

# English for Information Technology and Telecommunications



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# English for Information Technology

and Telecommunications



Verónica Real • Belén Pascual

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# 1 Computer architecture

Vocabulary: Types of computers. Peripherals  
Reading: How computers work

Grammar: Revision of the present tense  
Listening: Characteristics of a computer

Speaking: Buying and selling a computer  
Writing: A for and against essay

## Vocabulary

### Types of computers



a workstation



b tablet pc



c laptop



f mainframe



g wearable computer



Work in pairs. Ask your partner the following questions:

- Have you got a computer at home, school or work?
- What type is it?
- What do you use it for?



d desktop computer



e smartphone



h supercomputer

- 1 Label the pictures with the correct names of types of computers. Can you add more to the list?

mainframe - laptop - desktop computer -  
smartphone - tablet PC - workstation -  
supercomputer - wearable computer

- 3 Read the following statements. What kind of computer does each one refer to? Write down the names.

a) It is the fastest computer in the world performing complex mathematical calculations.

h

b) It is for individual use but it is faster and more capable than a personal computer.

a

c) It is intended for home or recreational use and it is not portable.

d

d) It combines a cell phone with a hand-held computer, typically offering Internet access, data storage, e-mail capability, etc.

e

e) It is worn by a user, including clothing, watches, glasses, shoes and similar items.

g

f) It is a hybrid between a personal digital assistant and a notebook PC.

g) It is portable but it doesn't fit into the palm of your hand.

b

h) It can handle thousands of connected users simultaneously and can store large amounts of data.

f

- 2 Complete the table with the missing information. There may be more than one correct answer.

USER	TYPE OF COMPUTER	USE
office worker	smartphone	Keep in touch with his office, receive calls, send orders and budgets.
Graphic artist	tablet pc	
Engineer	supercomputer	Perform highly-detailed climate calculations.
Student	Desktop PC	Study
Bank teller	mainframe	Host large databases of customer accounts which can be easily accessed by any ATM nationally or worldwide.

## Vocabulary

## Peripherals

- 4 Write down the names of the peripherals that you can see in the picture. Classify them into input, output and storage devices.



- 5 Read these comments posted on an online computer shop. Complete the sentences with the correct names of the peripherals.

- If you've always wanted an inkjet printer with stylish good looks, I strongly recommend the HP 120 All-in-One.
- Buying the 550 webcam is a simple way to improve the way you video chat with your loved ones.
- You can choose the wired Z4000 keyboard with customizable keys, and an integrated palm rest or the wireless Z7000 model with LED battery life indicator, and an ergonomic laser mouse.
- The 24-inch Dell UltraSharp monitor is perfect for gamers because of its crisp display, built-in speakers and headphone jack.
- With its ergonomic design and compatibility with Windows and Mac alike, the H400 Touch mouse is a versatile choice both for left- and right-handed users regardless of which operating system they use.
- The Bluewire 720 headphones is the perfect solution for making VoIP or Bluetooth calls with your PC or mobile phone in an office.
- If you are looking for an affordable PC speakers plus subwoofer system, the DH-Micro 5.1 won't disappoint you. It delivers outstanding sound quality for such a compact package.

- 6 Match the adjectives in column A to the nouns in column B.

A	B
Crisp	Printer
Inkjet	Speakers
Ergonomic	Mouse
Built-in	Display

- 7 Choose four peripherals that you have got at home and write a comment about each of them.



**1** Read the following text.

### HOW COMPUTERS WORK: THE MOTHERBOARD AND THE CPU

#### THE MOTHERBOARD

- 1 The motherboard is a circuit board that allows the CPU, RAM and other computer hardware components to communicate with each other.

The front of the motherboard contains ports which all the internal components are connected to either directly or via cables. A single **socket** houses the CPU and multiple slots allow for one or more memory modules to be attached. Other ports allow the hard drive and optical drive to connect, and the power, reset and LED lights to function.

Also on the front of the motherboard are several peripheral card slots. These slots are where most sound cards and video cards are connected to the motherboard. They are also used to install expansion cards adding features like sound memory and network capabilities.

- 10 **A** On the left side of the **motherboard**, there are other ports which allow most of the computer's external **peripherals** such as the monitor, keyboard, mouse, speakers or network cable to connect. Most motherboards also include USB and FireWire ports that allow compatible devices like digital cameras to connect to your computer.

#### THE CPU

- 15 The Central Processing Unit, also called the CPU or processor, is the brain of the computer. It is generally a 2-inch ceramic square with a silicon chip whose job is to carry out commands and coordinate the activities that take place within the computer system. Whenever you press a key, click the mouse, or start an application, you are sending instructions to the CPU.

