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**РЕФЕРАТ**

з дисципліни “Англійська мова професійного спрямування”

на тему: **“Peripherals”**

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**1. Introduction**

A peripheral is a piece of computer hardware that is added to a computer in order to expand its abilities. The term peripheral is used to describe those devices that are optional in nature, as opposed to hardware that is either demanded or always required in principle. There are all different kinds of peripherals you can add your computer. The main disctinction among peripherals is the way they are connected to your computer. They can be connected internally or externally. A peripheral device provides input/output (I/O) functions for a computer and serves as an auxiliary computer device without computing-intensive functionality. Peripheral devices connect with a computer through several I/O interfaces, such as communications (COM), Universal Serial Bus (USB) and serial ports. A peripheral device may be classified as an internal or external peripheral device.

There are three different types of peripherals:

* Input, used to interact with, or send data to the computer (mouse, keyboards, etc.)
* Output, which provides output to the user from the computer (monitors, printers, etc.)
* Storage, which stores data processed by the computer (hard drives, flash drives, etc.)

**2. Peripherals**

A peripheral device is generally defined as any auxiliary device such as a [computer mouse](http://en.wikipedia.org/wiki/Computer_mouse) or [keyboard](http://en.wikipedia.org/wiki/Keyboard_(computing)), that connects to and works with the computer in some way. Other examples of peripherals are [expansion cards](http://en.wikipedia.org/wiki/Expansion_card), [graphics cards](http://en.wikipedia.org/wiki/Graphics_card), [image scanners](http://en.wikipedia.org/wiki/Image_scanner), [tape drives](http://en.wikipedia.org/wiki/Tape_drive), [microphones](http://en.wikipedia.org/wiki/Microphone), [loudspeakers](http://en.wikipedia.org/wiki/Loudspeaker), [webcams](http://en.wikipedia.org/wiki/Webcam), and [digital cameras](http://en.wikipedia.org/wiki/Digital_camera). RAM - [random access memory](http://en.wikipedia.org/wiki/Random_access_memory) - straddles the line between peripheral and primary component; it is technically a storage peripheral, but is required for every major function of a modern computer and removing the RAM will effectively disable any modern machine. Many new devices such as digital [watches](http://en.wikipedia.org/wiki/Watch), [smartphones](http://en.wikipedia.org/wiki/Smartphone) and [tablet computers](http://en.wikipedia.org/wiki/Tablet_computer) have interfaces which allow them to be used as a peripheral by a full computer, though they are not host-dependent as other peripheral devices are. According to the most technical definition, the only pieces of a computer not considered to be peripherals are the [central processing unit](http://en.wikipedia.org/wiki/Central_processing_unit), [power supply](http://en.wikipedia.org/wiki/Power_supply), [motherboard](http://en.wikipedia.org/wiki/Motherboard), and [computer case](http://en.wikipedia.org/wiki/Computer_case).

Usually, the word peripheral is used to refer to a device external to the computer case, like a scanner, but the devices located inside the computer case are also technically peripherals. Devices that exist outside the computer case are called external peripherals, or auxiliary components, Examples are: "Many of the external peripherals I own, such as my scanner and printer, connect to the peripheral ports on the back of my computer." Devices that are inside the case such as [internal hard drives](http://en.wikipedia.org/wiki/Internal_hard_drive) or CD-ROM drives are also peripherals in technical terms and are called internal peripherals, but may not be recognized as peripherals by laypeople.

In a [system on a chip](http://en.wikipedia.org/wiki/System_on_a_chip), peripherals are incorporated into the same [integrated circuit](http://en.wikipedia.org/wiki/Integrated_circuit) as the [central processing unit](http://en.wikipedia.org/wiki/Central_processing_unit). They are still referred to as "peripherals" despite being permanently attached to (and in some sense part of) their host processor.

Here are some common types of peripheries and basic examples:

1. Input (keybord, computer mouse, barcode reader, microphone, webcam, game controller, etc.);
2. Output (computer display, printer, projector, speaker);
3. Storage devices (floppy disk, flash drive, disk drive, CD/DVD drive);
4. Input/Output (modem, network interface controller).

Now I want to talk about the games listed above in more detail.

**Input device** is a [peripheral](http://en.wikipedia.org/wiki/Peripheral) (piece of [computer hardware](http://en.wikipedia.org/wiki/Computer_hardware) equipment) used to provide data and control signals to an [information processing system](http://en.wikipedia.org/wiki/Information_processing_system) such as a [computer](http://en.wikipedia.org/wiki/Computer) or other [information appliance](http://en.wikipedia.org/wiki/Information_appliance). Examples of input devices include [keyboards](http://en.wikipedia.org/wiki/Keyboard_(computer)), [mouse](http://en.wikipedia.org/wiki/Computer_mouse),[scanners](http://en.wikipedia.org/wiki/Image_scanner), [digital cameras](http://en.wikipedia.org/wiki/Digital_camera) and [joysticks](http://en.wikipedia.org/wiki/Joystick). Direct input is almost necessarily absolute, but indirect input may be either absolute or relative. For example, digitizing [graphics tablets](http://en.wikipedia.org/wiki/Graphics_tablet) that do not have an embedded screen involve indirect input and sense absolute positions and are often run in an absolute input mode, but they may also be set up to simulate a relative input mode like that of a [touchpad](http://en.wikipedia.org/wiki/Touchpad), where the stylus or puck can be lifted and repositioned.

