progress of the technology, Better performance of computing power must be achieved by arithmetic support, Computer programming languages emerged because they can answer arithmetic that humans cannot answer, Computing is also the most basic part of the future development of computer programming language, thus as it can be seen, There are inextricably links between programming languages and arithmetic, The two are interdependent, Prosperity develops together, Therefore, the application of algorithm in the field of computer programming language is of great significance.Through a deep study of the algorithm, we find that it is a very logical and highly accurate computational method that plays a fundamental role in computer programming.Analysis of relevant algorithms and computer programming languages shows that they complement each other.For programming languages, if you want to yield the advantages of efficient operation and model building, it is necessary to give full play to the optimization function of algorithms.

Keywords

Algorithm; Computer; Programming Language.

1. Introduction

As the basis of programming and software development, the programming efficiency and development quality have a significant impact on whether the choice of computer programming language is reasonable. Computer programming languages are divided into many kinds, such as C language, C + +, Java, Python language, assembly language, etc. The correct use of computer programming language can effectively improve the efficiency of programming and software development, and effectively ensure the quality of programming and software development. With the overall economic and social development and fast innovation speed, computer technology has been applied in various industries in China. At present, people pay special attention to the quality of programming language optimization in the process of applying computer technology. The method of optimizing programming language can effectively improve the efficiency in various fields. The algorithm just plays a key role in the work of computer programming optimization.In order to better study the optimization effect of the algorithm on the computer programming language, the text will start from the introduction of the algorithm and the computer programming language connotation that is combined with the significance of the algorithm on the computer programming language, and demonstrate how to better use the algorithm on the optimization effect of te computer programming laguage.

2. Algorithm Introduction

Algorithm (Algorithm) refers to the accurate and comprehensive expression of the problem-solving method, which is a clear instruction of a series of problems, and the algorithm

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represents the solution mechanism to describe the problem with a systematic method. That is, the required output can be obtained in a limited time through the input to some specifications. If an algorithm is inadequate, or is not suitable for dealing with a problem, executing this algorithm will not solve the problem.Because different algorithms, different time, space, or efficiency can be utilized to achieve the same task, the quality of an algorithm can be judged by the spatial complexity and time complexity.

A command in the algorithm represents a method that starts from an initial condition and (empty) initial entry, and finally generates an output and ends in a final condition.The transformation of one condition to another is not necessarily absolute.Some methods are in the randomness algorithm, which also include some random results.

Defining a decision system as an "algorithm" is often a way for humans to shift decision responsibility. For many people, "algorithm" refers to a law that relies on objective experience to prove facts or data, and is a very complex system where it is difficult for humans to master the internal working mechanism and anticipate the execution of calculations.

3. Computer Programming Language

Computer programming language is the most basic tool for programming. It refers to the programming language that all computer systems can accept and process, with specific language specifications. Since the birth of an electronic computer, the computer language has gone through several stages: machine statements, assembly language and high-level language. In all programming design statements, only the source program written in machine statements can be directly understood and executed by the computer system, and the programs written in other process design statements must be "compiled" with language programs for electronic computing machine language programs to be recognized by the computer.

3.1. Specific Types of Computer Programming Language

3.1.1. Assembly Language

An Assembly language may refer to any low-level programming statement used as a part of a computer system, microprocessor, microcontroller, or any programmable element, or as a symbolic language.In various types of devices, the assembly language corresponds to a variety of different types of machine language command information combinations, and is converted into machine commands according to the assembly steps.Special assembly language and special machine programming language instruction set is opposite against each other, and can not be directly migrated between various platforms. Since the computer hardware could not yet recognize letter symbols, a special program was needed to convert the text into recognizable binary numbers on the computer. Because assembly language only use the machine language as a simple translation, essentially, it does not completely overcome the specificity of machine language, and because assembly language is related to the machine itself in writing environment, the promotion and transplantation are difficult, but they can still ensure the good operation of machine language, and because of its high readability and simplicity, assembly language is still the most common programming statement.Assembly languages are not as widely used for programming as other programming languages are.In today's practical use, it is often widely used in the lowest-level, hardware operations with more advanced requirements for program-optimized scenarios. Device drivers, embedded applications, and real-time execution programming, all require assembly statements.

3.1.2. C Language

The C language is a process-based, highly abstract general programming statement, mainly used in the underlying development technology. The C language can edit and manage low-level databases in the simplest way. Language C is a high-performance program statement that

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generates only a little machine language and works without the help of other work environments. Although C language possesses a lot of lower-level data processing capabilities, it retains its cross-platform nature, and C statement programs compiled in a standard specification can translate on a variety of computer platforms, containing job platforms such as embedded processors or supercomputers. Computer software in the process of reasonable use of C has more powerful advantages, first, the computing function is more complete; containing more than 30 types of data operators, it can use various ways of data processing according to the development needs, characteristics and requirements, and it can calculate data processing according to the software data information, specific situation, which are the main use of C language. Second, due to its relatively powerful functional library function, relevant technicians actively apply the advanced C language forms into the application software writing and development stage, thus, various forms of function library system can be designed according to the characteristics of various application software. In the compiler stage and the call stage, you can also intuitively match the functions with other class files through the compiler commands, which is the intuitive use of the functional components of the related content. Not only does it make the programming and models used in compile-time simpler, it can also reduce the incidence of errors and fault problems in programming.