The CPU is attached to a CPU socket on the motherboard, which is covered by the heat sink and a fan in order to absorb the heat from the CPU.

- 20 **C** The processor consists of two main parts: the control unit (CU) and the arithmetic logic unit (ALU). The **control unit causes the circuits and the rest of the components of the computer to execute stored program instructions**. The arithmetic logic unit performs mathematical calculations (addition, subtraction, multiplication and division) and logical operations, which can test for three conditions: equal to (=), less than (<), and greater than (>).

- 25 The power and performance of a computer is partly determined by the speed of its processor. A system clock sends out signals to measure and synchronise the flow of data. Clock speed is measured in megahertz (MHz), or millions of instructions per second, and gigahertz (GHz), or billions of instructions per second. A faster processor can execute instructions more quickly.



### Reading comprehension

- 2** Answer the following questions according to the information in the text. Use your own words.

- What are peripheral card slots used for? They used to connect sound and video cards to the motherboard
- What is the CPU of a computer? It's the center of the computer
- What are the two major components of a CPU? The control unit and the arithmetic logic unit

## Reading



3 Decide if the following statements are true (T) or false (F). Write down the parts of the text that justify your answers.

- a) Peripherals are connected to ports on the motherboard. T
- b) When you type on the keyboard, the CPU receives the instruction. T
- c) The control unit executes program instructions. T
- d) The speed of the processor is the only thing that determines the performance of a computer. F
- e) A Gigahertz equals to one thousand million of instructions per second. F

## Vocabulary

4 Find words in the text to complete these definitions.

- a) A port is an interface on a computer to which you can connect a device.
- b) A slot is a groove for inserting a card.
- c) An expansion card is an electronic card that is used to add extra functionality to a computer.
- d) The heat x and the fan are small devices which dissipate the heat from the processor and prevent it from overheating.
- e) The block speed of a CPU is the frequency at which a processor executes instructions or data is processed.

5 Find synonyms for these words.

- a) Wires (Paragraph 2)  
\_\_\_\_\_
- b) Attached (Paragraph 2)  
\_\_\_\_\_
- c) Work (Paragraph 2)  
\_\_\_\_\_
- d) Characteristics (Paragraph 3)  
\_\_\_\_\_
- e) Perform (Paragraph 5)  
\_\_\_\_\_

6 Work in pairs. Tell your partner what these things are used for.



For + -ing

A computer fan is used for absorbing the heat from the CPU.

- a) Port
- b) Slot
- c) System clock
- d) CPU socket

## Revision of the present tense

**1** Read the table and complete the rules. Write *present simple*, *present perfect* and *present continuous*.

### The present tense

1. We use the \_\_\_\_\_ to:

- Give factual information.

*The motherboard contains the processor, the memory chips, expansion slots, and controllers for peripherals.*

- Talk about routine activities

*I travel abroad on business every month.*

Some verbs are often used in the present simple rather than in the present continuous, for example, *want*, *like*, *know*, *need*, *understand*.

*We understand how computers work. (NOT: We are understanding how computers work.)*

2. We use the \_\_\_\_\_ to:

- Describe an action happening at the time of speaking.

*The technician is fixing my computer now.*

- Describe a temporary situation.

*I'm staying at the Hilton until Saturday.*

- Talk about future arrangements.

*He's moving to a new office next week.*

- Talk about a changing situation.

*They are developing a new operating system.*

3. We use the \_\_\_\_\_ to talk about:

- Actions that started in the past and continue to the present.

*I have been an IT consultant since 2012. (I still work as an IT consultant)*

- Personal experiences, especially with *ever* and *never*

*I have never worked with databases.*

*Have you ever worked with databases?*

- Past actions with a connection to the present.

*We have designed a new webpage for the company.*

#### for and since

- We use **for** to refer to a period of time.

*I've been a graphic designer **for** five years.*

- We use **since** to refer to a point in time.

*I've been a graphic designer **since** 2010.*

#### already and yet

- We use **already** in affirmative sentences.

*They have **already** scanned the PC for viruses.*

- We use **yet** in negative sentences and questions.

*I haven't sent you the email **yet**.*

**2** Complete the text. Use the present simple or present continuous forms of the verbs in brackets.

Danny Stammers (a) \_\_\_\_\_ (start) work at 9 am and (b) \_\_\_\_\_ (finish) around 6 pm. The company he (c) \_\_\_\_\_ (work) for, AppWorld, (d) \_\_\_\_\_ (develop) mobile applications and (e) \_\_\_\_\_ (sell) them to other businesses.