 A **keyboard** is a [typewriter-style device](http://en.wikipedia.org/wiki/Typewriter#Keyboard_layouts:_.22QWERTY.22_and_others), which uses an arrangement of buttons or [keys](http://en.wikipedia.org/wiki/Push-button), to act as mechanical levers or electronic switches. Following the decline of [punch cards](http://en.wikipedia.org/wiki/Punch_card) and [paper tape](http://en.wikipedia.org/wiki/Paper_tape), interaction via [teleprinter](http://en.wikipedia.org/wiki/Teleprinter)-style keyboards became the main [input device](http://en.wikipedia.org/wiki/Input_device) for [computers](http://en.wikipedia.org/wiki/Computer). A keyboard typically has characters [engraved](http://en.wikipedia.org/wiki/Engraving) or [printed](http://en.wikipedia.org/wiki/Printing) on the keys and each press of a key typically corresponds to a single written [symbol](http://en.wikipedia.org/wiki/Symbol). However, to produce some symbols requires pressing and holding several keys simultaneously or in sequence. While most keyboard keys produce [letters](http://en.wikipedia.org/wiki/Letter_(alphabet)), [numbers](http://en.wikipedia.org/wiki/Numerical_digit) or signs ([characters](http://en.wikipedia.org/wiki/Character_(computing))), other keys or simultaneous key presses can produce actions or execute computer commands. In normal usage, the keyboard is used to type text and numbers into a [word processor](http://en.wikipedia.org/wiki/Word_processor), [text editor](http://en.wikipedia.org/wiki/Text_editor) or other programs.

A **mouse** is a [pointing device](http://en.wikipedia.org/wiki/Pointing_device) that detects [two-dimensional](http://en.wikipedia.org/wiki/Two-dimensional_space) motion relative to a surface. This motion is typically translated into the motion of a [pointer](http://en.wikipedia.org/wiki/Pointer_(graphical_user_interfaces)) on a [display](http://en.wikipedia.org/wiki/Computer_monitor), which allows for fine control of a [graphical user interface](http://en.wikipedia.org/wiki/Graphical_user_interface). Physically, a mouse consists of an object held in one's hand, with one or more buttons. Mice often also feature other elements, such as touch surfaces and "wheels", which enable additional control and dimensional input.

A **barcode reader** (or **barcode scanner**) is an electronic device for reading printed [barcodes](http://en.wikipedia.org/wiki/Barcode). Like a [flatbed scanner](http://en.wikipedia.org/wiki/Flatbed_scanner), it consists of a light source, a lens and a light sensor translating optical impulses into electrical ones. Additionally, nearly all barcode readers contain decoder circuitry analyzing the barcode's image data provided by the sensor and sending the barcode's content to the scanner's output port.

In computing, an **image scanner**—often abbreviated to just **scanner**, although the term is ambiguous out of context ([barcode scanner](http://en.wikipedia.org/wiki/Barcode_scanner), CAT scanner, etc.) — is a device that optically scans images, printed text, [handwriting](http://en.wikipedia.org/wiki/Handwriting), or an object, and converts it to a [digital image](http://en.wikipedia.org/wiki/Digital_image). Commonly used in offices are variations of the desktop flatbed scanner where the document is placed on a glass window for scanning. Handheld scanners, where the device is moved by hand, have evolved from text scanning "wands" to [3D scanners](http://en.wikipedia.org/wiki/3D_scanner) used for industrial design, reverse engineering, test and measurement, [orthotics](http://en.wikipedia.org/wiki/Orthotics), gaming and other applications. Mechanically-driven scanners that move the document are typically used for large-format documents, where a flatbed design would be impractical. Modern scanners typically use a [charge-coupled device](http://en.wikipedia.org/wiki/Charge-coupled_device) (CCD) or a [contact image sensor](http://en.wikipedia.org/wiki/Contact_image_sensor) (CIS) as the image sensor, whereas drum scanners, developed earlier and still used for the highest possible image quality, use a [photomultiplier](http://en.wikipedia.org/wiki/Photomultiplier) tube (PMT) as the image sensor. A rotary scanner, used for high-speed document scanning, is a type of drum scanner that uses a CCD array instead of a photomultiplier. Non-contact [planetary scanners](http://en.wikipedia.org/wiki/Planetary_scanner) essentially photograph delicate books and documents. All these scanners produce two-dimensional images of subjects that are usually flat, but sometimes solid; 3D scanners produce information on the three-dimensional structure of solid objects.

