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INFORMATION, ITS TYPES, PROPERTIES AND UNITS OF MEASUREMENT

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ABSTRACT

This article provides a comprehensive overview of the concept of information, its main types, key properties, and units of measurement. The fundamental properties of information-reliability, completeness, relevance, clarity, and accuracy-are discussed with special attention. The importance of these properties for the effective use of information is substantiated. In addition, issues related to measuring information are examined, and units such as bit, byte, kilobyte, and megabyte, as well as their relationships, are explained. This article serves as an important resource for studying the theoretical foundations of working with information and understanding modern information technologies.

KEYWORDS

Information, internet, message, data, computer, analog, discrete, digital

Introduction

Annotatsiya

Mazkur maqolada axborot tushunchasi, uning asosiy turlari, muhim xususiyatlari hamda o‘lchov birliklari keng yoritib beriladi. Axborotning asosiy xususiyatlari - ishonchlilik, to‘liqlik, dolzarblik, tushunarlilik va aniqlik kabi jihatlar alohida e’tibor bilan bayon etiladi. Bu xususiyatlar axborotdan samarali foydalanishda muhim ahamiyat kasb etishi asoslab beriladi. Bundan tashqari, axborotni o‘lchash masalalari ham ko‘rib chiqilib, bit, bayt, kilobayt, megabayt kabi o‘lchov birliklari va ularning o‘zaro bog‘liqligi tushuntiriladi. Ushbu maqola axborot bilan ishlashning nazariy asoslarini

o‘rganishda hamda zamonaviy axborot texnologiyalarini tushunishda muhim manba bo‘lib xizmat qiladi.

Kalit so’zlar: axborot, internet, xabar, ma’lumot, kompyuter, analog, diskret, raqamli

Аннотация

В данной статье подробно рассматривается понятие информации, её основные виды, важные свойства и единицы измерения. Основные свойства информации - достоверность, полнота, актуальность, понятность и точность - раскрываются с особым вниманием. Обосновывается важность этих свойств для эффективного использования информации. Кроме того, рассматриваются вопросы измерения информации, объясняются такие единицы измерения, как бит, байт, килобайт, мегабайт, а также их взаимосвязь.

Данная статья служит важным источником для изучения теоретических основ работы с информацией и понимания современных информационных технологий.

Ключевые слова: информация, интернет, сообщение, данные, компьютер, аналоговый, дискретный, цифровой

The development of human lifestyle is leading to the creation of new discoveries. Humanity faces various obstacles in the process of creating innovations, and while overcoming these obstacles, new inventions continue to emerge. We will not be mistaken if we say that the computer is the greatest discovery of the 20th century. The current era cannot be imagined without informatics. Information technologies have now covered all areas of our lives. The main resource of the informatics industry is information. Data management is especially important today. The demand for data management systems is increasing day by day. We have to work with large databases and information. The rapid changes taking place in the development of society also affect the field of informatics, which is part of it.

Informatics in a broad sense is the only field related to the processing, storage, and transmission of information using computers and telecommunications in all areas of human activity. This science studies the methods of collecting and processing information, the laws of the information process. The term computer science appeared and began to be used in the 60s of the 20th century. The role of computing technology and other technical means in the emergence and development of computer science is incomparable, because information is processed directly with the help of computing technology, and this science has its own, new, non-standard methods and methods. Thus, computer science is a science that deals with the search, collection, storage, processing and use of information in various aspects of human activity.

Information is considered information transmitted between people, and has subsequently become of great importance for planning and managing production, as well as for determining the level of economic development of living conditions. According to the forms of presentation, information is divided into continuous (analog) and discrete (discrete, digital) types. For example, weather and time are examples of continuous, that is, analog information.

The sources of information include natural objects - planets, stars, people, animals, plants, fields, forests, scientific experiments that develop science and technology, machines, technological processes. Information consumers include people, animals, plants, various measuring instruments. Therefore, information is a broad concept and includes information about all objects, beings, processes. Textual information is a very complex form of information, and in this form letters, numbers, mathematical symbols are also used. These symbols are not alone, but consist of several structures, their orderly arrangement.

Nowadays, the main carriers of information are air, water, electricity, ether, X-rays, and light. Air has been used to transmit information since ancient times, both in ways we know and in ways we don't. Speech has been transmitted for centuries as a result of air vibrations. In addition, as a result of air vibrations, sounds from the environment around us are transmitted - the chirping of birds, the roar of the sea, the rumble of thunder, the sounds of working machines and devices, and other sounds. Similar to air vibrations, a large amount of information is also transmitted through water vibrations.

Information is a set of information that we can perceive through all our sensory organs and the degree of their interconnection. Information is in the form of a message. A message is a type of information in the form of speech, text, images, tables, numerical data, and so on. A person receives information through the sensory organs as a result of external influence.

The most important characteristics of information include:

- the value of information;
- the completeness of information;
- the reliability of information;
- the importance of information;
- the understandability of information;

As many people know, the first computers (electronic computers) were created to perform calculations in atomic physics, aviation and rocketry. Later, their use in other areas: agriculture, industry, control systems, medicine, educational processes, etc. became the basis for the creation and rapid development of a new industry - the field of methods and means of electronic information processing.

All data elements processed by a computer are made up of "Bricks", that is, numbers 0 and 1 (bits). After that, the following chain is formed: bit-byte-file-directory-logical disk. A bit is the smallest unit of information. It comes from the English word "binary digit" and means "two-digit number". From this we can see that a bit represents information that gives the numbers 0 and 1. The value of a bit can be interpreted as off-on, no-yes, false-true. A computer works with specific bits in very rare cases. Usually a computer works with a combination of 8 bits, consisting of 0 and 1. These combinations are called bytes, 1 byte = 8 bits. 8 bits, that is, 1 byte, are enough to encode one character in a computer. In 1 byte, it is possible to encode 256 characters using binary code.

Currently, larger units of measurement of information than a byte are also used:

1 Kilobyte (1 Kb) = 1024 bytes
1 Megabyte (1Mb) = 1024 Kb
1 Gigabyte (1Gb) = 1024 Mb
1 Terabyte (1 Tb) = 1024 Gb

In conclusion, it can be said that information is one of the main assets of modern society. Although information has been of great importance throughout the development of mankind, its importance has

increased even more in the current age of information technologies. Today, information serves not only as a source of knowledge, but also as one of the main factors in economic development, scientific discoveries and social governance. Correctly receiving information, sorting it, processing it and using it effectively have become a necessary skill for every person. Because every day there is a huge flow of information, and it is important to distinguish the most important and reliable among them. At the same time, it is necessary to know whether the information is true or false.

Information units of measurement play an important role in determining the volume, storage and transmission of information. This is of great importance in understanding the effective and beneficial use of computer technologies, managing memory capacity and the speed of data transfer. In general, the study of information and its units of measurement is not only an important part of computer science, but also one of the necessary knowledge in everyday life. Every person should have a culture of working with information, evaluate it correctly and use it wisely. Only then can social development, technological progress and personal success be achieved.

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