At present he (f) \_\_\_\_\_ (work) on an important project as part of a team with other IT professionals. They (g) \_\_\_\_\_ (create) a mobile application for taxi drivers and clients. The application (h) \_\_\_\_\_ (allow) users to find a taxi. When you (i) \_\_\_\_\_ (click) the app, it (j) \_\_\_\_\_ (determine) your current location and (k) \_\_\_\_\_ (provide) a list of the nearest cab companies.

Mobile application companies (l) \_\_\_\_\_ (become) more and more popular nowadays so he (m) \_\_\_\_\_ (be) always very busy. He (n) \_\_\_\_\_ (spend) most of his time working in Valencia but once a month he (o) \_\_\_\_\_ (go) to other countries to meet his colleagues there. Next week he (p) \_\_\_\_\_ (go) to the head office in Amsterdam because they (q) \_\_\_\_\_ (have) a meeting to officially announce that they (r) \_\_\_\_\_ (launch) the beta version of the application in two months.

**3** Write questions for these answers.

- a) Mike prints all his documents **in the office**.
- b) The team is meeting **next Tuesday**.
- c) We're looking for a new PC **because this one is old-fashioned**.
- d) Brad maintains the computers in our company.

## Grammar

**4** Complete the following sentences with the correct form -affirmative, negative or interrogative- of the verbs in brackets. Use the present perfect.

- a) This computer \_\_\_\_\_ (already/freeze) twice during the morning.
- b) \_\_\_\_\_ (you/try) turning it on and off?
- c) I think I \_\_\_\_\_ (lose) my data and I don't know what to do.
- d) I \_\_\_\_\_ (have) this laptop for more than two years.
- e) A company \_\_\_\_\_ (steal) our web design.
- f) Windows \_\_\_\_\_ (release) the new Windows 8 with a new interface.
- g) We \_\_\_\_\_ (already/speak) to technical support three times but they \_\_\_\_\_ (not solve) the problem yet.

**5** Write sentences using the prompts, the present perfect and *for* or *since*.

- a) Pete / work / here / 2008.
- b) She / have / this laptop / more than three years.
- c) The company / not post / a message on its Twitter profile / the past two weeks.
- d) We / not update / the antivirus software / last year.
- e) I / not upgrade / my workstation / I bought it.

**6** Walk around the classroom trying to find a person who has done any of the things on the list below. Ask questions using *Have you ever...?* and write down the name of the student or students who have done them.



Find someone who...

- has assembled his/her own PC.	
- has designed a mobile application.	
- has been a webmaster	
- has made a telephone call in English	
- has worked as an IT professional	



**7** Fill in the blanks with the correct form of the verbs in brackets. Use present simple, present continuous or present perfect.

Oliver: Hi, Alice! What (a) \_\_\_\_\_ you \_\_\_\_\_ (do) here?

Alice: I (b) \_\_\_\_\_ (wait) for Jane. We (c) \_\_\_\_\_ (walk) home together every day. We (d) \_\_\_\_\_ (live) in the same street.

Oliver: Oh, I (e) \_\_\_\_\_ (think) Jane (f) \_\_\_\_\_ (talk) with the English teacher at the moment.

Alice: Yes, I (g) \_\_\_\_\_ (know). She usually (h) \_\_\_\_\_ (study) French, but this year she (i) \_\_\_\_\_ (study) English. She (j) \_\_\_\_\_ (love) learning foreign languages.

Oliver: I (k) \_\_\_\_\_ (not speak) English, but my brother (l) \_\_\_\_\_ (speak) it fluently. He (m) \_\_\_\_\_ (work) for a British computer company based in Spain and usually (n) \_\_\_\_\_ (travel) to London. His colleagues (o) \_\_\_\_\_ (not speak) Spanish so he (p) \_\_\_\_\_ (have) to use English to communicate with them.

Alice: (q) \_\_\_\_\_ he \_\_\_\_\_ (live) with your parents?

Oliver: Yes, but this week he (r) \_\_\_\_\_ (stay) in a hotel in Dublin. He is going to move to Ireland soon because he (s) \_\_\_\_\_ (find) a new job there.

Alice: Wow! Is he excited?

Oliver: Yes, he is. He (t) \_\_\_\_\_ (already/meet) his new colleagues and they are really nice. But he (u) \_\_\_\_\_ (never/live) abroad before so he is quite nervous too.

## Characteristics of a computer



- 1 What are the technical specs of your computer? Complete the table and talk about them with your partner. Then complete the table about your partner's computer.

My computer	My partner's computer
Processor speed	
RAM memory	
Hard drive capacity	
Operating system	
Other features	
Price	



- 2** Listen to three conversations and complete the table. What kind of computer has each person bought? What is the relationship between the two members of each dialogue? There may be more than one correct answer.