A **microphone** is an acoustic-to-electric [transducer](http://en.wikipedia.org/wiki/Transducer) or [sensor](http://en.wikipedia.org/wiki/Sensor) that converts [sound](http://en.wikipedia.org/wiki/Sound) in air into an [electrical signal](http://en.wikipedia.org/wiki/Electrical_signal). Microphones are used in many applications such as [telephones](http://en.wikipedia.org/wiki/Telephone), [hearing aids](http://en.wikipedia.org/wiki/Hearing_aid), [public address systems](http://en.wikipedia.org/wiki/Public_address_system) for concert halls and public events, [motion picture](http://en.wikipedia.org/wiki/Motion_picture) production, live and recorded [audio engineering](http://en.wikipedia.org/wiki/Audio_engineering), [two-way radios](http://en.wikipedia.org/wiki/Two-way_radio), [megaphones](http://en.wikipedia.org/wiki/Megaphone), [radio](http://en.wikipedia.org/wiki/Radio) and [television](http://en.wikipedia.org/wiki/Television) broadcasting, and in computers for recording voice, [speech recognition](http://en.wikipedia.org/wiki/Speech_recognition), [VoIP](http://en.wikipedia.org/wiki/Voice_over_IP), and for non-acoustic purposes such as ultrasonic checking or [knock sensors](http://en.wikipedia.org/wiki/Automatic_Performance_Control). Most microphones today use [electromagnetic induction](http://en.wikipedia.org/wiki/Electromagnetic_induction) (dynamic microphones), capacitance change (condenser microphones) or [piezoelectricity](http://en.wikipedia.org/wiki/Piezoelectricity) (piezoelectric microphones) to produce an electrical signal from air pressure variations. Microphones typically need to be connected to a [preamplifier](http://en.wikipedia.org/wiki/Preamplifier) before the signal can be amplified with an [audio power amplifier](http://en.wikipedia.org/wiki/Audio_power_amplifier) or recorded.

A **webcam** is a [video camera](http://en.wikipedia.org/wiki/Video_camera) that feeds or [streams](http://en.wikipedia.org/wiki/Streaming_media) its image in real time to or through a [computer](http://en.wikipedia.org/wiki/Computer) to [computer network](http://en.wikipedia.org/wiki/Computer_network). When "captured" by the computer, the video stream may be saved, viewed or sent on to other networks via systems such as the internet, and email as an attachment. When sent to a remote location, the video stream may be saved, viewed or on sent there. Unlike an [IP camera](http://en.wikipedia.org/wiki/IP_camera)(which connects using [Ethernet](http://en.wikipedia.org/wiki/Ethernet) or [Wi-Fi](http://en.wikipedia.org/wiki/Wi-Fi)), a webcam is generally connected by a [USB](http://en.wikipedia.org/wiki/USB) cable, or similar cable, or built into computer hardware, such as laptops. Their most popular use is the establishment of [video links](http://en.wikipedia.org/wiki/Videotelephony), permitting computers to act as [videophones](http://en.wikipedia.org/wiki/Videophone) or [videoconference stations](http://en.wikipedia.org/wiki/Video_conferencing). Other popular uses include security surveillance, [computer vision](http://en.wikipedia.org/wiki/Computer_vision), video broadcasting, and for recording social videos. Webcams are known for their low [manufacturing](http://en.wikipedia.org/wiki/Manufacturing) cost and flexibility, making them the lowest cost form of [videotelephony](http://en.wikipedia.org/wiki/Videotelephony). They have also become a source of security and privacy issues, as some built-in webcams can be remotely activated via [spyware](http://en.wikipedia.org/wiki/Spyware).

An **output device** is any piece of [computer hardware](http://en.wikipedia.org/wiki/Computer_hardware) equipment used to communicate the results of [data processing](http://en.wikipedia.org/wiki/Data_processing) carried out by an [information processing system](http://en.wikipedia.org/wiki/Information_processing_system) (such as a[computer](http://en.wikipedia.org/wiki/Computer)) which converts the electronically generated information into human-readable form.

