

# Types of Computer

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# Plan

1. Types of computer
2. Grammar revision
  - Grammar tenses (Present/Past/Future Simple)
  - The degrees of comparison of adjectives

# Words

## Утверждение

I YOU WE THEY	listen drive speak do
HE SHE IT	listens drives speaks does

## Вопрос

DO	I YOU WE THEY	listen drive speak swim play walk do
DOES	HE SHE IT	listens drives speaks swims plays walks does

## Отрицание

DO	I YOU WE THEY	listen drive speak swim play walk do
DOES	HE SHE IT	listens drives speaks swims plays walks does

## Утвердительная форма

... + II ф.г.л.	
I lived in Ukraine. Я жил в Украине.	
He	lived
She	
It	
We	
You	
They	

## Вопросительная форма

Did...+ I ф.г.л.?	
Did you live in Ukraine? Вы жили в Украине?	
He	live?
She	
It	
We	
You	
They	

## Отрицательная форма

...did not + I ф.	
I didn't live in Ukraine. Я не жил в Украине.	
He	live
She	
It	
We	
You	
They	

## FUTURE SIMPLE AFFIRMATIVE

Subject	I	will	(I'll)	go do see play fight tell read
	you		(you'll)	
	he		(he'll)	
	she		(she'll)	
	it		(it'll)	
Object	you	(you'll)		
	we	(we'll)		
	they	(they'll)		

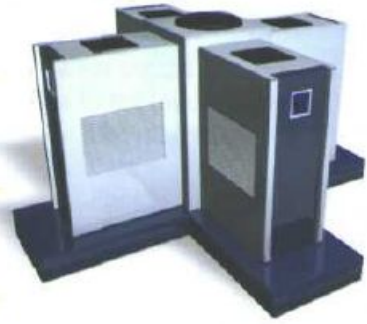
Слово	Транскрипция	Перевод
a mainframe	'meɪnfreɪm	большая высокопроизводительная ЭВМ
powerful	'paʊəfʊl	мощный
to process	'prəʊses	обрабатывать
to store	stɔː	хранить
data	'deɪtə	данные
simultaneous	sɪmə'lteɪnjəs	синхронный, одновременный
over a network	'əʊvəə 'netwɜːk	по сети
large-scale	'lɑːdʒ 'skeɪl	масштабный, массовый
a desktop PC	'desktp 'piːsiː	настольный персональный компьютер
a processing unit (CPU)	'prəʊsesɪŋ 'juːnɪt	процессор
a keyboard	'kiːbɔːd	клавиатура
a workstation	'wɜːksteɪʃn	рабочая станция, АРМ
designed	dɪ'zaɪnd	предназначен
a case	keɪs	ящик, кейс, чехол
a laptop	'læptɒp	ноутбук
lightweight	'laɪtweɪt	лёгкий, легковесный
to transport	'trænspɔːt	перевозить
memory capacity	'meməri keɪ'pæsɪtɪ	объём памяти
a disk drive	disk draɪv	дисковод
portable	'pɔːtəbl	портативный, переносной
a touchpad	'tʌtʃ.pæd	сенсорная панель
a pointer, a cursor	'pɔɪntə, 'kɜːsə	курсор
connectivity	kənek'tɪvɪtɪ	подключение, сопряжение (устройств)
peripheral	pə'fɪərəl	периферия, внешнее устройство
a memory card	'meməri kɑːd	карта памяти
a battery pack	'bætəri pæk	аккумулятор
an electrical outlet	ɪ'lektrɪkəl 'aʊtlet	электрическая розетка
a tablet PC	'tæblɪt 'piːsiː	планшетный компьютер