	Type of computer	Relationship
1. Matt and Steven	tablet	friends
2. James and Helen	smartwatch	mother-son
3. Nick and Ian	workstation	seller-customer



- 3** Listen again and answer the following questions.

## Conversation 1

- a) Why did Matt buy a new computer? Because his laptop was very heavy
  - b) What is the processor speed and the capacity of the internal memory? 16gb
  - c) How much did the computer cost? What does Steven say about the price?  
295€ He cant afford it

## Conversation 2

- a) What can James do with his new gadget? Because he need to check his email, music, etc...

b) Why did James buy the watch? Because its more confortable

c) Why is the woman angry? Because she doesnt have a job

## Conversation 3

**Write down the characteristics of the computer that Nick bought:**

- a) Processor speed: 3.7 Ghz Turbo      d) OS: Windows 7  
b) RAM memory: 8 gb                          e) Price: 1150  
c) Hard drive capacity: 1tb                      f) Warranty: 3 years.

# 1 Computer architecture

## Speaking

### Buying and selling a computer

- 1 Read the conversation between a salesperson and a customer and complete it with the words in the box.

garantía

expensive - capacity - for - warranty -  
reliable - want - come  
confiable

Work in pairs. Ask your partner the following questions:

- Where do you usually buy your computers?
- What do you prefer, buying a prebuilt computer or a custom-built computer? Why?
- When you buy a computer, which characteristics are the most important for you?

### At a computer shop

Salesperson: Good morning. Do you need any help?

Customer: Actually, yes. I'm looking (a) for a gaming computer. Can you suggest me a good one?

Salesperson: Sure. Come over here, please. Are you looking for a laptop or a desktop computer?

Customer: It doesn't matter, whichever is better. But I don't really (b) want to go over 800€.

Salesperson: Well, you know, laptops are likely to be more (c) expensive, but they are more practical if you travel a lot.

Customer: I hardly ever travel and I've got a tight budget so I'll go for a desktop PC.

Salesperson: Right. Would you like to get a computer assembled?

Customer: Not really, just one of these.

Salesperson: So these two have powerful NVIDIA graphic cards, which are really good for games, and we've got them with 10% off.

Customer: And what's the difference between them? Do they have similar specs?

Salesperson: Well, both computers are very fast and (d) reliable. The HP has an AMD A10 processor running at 2 GHz and 6GB of RAM whereas the ASUS has got an Intel Core i7 processor with dual-core technology running at 2.9 Ghz and 8GB of RAM.

Customer: I see. And what's the storage (e) capacity of the hard drive in each model?

Salesperson: That's 1TB for the ASUS and 1,5TB for the HP.

Customer: Is there anything else I should know about?

Salesperson: Well, they both feature Bluetooth and Wi-Fi technology. Oh, and they (f) come with Windows 8 preinstalled.

They've got DVD writers and the keyboard and mouse are included in the price. Oh, and they have one year (g) warranty but you can get an extended one too.

Customer: OK. What about the screen?

Salesperson: I'm sorry but the monitor is not included in the price. I'm just talking about the case.

Customer: Right. And how much are they?

Salesperson: The ASUS is quite a bit more expensive than the HP. It's 650.99€ compared to 850.99€ plus the 10% discount.

Customer: Thank you very much but I'm not sure. I have to think about it. I'll come back later.

- 2 Read the conversation again and find expressions for each function below.

#### Salesperson

- Greeting and offering help
- Giving technical specifications
- Describing
- Comparing

#### Customer

- Explaining what you are looking for
- Asking for technical specs
- Asking for the price

- 3 Work in pairs. Student A wants to buy a computer and student B is the salesperson. Then change roles. Use the computer descriptions to help you.

#### Dell Inspiron i660 desktop & monitor package

- Intel® Core™ i3 processor
- 8GB memory
- 1TB hard drive
- Built-in wireless networking
- Windows 8
- 21.5" LED HD monitor included

599€

#### Samsung Galaxy Tab 3.7

- Android 4.1.2 operating system
- 7" TFT touch screen
- Wi-Fi
- 8GB storage capacity
- Google Play, YouTube, Dropbox

199€

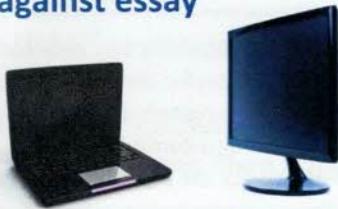
#### Acer Aspire 15

- 15.6" Touch-Screen Laptop
- 8GB DDR3 memory
- 500GB Hard Drive
- Intel® Core™ i5 processor
- Built-in high-definition webcam
- Bluetooth 4.0
- Microsoft Windows 8

750€



## A for and against essay



Work in pairs. Discuss with your partner:



- What are the advantages of desktop computers versus laptops?