A **monitor** or a **display** is an [electronic visual display](http://en.wikipedia.org/wiki/Electronic_visual_display) for [computers](http://en.wikipedia.org/wiki/Computer). The monitor comprises the display device, [circuitry](http://en.wikipedia.org/wiki/Electronic_circuit) and an enclosure. The display device in modern monitors is typically a [thin film transistor liquid crystal display](http://en.wikipedia.org/wiki/Thin_film_transistor_liquid_crystal_display) (TFT-LCD) thin panel, while older monitors used a [cathode ray tube](http://en.wikipedia.org/wiki/Cathode_ray_tube) (CRT) about as deep as the screen size. Originally, computer monitors were used for [data processing](http://en.wikipedia.org/wiki/Data_processing) while [television receivers](http://en.wikipedia.org/wiki/Television_receiver) were used for entertainment. From the 1980s onwards, computers (and their monitors) have been used for both data processing and entertainment, while televisions have implemented some computer functionality. The common [aspect ratio](http://en.wikipedia.org/wiki/Aspect_ratio) of televisions, and then computer monitors, has also changed from 4:3 to 16:9 (and 16:10).

A **printer** is a [peripheral](http://en.wikipedia.org/wiki/Peripheral) which makes a persistent human-readable representation of graphics or text on paper or similar physical media. The two most common printer mechanisms are black and white [laser printers](http://en.wikipedia.org/wiki/Laser_printer) used for common documents, and color [ink jet printers](http://en.wikipedia.org/wiki/Ink_jet_printer) which can produce high-quality photograph quality output.

A **projector** or **image projector** is an [optical](http://en.wikipedia.org/wiki/Optical) device that projects an image (or moving images) onto a surface, commonly a [projection screen](http://en.wikipedia.org/wiki/Projection_screen). Most projectors create an image by shining a light through a small transparent lens, but some newer types of projectors can project the image directly, by using lasers. A [virtual retinal display](http://en.wikipedia.org/wiki/Virtual_retinal_display), or retinal projector, is a projector that projects an image directly on the [retina](http://en.wikipedia.org/wiki/Retina) instead of using an external projection screen.

**Computer speakers**, or **multimedia speakers**, are [speakers](http://en.wikipedia.org/wiki/Loudspeaker) external to a computer, that disable the lower fidelity built-in speaker. They often have a low-power internal amplifier. The standard audio connection is a 3.5 mm (approximately 1/8 inch) stereo [phone connect or](http://en.wikipedia.org/wiki/Phone_connector_(audio)) often color-coded lime green (following the [PC 99](http://en.wikipedia.org/wiki/PC_System_Design_Guide#PC_99) standard) for computer [sound cards](http://en.wikipedia.org/wiki/Sound_card). A few use a [RCA connector](http://en.wikipedia.org/wiki/RCA_connector) for input. There are also [USB](http://en.wikipedia.org/wiki/Universal_Serial_Bus) speakers which are powered from the 5 [volts](http://en.wikipedia.org/wiki/Volt) at 500 milliamps provided by the USB port, allowing about 2.5 watts of output power. Computer speakers were introduced by [Altec Lansing](http://en.wikipedia.org/wiki/Altec_Lansing) in 1990.

**Computer data storage**, often called **storage** or **memory**, is a technology consisting of [computer](http://en.wikipedia.org/wiki/Computer) components and [recording media](http://en.wikipedia.org/wiki/Data_storage_device) used to retain digital [data](http://en.wikipedia.org/wiki/Data_(computing)). It is a core function and fundamental component of computers. The [central processing unit](http://en.wikipedia.org/wiki/Central_processing_unit) (CPU) of a computer is what manipulates data by performing computations. In practice, almost all computers use a [storage hierarchy](http://en.wikipedia.org/wiki/Memory_hierarchy), which puts fast but expensive and small storage options close to the CPU and slower but larger and cheaper options farther away. Often the fast, volatile technologies (which lose data when powered off) are referred to as "memory", while slower permanent technologies are referred to as "storage", but these terms are often used interchangeably. In the [Von Neumann architecture](http://en.wikipedia.org/wiki/Von_Neumann_architecture), the CPU consists of two main parts: [control unit](http://en.wikipedia.org/wiki/Control_unit) and [arithmetic logic unit](http://en.wikipedia.org/wiki/Arithmetic_logic_unit) (ALU).

A **floppy disk**, also called a **diskette**, is a [disk storage](http://en.wikipedia.org/wiki/Disk_storage) medium composed of a disk of thin and flexible [magnetic storage](http://en.wikipedia.org/wiki/Magnetic_storage) medium, sealed in a rectangular plastic carrier lined with fabric that removes dust particles. Floppy disks are read and written by a floppy disk drive(FDD). Floppy disks, initially as 8-inch (200 mm) media and later in 5¼-inch (133 mm) and 3½-inch (90 mm) sizes, were a ubiquitous form of data storage and exchange from the mid-1970s well into the 2000s.