digital	'dɪdʒɪtl	цифровой
to rotate	rəʊ'teɪt	поворачивать, вращать
handwriting	'hændraɪtɪŋ	почерк
editable	'edɪtəbl	доступный для редактирования
detached	dɪ'tætʃt	отделённый
voice recognition	vɔɪs rekəg'nɪʃn	распознавание речи
versatile	'vɜːsətəɪl	многофункциональный
a personal digital assistant (PDA)	pɜːsnl 'dɪdʒɪtl ə'sɪstənt (piːdiːeɪ)	карманный персональный компьютер (КПК)
tiny	'taɪnɪ	миниатюрный
to refer	rɪ'fɜː	относиться к
a hand-held device	'hændheld dɪ'vaɪs	портативное устройство
a palmtop	'pɑːmtɒp	кпк, "наладонник"
a pocket PC	'pɒkɪt 'piːsiː	карманный компьютер
a stylus	'staɪləs	стилус, цифровая ручка
to select items	sɪ'lekt 'aɪtəmz	выбирать элементы
to incorporate	ɪn'kɔːpəɪt	содержать, включать
a character	'kærɪktə	символ (буква, цифра, спецсимвол)
a software	'sɒftweər	программа
a reminder	rɪ'maɪndə	напоминалка
to access	'ækses	иметь доступ к
via	'vaɪə	посредством, при помощи
wireless technology	'waɪələs tek'nɒlədʒɪ	технология беспроводной связи
a wearable computer	'weərəbl kəm'pjʊ:tə	миниатюрный компьютер, который носят на теле
a hands-free operation	hændz-frɪː əpə'reɪʃn	действие без помощи рук
equipped	ɪ'kwɪpt	оборудован
voice-activated	vɔɪs-æktɪveɪtɪd	управляемый голосом
voice mail	vɔɪs-meɪl	голосовая почта

## STARTER

1

Name these different types of computers. Then match the possible users below to each type. Justify your choice.



a



b



c



d



e



f



g

Fig 1

- 1 Marketing research person collecting data from the general public
- 2 large company processing payroll data
- 3 travelling salesperson giving marketing presentations
- 4 large scientific organisation processing work on nuclear research
- 5 businessperson keeping track of appointments while travelling
- 6 graphic designer
- 7 secretary doing general office work

# Describe

A computer is a device that takes in data, processes it according to a program, and then outputs the processed data in some form. There is an increasing variety of computers of different sizes and designed for different purposes. One of the most important considerations when buying a computer is deciding how it is going to be used.

Computers can be divided into three broad categories: mainframe computers(mainframes),minicomputers (minis), and microcomputers (micros). Mainframes are large, powerful, expensive computers that are operated by a team of professionals and are designed to be used by many people at the same time. The most powerful mainframes are sometimes called supercomputers. Minicomputers are really cut-down mainframes and are no longer very common.

The most common type of computer is the microcomputer. Microcomputers are sometimes called personal computers. The abbreviation PC was originally used for microcomputers produced by the IBM Corporation, but it is now sometimes used for other types of personal computer. However, microcomputers produced by Apple Computers Incorporated are not normally referred to as PC.

There is a wide variety of microcomputers, but two common types are desktop computers and portables. Desktops are small enough to sit on an office desk and are relatively cheap. They are becoming cheaper and more powerful and are often used running multimedia programs, i.e. programs that contain some combination of text, sound, high quality graphics, animation and video. Multimedia computers need to have a sound facility and usually have a CD-ROM or DVD drive.

There is an increasing variety of portable micros that can be grouped according to their size. They can usually be powered from batteries and are useful in many different situations. However, as computer gets smaller, it becomes increasingly difficult to use them with a keyboard. One of the reasons that notebook portables are popular is because their screens and keyboards are just big enough to use comfortably for word processing. They can also be powered enough to be used for multimedia.

The most common types of computers are indicated here on the blackboard, although there are other types that are not mentioned here and new types are being developed.

# Types of Computer

## Make notes

Electronics can be added to desktop computers by plugging in expansion cards (electronic circuit boards that can be plugged into special sockets called expansion slots). It is also possible to build all the main parts of a computer into one electronic integrated circuit packaged as a single electronic chip (the common name for a microchip; an electronic integrated circuit in a small package) i.e. “the computer on a chip”. This enables computers to be built into other devices including household devices such as washing machines and fridges and to be incorporated into plastic cards i.e. smart cards, which are able to store information such as health records, drivers’ licences, bank balances, etc. Devices that include a computer circuit are commonly referred to as smart devices. A multimedia computer can process different forms of data including text, graphics, audio (sound), animation and video. This enables computer systems to be used for a combination of education and entertainment, sometimes referred to as edutainment.