## 1 Read the following text and check how many of the advantages in your list are mentioned.

**Advantages and disadvantages of desktop computers versus laptops**

If you are thinking of purchasing a new computer, you may want to consider the advantages and disadvantages of a desktop and a laptop as there is a fine line between them.

**On the one hand**, a desktop PC tends to be cheaper than a comparable laptop because smaller components are more expensive. **In addition, although** there are some things that can be upgraded and replaced in laptops, they are not as easy and cheap to keep up-to-date and to repair. Laptops have an integrated and sophisticated design so it is necessary to contact an IT professional or to have specific tools to fix them. **Besides**, laptops are designed for portable use and have smaller keyboards and screens. **As a result**, they can be more uncomfortable in prolonged use.

**On the other hand**, laptops are obviously more portable than desktops so you can carry your work anywhere and put the device away when you need free space. **Moreover**, they have a built-in battery ready anytime in case of power failure. **Also** all accessories such as mouse, keyboard and even webcam are integrated in one unit **so** it isn't necessary to buy them separately.

**In conclusion**, there are good reasons for buying both so the final decision will depend on the specific needs of the user. **All in all**, laptops are more advantageous to those people who need to use their computers in different places. **However**, they are more difficult and expensive to repair and sometimes they are not as comfortable as desktops.

## 2 Read the text again and put the connectors in bold in the correct column of the table. Then add more words to each list.

Addition	Contrast	Result or effect	Summary
<b>Besides</b>			
<b>Also</b>			
<b>Moreover</b>			
<b>Besides</b>			
in addition, although			

## 3 Underline the correct connector in each sentence.

- A CD can hold 650-700MB whereas/besides a basic DVD can hold 4.7 GB.
- Looking at a screen for too long can cause eye strain so/otherwise you should take regular breaks when you are working in front of the computer.
- I prefer my peripherals to be separate. If you have an all-in-one and the printer or the scanner function breaks, you have to buy a new machine. Besides/However, if you have separate machines, you only have to replace one.
- You can store thousands of books on an e-book. However/in addition, you don't need to go to the book shop because you can buy them online or download them.
- Although/Furthermore laptops come with touchpads I prefer to use a mini USB mouse.

## 4 Choose one of these topics and write about it.

**The advantages and disadvantages of**

- laptops versus tablets
- e-books versus paper books
- instant messaging versus phone calls

# Operating systems

Vocabulary: Operating Systems. GUI  
Reading: An accidental revolutionary

Grammar: Revision of the past tense  
Listening: Installing an OS

Speaking: Investigating a crime  
Writing: A biography

## Vocabulary

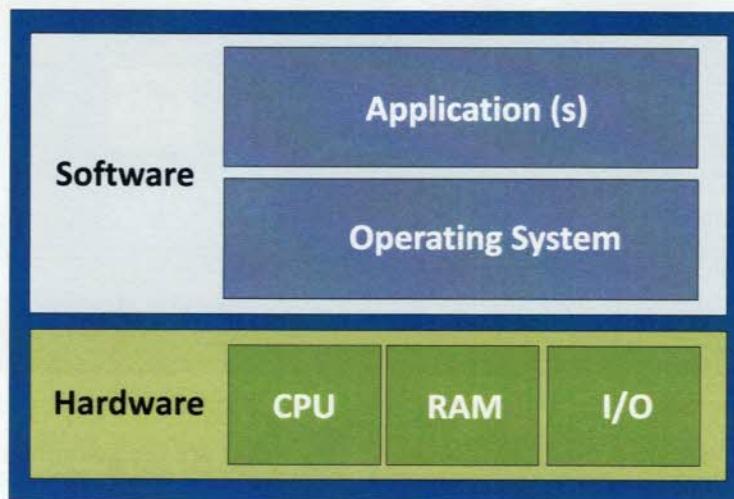
### Operating systems



- What is an operating system?
- When we talk about applications, what are we talking about?
- What is the difference between hardware and software?

1 Look at the diagram and answer the questions in pairs.

### The Standard OS Model



2 Read this text about operating systems and complete it with the words in the box.

Mac OS - programs - GUI - manage - software - hardware - kernel - WIMP - hidden - layers - smartphone

An operating system (OS) is (1) software that communicates with the (2) hardware and allows other (3) programs to run. Every desktop computer, tablet or (4) smartphone includes an OS which provides basic functionality for the device. Common desktop operating systems include Windows, Linux or (5) Mac OS. Today's operating systems are divided into (6) layers. The basic and most powerful layer of the OS is the (7) kernel, that is, the core of the operating system. Although operating systems are different, they all have (8) GUI (Graphical User Interface), which makes the OS easy to use. This layer offers a graphical interface based on Windows, Icons, Menus and Pointing Devices called (9) WIMP. Operating systems have three functions: (10) manage the computer's resources, execute applications software and establish a user interface. However, the work of an OS is mostly (11) hidden from the user.