A **USB flash drive** is a [data storage device](http://en.wikipedia.org/wiki/Data_storage_device) that includes [flash memory](http://en.wikipedia.org/wiki/Flash_memory) with an integrated [Universal Serial Bus](http://en.wikipedia.org/wiki/Universal_Serial_Bus) (USB) interface. USB flash drives are typically removable and rewritable, and physically much smaller than an [optical disc](http://en.wikipedia.org/wiki/Optical_disc). Most weigh less than 30 grams (1.1 oz). As of January 2013, drives of up to 512 [gigabytes](http://en.wikipedia.org/wiki/Gigabyte) (GB) were available. A one-[terabyte](http://en.wikipedia.org/wiki/Terabytes) (TB) drive was unveiled at the 2013 [Consumer Electronics Show](http://en.wikipedia.org/wiki/International_CES) and became available later that year. Storage capacities as large as 2 TB are planned, with steady improvements in size and price per capacity expected. Some allow up to 100,000 write/erase cycles, depending on the exact type of memory chip used, and have a 10-year [shelf storage time](http://en.wikipedia.org/wiki/Digital_permanence).

**Disk storage** is a general category of storage mechanisms where data are recorded by various electronic, magnetic, optical, or mechanical changes to a surface layer of one or more rotating disks. A disk drive is a device implementing such a storage mechanism and is usually distinguished from the disk medium. Notable types are the [hard disk drive](http://en.wikipedia.org/wiki/Hard_disk_drive)(HDD) containing a non-removable disk, the [floppy disk drive](http://en.wikipedia.org/wiki/Floppy_disk) (FDD) and its removable [floppy disk](http://en.wikipedia.org/wiki/Floppy_disk), and various [optical disc drives](http://en.wikipedia.org/wiki/Optical_disc_drive) and associated [optical disc](http://en.wikipedia.org/wiki/Optical_disc) media.

A **CD-ROM** is a pre-pressed optical [compact disc](http://en.wikipedia.org/wiki/Compact_disc) which contains [data](http://en.wikipedia.org/wiki/Computer_data_storage). The name is an [acronym](http://en.wikipedia.org/wiki/Acronym_and_initialism) which stands for "**Compact Disc**[**Read-Only Memory**](http://en.wikipedia.org/wiki/Read-Only_Memory)". Computers can read CD-ROMs, but cannot write on the CD-ROMs which are not writable or erasable. Until the mid-2000s, CD-ROMs were popularly used to distribute [software](http://en.wikipedia.org/wiki/Software) for computers and [video game consoles](http://en.wikipedia.org/wiki/History_of_video_game_consoles_(fourth_generation)). Some CDs, called [enhanced CDs](http://en.wikipedia.org/wiki/Enhanced_CD), hold both computer data and audio with the latter capable of being played on a [CD player](http://en.wikipedia.org/wiki/Compact_Disc_Player), while data (such as software or digital video) is only usable on a computer (such as [ISO 9660](http://en.wikipedia.org/wiki/ISO_9660) format PC CD-ROMs). The Yellow Book is the [technical standard](http://en.wikipedia.org/wiki/Technical_standard) that defines the format of CD-ROMs.

**DVD** (sometimes explained as "**digital video disc**" or "**digital versatile disc**") is a [digital](http://en.wikipedia.org/wiki/Digital_media) [optical disc](http://en.wikipedia.org/wiki/Optical_disc) [storage](http://en.wikipedia.org/wiki/Data_storage_device) format, invented and developed by [Philips](http://en.wikipedia.org/wiki/Philips), [Sony](http://en.wikipedia.org/wiki/Sony), [Toshiba](http://en.wikipedia.org/wiki/Toshiba), and [Panasonic](http://en.wikipedia.org/wiki/Panasonic) in 1995. DVDs can be played in multiple types of players, including [DVD players](http://en.wikipedia.org/wiki/DVD_player). DVDs offer higher storage capacity than [compact discs](http://en.wikipedia.org/wiki/Compact_disc) while having the same dimensions. Pre-recorded DVDs are mass-produced using [molding machines](http://en.wikipedia.org/wiki/Injection_molding_machine) that physically stamp data onto the DVD. Such discs are known as DVD-[ROM](http://en.wikipedia.org/wiki/Read-only_memory), because data can only be read and not written or erased. Blank recordable DVD discs ([DVD-R](http://en.wikipedia.org/wiki/DVD-R) and [DVD+R](http://en.wikipedia.org/wiki/DVD%2BR)) can be recorded once using a [DVD recorder](http://en.wikipedia.org/wiki/Optical_disc_drive) and then function as a DVD-ROM. Rewritable DVDs ([DVD-RW](http://en.wikipedia.org/wiki/DVD-RW), [DVD+RW](http://en.wikipedia.org/wiki/DVD%2BRW), and [DVD-RAM](http://en.wikipedia.org/wiki/DVD-RAM)) can be recorded and erased many times. DVDs are used in [DVD-Video](http://en.wikipedia.org/wiki/DVD-Video) consumer digital video format and in [DVD-Audio](http://en.wikipedia.org/wiki/DVD-Audio) consumer digital audio format, as well as for authoring DVD discs written in a special [AVCHD](http://en.wikipedia.org/wiki/AVCHD#AVCHD_as_distribution_format) format to hold [high definition](http://en.wikipedia.org/wiki/High-definition_video) material (often in conjunction with AVCHD format [camcorders](http://en.wikipedia.org/wiki/Camcorder)). DVDs containing other types of information may be referred to as DVD data discs.