3.1.3. Python Language

Python programming language is a statement with object-oriented features and high encapsulation characteristics, simply, it is an advanced programming statement, more advanced than C statements.When using Python statement, there is no need to call how to write application with its high portability. Python can be migrated to many platforms, due to its open nature. Based on open ideas, Python statements is applicable to many platforms.Python statements run straight from source without requiring an executable. The advantage of Python language is that Python, as a powerful programming statement, has long been widely used in computer science, and has incomparable advantages than other programming statements.With the increasing development of information acquisition and data mining information technology, Python has become the most important programming statement for data mining.In the field of data mining application, it also has the statement structure that is simple and easy to import the advantages of; Thanks to the large number of third-party data resource management libraries, Python is so powerful. To many extent, it depends on the support of third-party data resource management library; Combined with the enhancement of the properties, the Python programming language has a variety of ways and interfaces, and can be simpler and faster with other programming languages fusion; Dual realization of theory and engineering make Python capable of saving money on enterprise production costs and improving the research and development efficiency; Rich development toolset enables Python to program a single script, whichi is more suitable for the research and development of large software. Through the acquisition and data analysis of Python programming language, programming languages such as C + +, C, and Java can become the development language of Python and realize the collection of network data analysis.As an open source language, Python has a large number of data collection tools, which can expand the writing of models through C language, and can use a large number of third-party libraries. With its good flexibility, to achieve data collection, more accurate data content will be obtained through Python.

4. Optimization Algorithm of Computer Programming Language

4.1. Algorithms are a Critical Path to Optimize Computer Programming

With the long period of working experiences on computer programs, computer workers are easily to detect problems affected by a variety of reasons. If computer workers want to deal with computer problems effectively, they must carefully analyze the significance of

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mathematical calculation for this work, and formulate specific computer program optimization methods according to the specific optimization needs. First, if you find a computer program problem, you must timely and accurately find out the root cause of the problem, and then find the rules inside the computer program and form a reasonable mathematical model according to the situation. Second, you ought to make the mathematical calculation that has been designed in the early stage and has become the core basis to improve the efficiency of computer programming. Third, you should determine the detection time of computer programs, within the scope of the standard provisions, and when there are problems in the detection time, you must take the algorithm inspection as the main method at the root. In fact, these three operational methods are also the key steps to effectively deal with computer program problems, which can further show that the algorithm is an important way to optimize computer programs. Moreover, the key working principle is to integrate the basic algorithms and data structures to facilitate the generation of compliant basic procedures. Following the relevant regulations and reasonable use of algorithms can not only improve the logic of computer program editing, but is also conducive to the subsequent smooth development of computer program management, and is the main way to maximize the development of the information society.

4.2. Algorithm is an Important Guarantee to Test the Computer Steps

There are many more complicated steps in the process of realizing the computer programming work. By adopting the method of establishing targeted mathematical model, the algorithm in computer program can achieve the effect of simplifying steps. Under these conditions, a large number of mathematical algorithms are applied in programming work, which then effectively improve the programming of computer mathematical algorithm. Through the detailed classification of the theoretical content of the algorithm, it is not difficult to see that it mainly involves several different directions, such as the algorithm and mathematical computing theory. The method of effectively integrating the above contents can greatly improve the efficiency of calculation and writing.

5. How to Batter Play the Role of Algorithm in Computer Programming Language Optimization

5.1. Improve the Operation Efficiency of Computer Programming

Due to the rapid development of computer programming technology, programming is applied in different industries, and the quality of program products generally should meet corresponding requirements. In program design, programming personnel must establish the overall efficiency advantage of program execution, make the computer program and its products stand out better, which gives full play to the function of the algorithm, namely to realize the overall improve the overall efficiency of program execution through the programming design of logic structure, data structure optimization method.

Considering the internal development situation, many programmers with certain working experience began to study the algorithm method in programming methods, so that their programming can be effectively improved, which also provides a lot of basic experience data for the future computer program writing. However, for some new application areas, once the new functional code is generated, it also requires better support and optimization of the algorithm, which can also reflect the huge impact of the algorithm on the optimization of programming from the side.

5.2. Has the Function of Comprehensive and Deep Analysis

Computer programming language, usually used in every field of computer technology, has a lot of specialization and universality, which link the relevant personnel to the actual computer programming language writing and usage, improve the computer programming language to

meet the actual needs, and ensure that the computer software function to give a full play to the normal function. Through the optimized computer method in the big data analysis and processing, in-depth study of mathematical computing methods has the corresponding function in the process of scientific computing, and can realize the actual effect of mathematical scientific computing, which is conducive to the improvement of computer degree and functional effect.

When realizing the optimization application of the algorithm in the computer C language, the editing process must also realize the strong logical code arrangement. The calculation method of mathematics can well amend the disadvantages, so that it can significantly improve the algorithm in the process of computer programming, and there will be no potential problems.

At the same time, in order to reasonably use calculation and scientifically and reasonably understand all kinds of data analysis composition, various data analysis composition is used to exert a more intuitive impact through scientific and reasonable calculation. When comparing the access in the computer system with various data variables, it appears to be more fast and convenient, on which basis the memory space occupied in various data variables is greatly reduced, thus greatly improving the management efficiency of the electronic computer management system. In the scientific and effective mathematical data structure, more variables should be converted into memory based on the shared variables to increase the operation effect in space.

6. Conclusion

Through the above research, it can be clear that in practice, mathematical algorithms can solve many problems about mathematics in production and life. In the process of computer programming, the role of mathematical algorithm is irreplaceable, and the application of mathematical algorithm can accelerate the research speed of computer programming. At present, China's economic condition is improving rapidly, the speed of scientific and technological upgrading is accelerating. Not only is the computer development related to the national strength, but it also determines the direction of scientific and technological development. In order to promote a better development of society, it is necessary to make full use of computer programming and constantly optimize it, so as to improve the efficiency of computer operation and make the country develop better and faster.

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