3 Read the text above and say if the following sentences are true or false. Justify your answers.

- a) The kernel is one of the most powerful application programs.
- b) The GUI is an operating system that makes using a computer very easy.
- c) Smartphones have operating systems which are necessary for their working.
- d) The structure of operating systems consists of one layer.
- e) Windows is a common desktop computer together with Linux and Mac.
- f) Users cannot see the work of the operating system.

## 2 Operating systems

# Vocabulary

### Graphical User Interface

- 4) This is the interface for Windows 8. Is it very different from the one in Windows 7?



- 5) In this interface the user finds many applications. 6) What are the advantages of this new interface? Write the names of your favourite apps.

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- 7) Read this text. Look at the expressions in bold and discuss their meaning and grammatical use.

GUI **stands** for Graphical User Interface. It **allows** users **to** interact with electronic devices through visual indicators and icons **instead of** entering a text at a command line. The GUI was first introduced by Apple in 1984 although there was an earlier GUI version developed by Xerox. Graphical Interfaces need basic elements to make them work. The first necessary thing is the pointing device and the pointer. The first, a mouse or trackball, **enables** the reader **to** select objects from the screen. The pointer is the symbol that appears on the screen when you move the pointing device. Icons are also a relevant part of an interface. They are small pictures that represent commands. The desktop, windows and menus are also present in all interfaces.

- 8) Compare the GUI in Windows, Mac OS X and Linux and mention three differences.

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## 1 Read the following text.

## AN ACCIDENTAL REVOLUTIONARY

## LINUS TORVALDS



- 1 Linux is today one of the most used operating systems (OS). It has proved to be easy to install by any user and one of the most stable operating systems on the market today. Since its original version, it has been improved by countless numbers of people in order to create what we have today: a system which is generally cheaper than others and has outstanding capabilities. It is open-source software developed under the General Public License (GPL) and this free software allows users to copy the source code, modify it and distribute it. It is not only used in computers but also in appliances and small devices, and this is what also makes Linux different.
- 5
- 10 Linus Torvalds is the software engineer who created and developed Linux. He was born in 1969 in Helsinki, Finland. He was named Linus after the famous Linus Pauling, who was awarded the Nobel Prize in Chemistry in 1954. Curiously, they did not only share the name but also the intelligence. Torvalds inherited his interest in science from his grandfather, who worked as a mathematician and statistician at the University. In 1988, Linus enrolled in the University of Helsinki where he majored in Computer Science. There, he learned how to program in C programming language, the language he would use to create the Linux Kernel. During his studies he worked with Minix, a version of the well-known operating system Unix, but he was annoyed by the shortcomings of this OS. At first, he sent requests for improvements to the creator of Minix but his ideas were not taken into consideration. For this reason and due to his intense research and talent, he decided to write his own kernel -the core of any operating system- which he named Linux. Although he was the creator, programmers soon began to use it. If they found that it did not do things they wanted it to do, they modified it and sent the improvements to Linus, who became the supervisor of a project that would later become the most widely-ported operating system.
- 15
- 20
- 25 The life of Linus Torvalds is a life devoted to computer science. In 1993 he met Tove, the woman who is today his wife and mother of their three daughters. Torvalds was in charge of a course in computer laboratory and he asked the participants to send him an email. Torvalds then received an email from Tove, a national karate champion, asking for a date. His life is plenty of coincidences and that is what he tells in his book *Just For Fun: The Story of an Accidental Revolutionary*.
- 30



## Reading comprehension

- 2 Answer the following questions according to the information in the text. Use your own words.
- Why is Linus Torvalds an accidental revolutionary?
  - What makes Linux different from other operating systems? Mention at least three reasons.
  - What does "open-source software" mean?
  - In which sense was Torvalds's grandfather important in his life?
  - Why did he decide to create his own kernel?
  - Was Linus the only responsible for the Linux project?
  - How did he meet his wife?

## Reading

**3** Decide if the following statements are true (T) or false (F). Write down the parts of the text that justify your answers.

- a) Minix was created by a university student.
- b) Minix is based on Unix.
- c) Linux runs on more types of computers than other operating systems.
- d) Linus Pauling influenced Linus Torvalds in his career.
- e) Linus did not accept improvements for his kernel.