**Input/output** or **I/O** is the communication between an [information processing system](http://en.wikipedia.org/wiki/Information_processing_system) (such as a [computer](http://en.wikipedia.org/wiki/Computer)) and the outside world, possibly a human or another information processing system. [Inputs](http://en.wikipedia.org/wiki/Information) are the signals or data received by the system and outputs are the signals or data sent from it. The term can also be used as part of an action; to "perform I/O" is to perform an [input or output operation](http://en.wikipedia.org/wiki/I/O_scheduling). I/O devices are used by a human (or other system) to communicate with a computer. For instance, a [keyboard](http://en.wikipedia.org/wiki/Computer_keyboard) or [mouse](http://en.wikipedia.org/wiki/Computer_mouse) is an input device for a computer, while [monitors](http://en.wikipedia.org/wiki/Computer_monitor) and [printers](http://en.wikipedia.org/wiki/Computer_printer) are output devices. Devices for communication between computers, such as [modems](http://en.wikipedia.org/wiki/Modem) and [network cards](http://en.wikipedia.org/wiki/Network_card), typically perform both input and output operations. Note that the designation of a device as either input or output depends on perspective. Mice and keyboards take physical movements that the human user outputs and convert them into input signals that a computer can understand; the output from these devices is the computer's input

A **modem** (**mo**dulator-**dem**odulator) is a device that [modulates](http://en.wikipedia.org/wiki/Modulation) signals to encode [digital information](http://en.wikipedia.org/wiki/Digital_information) and [demodulates](http://en.wikipedia.org/wiki/Demodulation) signals to decode the transmitted information. The goal is to produce a [signal](http://en.wikipedia.org/wiki/Signal_(electronics)) that can be transmitted easily and decoded to reproduce the original digital data. Modems can be used with any means of transmitting analog signals, from [light-emitting diodes](http://en.wikipedia.org/wiki/Light_emitting_diode) to [radio](http://en.wikipedia.org/wiki/Radio). A common type of modem is one that turns the [digital data](http://en.wikipedia.org/wiki/Digital_data) of a [computer](http://en.wikipedia.org/wiki/Computer) into modulated [electrical signal](http://en.wikipedia.org/wiki/Electrical_signal) for transmission over [telephone lines](http://en.wikipedia.org/wiki/Telephone_line) and demodulated by another modem at the receiver side to recover the digital data.

A **network interface controller** (**NIC**, also known as a network interface card, network adapter, LAN adapter, and by similar terms) is a [computer hardware](http://en.wikipedia.org/wiki/Computer_hardware) component that connects a [computer](http://en.wikipedia.org/wiki/Computer) to a [computer network](http://en.wikipedia.org/wiki/Computer_network). Early network interface controllers were commonly implemented on [expansion cards](http://en.wikipedia.org/wiki/Expansion_card) that plugged into a [computer bus](http://en.wikipedia.org/wiki/Computer_bus); the low cost and ubiquity of the [Ethernet](http://en.wikipedia.org/wiki/Ethernet) standard means that most newer computers have a network interface built into the [motherboard](http://en.wikipedia.org/wiki/Motherboard).

**3. Summary**

In conclusion, let’s summarize all highlights. Peripherals allow the introduction and exit of data. We can sort them as: input peripherals, output peripherals, input/output peripherals. Keyboard and mouse are the most important input peripherals. Cameras, webcams and scanners are input peripherals too. Monitor and printer are main output peripherals. Hard disk drives, memory sticks, re-writeable disks, and external connections (ethernet, modem) are input/output peripherals. Computer Peripherals will enable your computer to be a communication system. Those named above are among the more common ones but there are many others that are currently being used. Say you just bought a new computer and, with excitement, you unpack it and set it all up. The first thing you want to do is print out some photographs of the last family party. So it's time to head back to the store to buy a printer. A printer is known as a peripheral device. A computer peripheral is a device that is connected to a computer but is not part of the core computer architecture. The core elements of a computer are the central processing unit, power supply, motherboard and the computer case that contains those three components. Technically speaking, everything else is considered a peripheral device. However, this is a somewhat narrow view, since various other elements are required for a computer to actually function, such as a hard drive and random-access memory (or RAM). Most people use the term peripheral more loosely to refer to a device external to the computer case. You connect the device to the computer to expand the functionality of the system. For example, consider a printer. Once the printer is connected to a computer, you can print out documents. Another way to look at peripheral devices is that they are dependent on the computer system. For example, most printers can't do much on their own, and they only become functional when connected to a computer system. The term 'peripheral' also does not mean it is not essential for the function of the computer. Some devices, such as a printer, can be disconnected and the computer will keep on working just fine. However, remove the monitor of a desktop computer and it becomes pretty much useless. So after reading this article I think you understand all the importance of peripheral devices. The work with computers would be impossible without them.