Supercomputers

Mainframes

Minicomputers

Desktops

Microcomputers  
(personal computers)

Portables

laptops notebooks  
subnotebooks  
handhelds palmtops

A **mainframe** is the most *powerful* type of computer. It can *process* and *store* large amounts of *data*. It supports multiple users at the same time and can support more *simultaneous* processes than a PC. The central system is a large server connected to hundreds of terminals *over a network*. Mainframes are used for *large-scale* computing purposes in banks, big companies and universities.

A **desktop PC** has its own *processing unit* (or CPU), monitor and *keyboard*. It is used as a personal computer in the home or as a *workstation* for group work. Typical examples are the IBM PC and the Apple Macintosh. It's *designed* to be placed on your desk. Some models have a vertical *case* called a tower.

A **laptop** (also called a **notebook PC**) is a *lightweight* computer that you can *transport* easily. It can work as fast as a desktop PC, with similar processors, *memory capacity*, and *disk drives*, but it is *portable* and has a smaller screen. Modern notebooks have a TFT (Thin Film Transistor) or a LCD (Liquid Crystal Display) screen that produces very sharp images.

Instead of a mouse, they have a *touchpad* built into the keyboard - a sensitive pad that you can touch to move the *pointer* on the screen.

They offer a lot of *connectivity* options: USB (Universal Serial Bus) ports for connecting *peripherals*, slots for *memory cards*, etc.

They come with *battery packs*, which let you use the computer when there are no *electrical outlets* available.

A **tablet PC** looks like a book, with an LCD screen on which you can write using a special *digital pen*. You can fold and *rotate* the screen 180 degrees. Your *handwriting* can be recognized and converted into *editable* text. You can also type at the *detached* keyboard or use *voice recognition*. It's mobile and *versatile*.

A **personal digital assistant** or **PDA** is a *tiny* computer which can be held in one hand. The term PDA *refers* to a wide variety of *hand-held devices*, *palmtops* and *pocket PCs*.

For input, you type at a small keyboard or use a *stylus* - a special pen used with a touch screen *to select items*, draw pictures, etc. Some models *incorporate* handwriting recognition, which enable a PDA to recognize *characters* written by hand. Some PDAs recognize spoken words by using voice recognition *software*.

They can be used as mobile phones or as personal organizers for storing notes, *reminders* and addresses. They also let you *access* the Internet *via wireless technology*, without cables.

A **wearable computer** runs on batteries and is worn on the user's body, e.g. on a belt, backpack or vest; it is designed for mobile or *hands-free operation*. Some devices are *equipped* with a wireless modem, a small keyboard and a screen; others are *voice-activated* and can access e-mail or *voice mail*.

# From mainframes to wearable computers

# Audio (B.E. for computing)



## Listening: Buying a computer 1

### Task 3

Listen to Part 1 of this conversation between a shop assistant and a customer. Tick (✓) the correct answers to these questions.

1 The customer wants a computer for:

- writing
- graphics
- games
- Internet
- video

2 A multimedia computer provides:

- sound
- graphics
- animation
- telephone
- video

### Task 4

Listen to Part 2 of the conversation. In column A, tick the hardware items named.

A	B	Device
<input type="checkbox"/>	<input type="checkbox"/>	multimedia computer
<input type="checkbox"/>	<input type="checkbox"/>	multimedia notebook
<input type="checkbox"/>	<input type="checkbox"/>	subnotebook
<input type="checkbox"/>	<input type="checkbox"/>	laptop

A	B	Device
<input type="checkbox"/>	<input type="checkbox"/>	handheld
<input type="checkbox"/>	<input type="checkbox"/>	printer
<input type="checkbox"/>	<input type="checkbox"/>	monitor
<input type="checkbox"/>	<input type="checkbox"/>	modem

### Task 5

Listen again to the conversation. In Column B, tick the items the assistant recommends.



## Reading: Types of computer

### Task 6

Study these details of different types of computer. Find the answers to these questions. Which type of computer is:

- 1 the most common?
- 2 small enough for a pocket?
- 3 the most common portable?
- 4 used by many people at the same time?
- 5 used like mainframes?
- 6 also called a handheld computer?
- 7 the most powerful?
- 8 not suitable for a lot of typing?