## Vocabulary

**4** Look for words in the text that have these meanings.

- a) incalculable \_\_\_\_\_
- b) change \_\_\_\_\_
- c) famous \_\_\_\_\_
- d) irritated \_\_\_\_\_
- e) responsible for \_\_\_\_\_

**5** Find words in the text that have opposite meanings.

- a) unstable \_\_\_\_\_
- b) more expensive \_\_\_\_\_
- c) common \_\_\_\_\_
- d) limited \_\_\_\_\_
- e) advantages \_\_\_\_\_

**6** Define these concepts in your own words.

- a) OS \_\_\_\_\_
- b) C \_\_\_\_\_
- c) Kernel \_\_\_\_\_
- d) Unix \_\_\_\_\_
- e) GPL \_\_\_\_\_

**7** Write a summary of the text. Use your own words and do not copy expressions or structures from the text.

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## Revision of the past tense

- 1) Read the table and complete the rules. Write *past continuous*, *past perfect* and *past simple*.

### The past tense

1. We use the \_\_\_\_\_ to:

- Refer to a specific point in the past.

*I saw her yesterday.*

- Refer to a period in the past.

*She lived in Budapest when she was a baby.*

3. We use the \_\_\_\_\_ to:

- Refer to what happened before a point in the past.

*I was tired on Friday because I hadn't slept the night before.*

2. We use the \_\_\_\_\_ to:

- Describe an ongoing situation in the past.

*I was thinking of him last night.*

- Describe a "background action" when something else happened.

*I was driving when I saw a dog in the middle of the street.*

#### Time expressions

- We use **ago** with the past simple.

*I went to London two years ago.*

- We use **while** with the past continuous.

*I was having breakfast while my sister was having a shower.*

- 2) Complete this text about Marconi. Use the past simple of the verbs in brackets.



Marconi (a)\_\_\_\_\_ (be born) in 1874. He (b)\_\_\_\_\_ (be) a Nobel Prize-winning physicist and inventor. Marconi (c)\_\_\_\_\_ (develop) the first effective system of radio communication. In 1899, he (d)\_\_\_\_\_ (found) the Marconi Telegraph Company. In 1901, he successfully (e)\_\_\_\_\_ (send) wireless signals across the Atlantic Ocean. Marconi (f)\_\_\_\_\_ (share) with Karl Braun the 1909 Nobel Prize in Physics. He (g)\_\_\_\_\_ (die) in Rome in 1937.

- 3) Make questions in past for these answers.

1. \_\_\_\_\_ ?  
He was born in Scotland.
2. \_\_\_\_\_ ?  
He created the first practical telephone.
3. \_\_\_\_\_ ?  
His mother was his teacher at home. He was homeschooled.
4. \_\_\_\_\_ ?  
He held more than 18 patents.
5. \_\_\_\_\_ ?  
Because he had always been interested in transmitting the human voice.



Who are we talking about? \_\_\_\_\_

**4** Complete the following sentences with past simple or past continuous.

- a) Linus Torvalds \_\_\_\_\_ (study) at University when he \_\_\_\_\_ (come across) Minix.
- b) The students \_\_\_\_\_ (install) a chat application when the teacher \_\_\_\_\_ (enter) the room.
- c) She \_\_\_\_\_ (talk) to me on the phone and suddenly it \_\_\_\_\_ (go) dead.
- d) When we \_\_\_\_\_ (get) to the airport, the plane \_\_\_\_\_ (already/take off).
- e) We \_\_\_\_\_ (talk) about it when you \_\_\_\_\_ (arrive).
- f) While I \_\_\_\_\_ (play) videogames, my brother \_\_\_\_\_ (do) his homework.

**5** Complete the following sentences with past simple and past perfect.

- a) I \_\_\_\_\_ (go) to his office but he \_\_\_\_\_ (already/leave).
- b) The technician \_\_\_\_\_ (repair) the computer when my mother \_\_\_\_\_ (get) home.
- c) When my son \_\_\_\_\_ (go) to play with his friend, he \_\_\_\_\_ (already/finish) his homework.
- d) The waitress \_\_\_\_\_ (bring) a coke that I \_\_\_\_\_ (not order).
- e) The engineer \_\_\_\_\_ (try) five times when finally he \_\_\_\_\_ (make) it work.

**6** Complete these sentences with the particles in the box.

in - ago - before - when - never - while

- a) He installed the new OS two years \_\_\_\_\_.
- b) \_\_\_\_\_ he left school, he had never spoken English in class.
- c) My mother had \_\_\_\_\_ made a cake on my birthday.
- d) \_\_\_\_\_ I was listening to the radio, I was reading the book for class.
- e) I broke my arm \_\_\_\_\_ 2006. I had never been in hospital \_\_\_\_\_.