**4. Summary translation**

На останок, давайте підсумуємо всі основні моменти. Периферійні пристрої забезпечують представлення та вивід інформації. Ми можемо поділити їх на: пристрої введення, виведення та введення/виведення. Клавіатура та мишка є найбільш важливими периферійними пристроями введення. Камери, веб-камери та сканери також є пристроями введення. Монітор і принтер є основними пристроями виведення. Жорсткі диски, карти пам'яті, повторно записувані диски і зовнішні підключення є пристроями введення/виведення. Комп’ютерні периферії включать до вашого комп’ютера систему зв’язку. Названі вище периферійні пристрої є одними з найбільш поширених, але є й багато інших, які в даний час використовуються. Припустимо, ви тільки що купили новий комп'ютер, і, з хвилюванням, розпакували його та встановили все це. Перше, що потрібно зробити, це роздрукувати кілька фотографій останньої сімейної вечірки. Ось і прийшов час повернутися в магазин, щоб купити принтер. Принтер відомий як периферійний пристрій. Комп’ютерною периферією називається пристрій, який підключено до комп'ютера, але який не є частиною основної архітектури комп'ютера. Основними елементами комп'ютера є центральний процесор, блок живлення, материнська плата і корпус комп'ютера, який містить ці три компоненти. Технічно кажучи, все інше вважається периферійними пристроями. Тим не менш, це кілька вузький погляд, відколи різні інші елементи є необхідними для комп'ютера для актуальних функції, наприклад, як жорсткий диск і пам'ять з довільним доступом (або RAM). Ви підключаєте пристрій до комп'ютера, щоб розширити функціональність системи. Наприклад, розглянемо принтер. Після того, як принтер підключений до комп'ютера, ви можете роздрукувати документи. Іншою точною зору на периферійні пристрої є те, що вони залежать від комп’ютерної системи. Наприклад, більшість принтерів не можуть зробити багато чого самі по собі, і вони стають функціональними тільки тоді, коли їх підключать до комп'ютерної системи. Термін «периферійний» також не означає, що це є суттєвим для функцій комп'ютера. Деякі пристрої, такі як принтер, можуть бути відключені і комп'ютер буде продовжувати працювати нормально. Тим не менш, якщо забрати монітор комп'ютера, то він стане досить таки некорисним, непотрібним. Таким чином, після прочитання цієї статті, я думаю, ви зрозумієте всю важливість периферійних пристроїв. Робота з комп'ютерами була б неможлива без них.

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**6. Glossary**

1. Hardware - the mechanical, magnetic, electronic, and electrical devices comprising a computer system, as the CPU, disk drives, keyboard, or screen.

2. Interface – epuipment or pragrams designed to communicate information from one system of computing devices or programs to another.

3. USB - Universal Serial Bus.

4. Serial port - a socket that can be used forconnecting devices that send data one bit at a time.

5. Hard drive - a disk drive containing a hard disk.

6. Flash drive - a very small, portable, solid-state hard drive that can be inserted into a USB port for storage and retrieval of data.

7. Expansion card – a card in a computer on which additional chips can be mounted to expand the computer’s capabilities.

8. Tape drive - a program-controlled device that reads data from or writes data on a magnetic tape which moves past a read-write head.

9. RAM - random access memory.

10. Digital watch - a watch that displays the time in numerical digits rather than by hands on a dial.

11. Smartphone - a device that combines a cell phone with a hand-held computer, typically offering Internet access, data storage, e-mail capability, etc.

12. Tablet computer - a very thin, portable computer, usually battery-powered, having a touchscreen as the primary interface and input device and lacking a physical keyboard and lid.

13. CPU - central processing unit

14. Power supply - a device that provides power to electric machines, generators, etc.

15. Motherboard - a rigid, slotted board upon which other boards that contain the basic circuitry of a computer or of a computer component can be mounted.

16. Chip - a tiny slice of semiconducting material, generally in the shape of a square a few millimeters long, cut from a larger wafer of the material, on which a transistor or an entire integrated circuit is formed.

17. Signal - an electrical quantity or effect, as current, voltage, or electromagnetic waves, that can be varied in such a way as to convey information.

18. Touchpad - a computer input device for controlling the pointer on a display screen by sliding the finger along a touch-sensitive surface: used chiefly in laptop computers.