Types of computer	Notes
Mainframes	Large, powerful, expensive. Multi-user systems – used by many people at the same time. Used for processing very large amounts of data. The most powerful mainframes are called <i>supercomputers</i> .
Minicomputers	Used like mainframes. Not as big, powerful, or expensive as mainframes. Less common now because microcomputers have improved.
Microcomputers or Personal computers (PCs)	The most common type of computer. Smaller, cheaper, and less powerful than mainframes and minicomputers.

Types of portable	Notes
Laptop	About the size of a small typewriter. Less common now because smaller and lighter portables are available.
Notebook	About the size of a piece of writing paper. The most common type of portable.
Subnotebook	Not quite as big as notebooks. Can fit into a jacket pocket.
Handheld or Palmtop	Small enough to fit into the palm of one hand. Not easy to type with because of their size. Often used as personal organizers.

## Language work: Comparison

Study this comparison of three types of computer.

	Mainframes	Minicomputers	Microcomputers
Size	+++	++	+
Power	+++	++	+
Cost	+++	++	+

We compare things using adjectives in two ways.

- 1 We can compare one type of computer with another.

*Minicomputers are **bigger than** microcomputers.*

*Mainframes are **more expensive than** microcomputers.*

For negative comparisons, we can say:

*Microcomputers are **not as big as** minicomputers.*

*Microcomputers are **not as powerful as** mainframes.*

- 2 We can compare mainframes to all other types of computer.

*Mainframes are **the biggest** computers.*

*Mainframes are **the most powerful** computers.*

*Mainframes are **the most expensive** computers.*

With short adjectives (*big, small, fast*), we add *-er* and *-est* (*faster, fastest*).

With longer adjectives (*powerful, expensive*), we use *more/less* and *the most/the least* before the adjective (*more powerful, the most powerful*).

Remember these two exceptions:

*good – better – the best      bad – worse – the worst*

## Exercise 1 - adjectives

### Task 7

Choose the correct adjective. Then fill in the gaps with the correct form of the adjective.

- 1** *light/heavy* Laptops are <sup>1</sup>\_\_\_\_\_ than desktop computers, but <sup>2</sup>\_\_\_\_\_ than notebooks.
- 2** *large/small* The mainframe is the <sup>3</sup>\_\_\_\_\_ type of computer. A minicomputer is <sup>4</sup>\_\_\_\_\_ than a microcomputer.
- 3** *common/good* Personal computers are <sup>5</sup>\_\_\_\_\_ than mainframes but mainframes are <sup>6</sup>\_\_\_\_\_ than personal computers at processing very large amounts of data.
- 4** *powerful/expensive* Minicomputers are <sup>7</sup>\_\_\_\_\_ than mainframes but they are also <sup>8</sup>\_\_\_\_\_.
- 5** *fast/cheap* New computers are <sup>9</sup>\_\_\_\_\_ and sometimes <sup>10</sup>\_\_\_\_\_ than older machines.
- 6** *powerful/expensive* Laptops are often <sup>11</sup>\_\_\_\_\_ than PCs but they are not as <sup>12</sup>\_\_\_\_\_.

## Exercise 2 - description

### Aids to communication

Here are some phrases to use when agreeing or disagreeing with someone.

A: *(I think) The best computer for a \_\_\_\_\_ is \_\_\_\_\_.*

B: *I agree. / I think so too.*

C: *I disagree. / I don't think so.*

### Problem-solving

#### Task 8

In pairs, decide what sort of computer is best for each of these users.

- 1 John Wilmott is a salesperson and he spends a lot of time visiting customers. He wants a computer to carry with him so he can access data about his customers and record his sales.
- 2 Pat Nye is a personnel officer. She needs a computer to keep staff records and to keep a diary of appointments. She also needs a computer for writing letters.
- 3 The University of the North needs a computer to look after its accounts, its network, the records of all students and staff, and to help with scientific research.
- 4 The James family want a computer for entertainment, writing letters, the Internet, and for calculating tax.

## Exercise 3 - adjectives

### Writing

#### Task 9

Put the words in brackets into the correct form to make an accurate description of sizes of computers.

There are different types of computer. The *(large)* <sup>1</sup>\_\_\_\_\_ and *(powerful)* <sup>2</sup>\_\_\_\_\_ are mainframe computers. Minicomputers are *(small)* <sup>3</sup>\_\_\_\_\_ than mainframes but are still very powerful.

