



Basic Concept of Computer Science, On Information and Knowledge Process

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Abstract: This article describes the basic concept of computer science - the concept of "information". It is shown through examples that information and knowledge process are related, information chain creates knowledge.

Keywords: Information, information, cognitive process, information theory, information, informatics, sense organs, existence, cybernetics, mental cognition and emotional cognition, information characteristics, exchange, content.

Introduction:

What is the meaning of the word "information" that is familiar to us and is often used? Is information knowledge? Does a person participate in a continuous process of information exchange? we will try to find answers to these questions.

Although the word "information" is used in different languages and its meaning is interpreted differently, it is based on the Latin word informatio. It means "to explain", "to describe", "to receive a message". Its Uzbek version is understood as information. So what is the information? How are information and knowledge processes related to each other? Can a person live without information?

Main part:

The concept of information - it is known that information is understood differently in different fields. For example, information for a student is information obtained from science, for a seller it is the market price and quality of a product, and for an artist it is a drawing and a set of corresponding colors. That is, employees of different fields accept information related to their fields as information. So, people have always dealt with information. American Claude Shannon, one of the founders of information theory, recognizes information as the elimination of uncertainty in our knowledge of things. Norbert Wiener, the founder of cybernetics, sees information as representing the content of our adaptation of ourselves and our senses to the external world. There have been many attempts by scientists to define information as above. However, it is not possible to give a comprehensive scientific definition of the concept of information. Because information is the basic concept of informatics, it contains a lot of meaning. Sometimes information is also understood as a synonym for information or given words. Information is a general scientific concept in a broad sense and means the exchange of information (signals) between people, animate and inanimate nature, and between people and equipment.

The word "information" is derived from the Latin word "informational" and means information about expected or past events. In everyday life, every specialist works with different kinds of information. The concept of information is interpreted differently in several disciplines. For example,

in philosophy, information is used as a category that affects the human mind, reflects and drives objective reality. In cybernetics, computer science, information is used as a criterion for increasing knowledge about events or reducing uncertainty. In the activity of using computers, information is used as an object that performs management functions. The concept of information is inextricably linked with the concept of information, but not all information is information.

The concept of information is not a new concept in science, it is a pre-existing and constantly expanding concept. Our compatriot Abu Nasr Muhammad ibn Muhammad ibn Uzlug Tarkhan, who lived and created in the 9th-10th centuries under the pseudonym Farabi, emphasized that the process of knowledge consists of two stages - intellectual knowledge and emotional knowledge, they are interdependent and one does not exist without the other. emphasizes. These stages of knowledge cannot be formed without information, and therefore, information is the element that forms the basis of knowledge.

Evidence of the external world, which is recorded with the help of sense organs, various instruments and meters, is called data. If the information is considered necessary and useful in solving a specific task, such information is called information. So, data can be viewed as symbols or recorded observations that are, for one reason or another, not being used or being processed, stored, transmitted in technical means. Data becomes information if it can be used to reduce the abstraction of an event or event. Therefore, only the information that is found to be useful in practice, that is, that increases the user's knowledge, can be called information. For example, if you write phone numbers on a piece of paper in a certain order and show it to someone, he will take it as non-informative information. However, if the name of a specific enterprise or organization, its type of activity is written in front of each phone number, the previous information becomes information. As a result of solving a certain task, new information - knowledge, that is, systematized factual or tested messages, appears.

The possibility and effectiveness of using information is related to its main properties, such as representativeness, meaningfulness, sufficiency, actuality, timeliness, accuracy, reliability, stability:

- a) representativeness of information - its correct selection and formation for the purpose of adequately expressing the characteristics of the object;
- b) meaningfulness of information - represents the semantic volume (content);
- c) sufficiency (completeness) of information - means that it has a minimum, but sufficient content (set of indicators) for decision-making. Incomplete, i.e. insufficient, as well as redundant information for making the right decision reduces the effectiveness of the user's decisions;
- d) relevance of information - it is determined by the preservation of its value for management during the use of information, and its characteristics depend on the dynamics of change and the period of time that has passed since the appearance of this information;
- e) timeliness of information - means that it was received before the agreed time for solving the task;
- f) accuracy of information - determined by the degree of closeness of the received information to the real state of the object, process, event, etc.;
- g) reliability of information - determined by the property of information to express real existing objects with the necessary accuracy.

Since the problem of how to use information technology tools in receiving, storing, processing and transmitting information is the most important for informatics, the classification of information is also unique.

All information has the following characteristics:

1. Continuous generation;
2. Expression in letters and numbers;
3. Discrete character;

4. Ability to collect, transfer, process and perform other actions.

Summary:

We know that a person knows the firmness and flatness of a body through his hands, tastes through his tongue, smells through his nose, hears various sounds through his ears, sees various shapes, colors or sights through his eyes, that is, it receives various information through sense organs. That is, a person receives information from life in various forms: pictures, drawings, photographs, writings; light or sound; various waves; electrical and nerve impulses; magnetic records; mimicry; smell and taste; chromosomes that preserve the qualities and characteristics of organisms, etc. So, information is information about the state, properties, and other characteristics of things or processes in existence, reaching us through various means and our sense organs and affecting our consciousness, as well as the connection of this information with other information in our consciousness. Based on the above points, we can describe the information as follows:

By INFORMATION we mean the reflection or influence of existence in our mind through all our sense organs, the degree of dependence.

Since MAN is a part of existence, he also receives information about himself (pain, heat, fatigue, etc.). In general, all the information we have received so far is information, and when they are interconnected, they form knowledge. It should be noted that the message serves as a material form of information, and information is an intangible content created by a person based on this message. For example, if a shape or sound is an example of a message, this message causes the formation of information of two different contents in two people.

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