19. Stylus - a pen-shaped device used on a display screen to input commands or handwritten text or drawings.

20. Word processor - a computer program or computer system designed for word processing.

21. Text editor - a program for editing stored documents, performing such functions as adding, deleting, or moving text.

22. Pointing device - an input device, as a mouse, stylus, or joystick, used to control movement of a cursor or pointer.

23. Graphical user interface - a software interface designed to standardize and simplify the use of computer programs, as by using a mouse to manipulate text and images on a display screen featuring icons, windows, and menus.

24. Barcode - a series of lines of varying width, printed, as on a container or product, that can be read by an optical scanner to determine charges for purchases, destinations for letters, etc.

25. Flatbed scanner - a type of optical scanner having a flat, stationary surface on which a page is scanned by a moving head.

26. CAT scanner - a specialized x-ray instrument that displays computerized cross-sectional images of the body, providing a noninvasive means of visualizing the brain, lungs, liver, spleen, and other soft tissue.

27. Desktop - the primary display screen of a graphical user interface, on which various icons represent files, groups of files, programs, or the like, which can be moved, accessed, added to, put away, or thrown away in ways analogous to the handling of file folders, documents, notes, etc., on a real desk.

28. Industrial design - the art that deals with the design problems of manufactured objects, including problems of designing such objects with consideration for available materials and means of production, of designing packages, bottles, etc., for manufactured goods, and of graphic design for manufactured objects, packages, etc.

29. Orthotics - a branch of medicine dealing with the making and fitting of orthotic devices.

30. CCD - charge-coupled device.

31. CIS - contact image sensor.

32. PMT - photomultiplier tube.

33. Transducer - a device that receives a signal in the form of one type of energy and converts it to a signal in another form.

34. Hearing aid - a compact electronic amplifier worn to improve one's hearing, usually placed in or behind the ear.

35. VoIP - voice over Internet protocol.

36. Preamplifier - a device in the amplifier circuit of a radio or phonograph that increases the strength of a weak signal for detection and further amplification.

37. Network - a system containing any combination of computers, computer terminals, printers, audio or visual display devices, or telephones interconnected by telecommunication equipment or cables: used to transmit or receive information.

38. Internet - a vast computer network linking smaller computer networks worldwide.

39. Email - a system for sending messages from one individual to another via telecommunications links between computers or terminals.

40. IP - internet protocol.

41. Ethernet - a local-area network protocol featuring a bus topology and a 10 megabit per second data transfer rate.

42. Wi-Fi - a system of accessing the internet from remote machines such as laptop computers that have wireless connections.

43. Laptop - a portable computer, usually battery-powered, small enough to rest on the user's lap and having a screen that closes over the keyboard like a lid.

44. Videophone - a telephone that incorporates both voice and video capabilities.

45. Spyware - software that is installed surreptitiously and gathers information about an Internet user's browsing habits, intercepts the user's personal data, etc.

46. TFT-LCD - thin film transistor liquid crystal display.

47. CRT - cathode ray tube.

48. Laser printer - a high-speed printer that uses a laser to form dot-matrix patterns and an electrostatic process to fuse metallic particles to paper a page at a time: capable of producing a variety of character fonts, graphics, and other symbols.

49. Ink-jet printer - a high-speed typing or printing process in which charged droplets of ink issuing from nozzles are directed onto paper under computer control.

50. Laser - a device that produces a nearly parallel, nearly monochromatic, and coherent beam of light by exciting atoms to a higher energy level and causing them to radiate their energy in phase.

51. RCA - Radio Corporation of America.

52. Control unit - the part of a CPU that interprets the instructions in programs and directs the operation of the entire system.

53. ALU - arithmetic logic unit.

54. FDD - floppy disk drive.

55. Flash memory - a type of reprogrammable memory that retains information even with the power turned off.

56. Optical disc - a grooveless disk on which digital data, as text, music, or pictures, is stored as tiny pits in the surface and is read or replayed by a laser beam scanning the surface.

57. TB - terabyte.

58. HDD - hard disk drive.

59. CD-ROM - Compact Disc Read-Only Memory.

60. DVD - digital video disc.

61. AVCHD - Advanced Video Codec High Definition.

62. Modem - modulator-demodulator.

63. Light-emitting diode - a diode of semiconductor material, such as gallium arsenide, that emits light when a forward bias is applied, the colour depending on the semiconductor material: used as off/on indicators LED.

64. NIC - network interface controller.

65. COM - communications.

66. Projector - an apparatus for throwing an image on a screen, as a motion-picture projector or magic lantern.

67. Speaker - an electroacoustic device, often housed in a cabinet, that is connected as a component in an audio system, its function being to make speech or music audible.

68. Computer vision - a robot analogue of human vision in which information about the environment is received by one or more video cameras and processed by computer: used in navigation by robots, in the control of automated production lines, etc.

69. Broadcasting - the act of transmitting speech, music, visual images, etc., as by radio or television.

70. Webcam - a digital camera whose images are transmitted, often in real time, over the World Wide Web.