Microcomputers are small enough to sit on a desk. They are the *(common)* <sup>4</sup>\_\_\_\_\_ type of computer. They are usually *(powerful)* <sup>5</sup>\_\_\_\_\_ than minicomputers.

Portable computers are *(small)* <sup>6</sup>\_\_\_\_\_ than desktops. The *(large)* <sup>7</sup>\_\_\_\_\_ portable is a laptop. *(Small)* <sup>8</sup>\_\_\_\_\_ portables, about the size of a piece of writing paper, are called notebook computers. Subnotebooks are *(small)* <sup>9</sup>\_\_\_\_\_ than notebooks. You can hold the *(small)* <sup>10</sup>\_\_\_\_\_ computers in one hand. They are called handheld computers or palmtop computers.

## Exercise 4 - match

A  
1 barcode  
2 barcode reader  
3 memory  
4 minicomputer  
5 a palmtop  
6 ROM  
7 mainframe  
8 magnetic ink character reader  
9 program  
10 hardware  
11 monitor  
12 subnotebook  
13 multimedia  
14 modem  
15 handheld  
16 software  
17 PC  
18 megabyte  
19 notebook  
20 laptop  
21 animation  
22 CD-ROM disk  
23 CD-ROM drive  
24 laser  
25 multimedia computer  
26 supercomputer  
27 system unit  
28 scan  
29 graphic  
30 SIMM (single-in-line memory module)  
31 microcomputer  
32 multiuser  
33 portable computer  
34 edutainment  
35 smart device  
36 smart card

B  
a) to copy using a scanner  
b) the main output device used to display the output from a computer on a screen  
c) acronym for read-only memory  
d) The most powerful type of mainframe computer  
e) a sequence of vertical parallel lines used to give items a unique identification number/ to mark with a barcode  
f) a computer that is slightly less powerful and a little smaller than a mainframe  
g) a portable computer that is small enough to be held in the palm of one hand  
h) the part of a computer system that is used for storing programs and data  
i) an optical input device that uses the reflection of a light beam to read barcode labels  
j) the largest and most powerful type of computer. It is operated by a team of professionals  
k) a device used for recognition magnetic ink characters or characters written with magnetic ink  
l) A set of instructions written in a computer language that control the behavior of a computer  
m) the physical components of a computer system  
n) a portable computer that is a little smaller than a notebook computer. It is small enough to fit inside a jacket pocket  
o) drawings that have moving images  
p) an electronic device for converting signals to enable a computer to be connected to an ordinary telephone line. The term comes from an abbreviation of MODULATOR/DEMULATOR  
q) The main part of a PC. It usually includes the electronics, power supply, hard disk drive, floppy disk drive, and a small loudspeaker. It may also include a CD-ROM drive and one or two other devices, but also has connectors to allow external devices to be attached.  
r) a picture, drawing, animation or other type of image  
s) A computer suitable for running multimedia programs. It usually has a sound card and a CD-ROM drive  
t) the programs and data used in a computer  
u) A small electronic circuit board containing memory chips. It is designed to be plugged into memory slots  
v) a portable computer that is about the same size as a piece of writing paper  
w) a personal computer, smaller and less powerful than a mainframe or a minicomputer  
x) a unit of capacity equal to  $2^{20}$  bytes, i.e. 1-24 kilobytes  
y) the largest type of portable computer  
z) the combination of text, graphics, animation, sound and video  
aa) a computer that is small and light enough to be carried from place to place. It can usually be powered from batteries.  
bb) a small portable computer that can be held in one hand  
cc) A storage device for reading CD-ROM disks  
dd) abbreviation for an IBM type of a personal computer, although sometimes used for other types of personal computer  
ee) A read-only storage device in the form of a disk that is read using laser light  
ff) high frequency light used in optical devices  
gg) capable of being used by many people at the same time  
hh) a plastic card containing a processor and memory chip. It can be used to store large amounts of confidential data.  
ii) a system that has both educational and entertainment values  
jj) a device that contains an embedded processor and memory

# Hometask

- Do the tasks from the presentation
- Make your presentation on the types of PCs (in general or use one item to speak about)