ICT concepts

Digital Revolution refers to the change in technology that has been going on in the last 40 years. We’ve moved from analog and mechanical technology to the digital technology. Information technology became part of our lives as it is embedded in almost all the products. There are 4 stages of digital revolution: firstly, the computers were huge, secondly, they became more compact, then the development of the Internet came into place and finally we’re moving towards cloud computing.

Computers and other digital devices work with such things as texts, numbers, sound, images, and video. Data refers to the symbols that represent people, events, things, and ideas. These terms are different in professional terminology. Data is defined as any raw facts or observations that describe a particular phenomenon. Data becomes information when it is presented in a format that people can understand and use. Data is used by machines, such as computers, information is used by humans. Information may be data that has been processed in some way. When we speak of data processing, the input is data, the output is useful information. **Data processing is a series of actions or operations that convert data into useful information.**

Digitization is the process of converting text, numbers, sounds, photos and video into data that can be processed by digital devices. They play vital role in our life by manipulating all kind of data.

Computers can be different. But the most common types are portable computers like a smartphone, tablet, laptop or netbook. Computer consists of physical parts called **computer hardware** that include **output devices** such as monitor, graphic cards, sound cards, **input devices** like mouse, keyboard. Other devices are computer data storage, hard disk drive (HDD), memory, motherboard, and so on, all of which are physical objects that are tangible. By contrast, **software** is the set of instructions that can be stored and run by hardware.

Speaking of memory in the computer, there are few main types of it. RAM (random access memory) is used to temporary store instructions and data. Sometimes virtual memory is also used to store parts of a program. ROM (rean-only memory) and EEPROM (electrically erasable programmable ROM) are used to store basic information for the computer on how to boot the operating system and perform start-up operations. ROM is non-volatile.

Another type of hardware to speak in detail is storage devices. There are magnetic, optical and solid state technologies. Magnetic technology uses magnetizing particles on the media surface. Optical technology stores data as light and dark spots on the surface of media. Solid state technology is a rewritable circuitry and doesn’t involve any moving parts and thus is much more durable.