**7** Complete the text with past simple, past continuous or past perfect.

Yesterday, Alfred (a) \_\_\_\_\_ (come) to our house. My mother (b) \_\_\_\_\_ (phone) him because the desktop computer (c) \_\_\_\_\_ (not work). When Alfred (d) \_\_\_\_\_ (see) the computer, he (e) \_\_\_\_\_ (say) that the PC (f) \_\_\_\_\_ (have) a virus. My sister (g) \_\_\_\_\_ (use) it the night before with her infected pen drive. While Alfred (h) \_\_\_\_\_ (repair) the computer, I (i) \_\_\_\_\_ (watch) the news. The reporter said that a car (j) \_\_\_\_\_ (crash) in front of the train station and two people (k) \_\_\_\_\_ (die). Suddenly, Alfred (l) \_\_\_\_\_ (tell) me that he (m) \_\_\_\_\_ (already/finish). I (n) \_\_\_\_\_ (pay) 30€ for his help and he (o) \_\_\_\_\_ (give) me a new pen drive for my sister.

## Installing an OS



Talk about these questions with your partners.

- Which operating systems are used in your school?
- For how long have they been used?
- Who is in charge of installing the OS in your classes?
- What are the advantages and disadvantages of the OS that you use?



**1** Listen to the beginning of a conversation between two teachers talking about the OS they have to install in a school and answer the following questions:

- Which operating systems are they going to install?
- Who is more knowledgeable about installing operating systems, Brenda or Andy?



**2** Listen again and say if these sentences are true or false. Justify your answers.

- Brenda had a very interesting summer with her family.
- Andy spent a night in Ibiza and he recommends the place to his colleague.
- There is no need to install the systems now.
- They have to install them both at the same time.
- Linux makes the booting up of Windows possible with a specific program.
- Just one teacher starts the process of installing the OS immediately.



**3** Listen to it a third time and answer the following questions. Write complete answers.

- How many computers are there in one class?
- How can they install the OS in many computers at the same time?
- Why did Brenda not know anything about what had been agreed in the last meeting?
- What is the first class where they are going to start installing the systems?
- Why is Andy not going?

**4** After reading the transcript, write a proper definition or a synonym for these words.

- Both \_\_\_\_\_
- Booting up \_\_\_\_\_
- GRUB \_\_\_\_\_
- Clone \_\_\_\_\_
- Tanned \_\_\_\_\_

## Speaking

## Investigating a crime

- 1 Read the following piece of news.

# The Daily News

16-05-2014

www.thedailynews.com

your daily favourite newspaper

since 1983

## Police arrest two in robbery at Chest High School

Authorities have arrested two students in connection to the robbery at Chest High School on Tuesday afternoon. The suspects are two teenagers aged 16 who are studying Secondary Education and preparing for the GCSE exam at this same school. They have studied there since they were 3 years old, that is why the principal and the teachers were shocked when they found out that these students had been accused of the crime. On Tuesday

afternoon, classes finished at 4:00 pm as usual. Nobody was supposed to stay at the school. Nick Madison, the caretaker, checked that all the rooms and classes were locked and left. He did not see anyone around the school. The following morning, when Nick arrived at 7:30 am, he saw the main door open. He got into the school and discovered that the principal's office had been assaulted. Papers, folders, CDs and notes were all over the

place. The main PC was not on the table and the hard disk, where confidential information is usually kept, had been stolen.



- 2 Imagine you are a detective that is going to investigate this crime. Write five questions that you would ask Nick, the caretaker.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_



- 3 Read the instructions and play the game of detectives and suspects.



### SUSPECTS

Two students of the class are going to role-play the suspects of the crime. Go outside the class and prepare an **alibi**. You were together that day, so make sure your alibi is the same:

- What were you doing on Tuesday afternoon and evening?
- Were you alone or with more friends?
- What did you eat?
- What time did you leave school?
- What time did you arrive home?
- Why were you together?

### DETECTIVES

Now you are going to interrogate the two suspects individually. They were together the day of the robbery. Ask them questions about times, places, activities and company. Prepare the questions and write them down.

You have to ask the same questions to the two of them and try to find out differences and contradictions.

If you discover their alibi is fake, you will be awarded for being the detectives of the year.

## A biography

- 1) Read the following biography.

### Heinrich Hertz

Heinrich Hertz was born in Hamburg in 1857. He came from a wealthy, educated and successful family. His father was a barrister and later became a senator. At school, he developed interest for science and mathematics. At university, he also showed an aptitude for science but also for languages. He studied sciences and engineering in Dresden, Munich and Berlin. Later he obtained his Ph.D. from the University of Berlin in 1880. He worked as a professor of Physics in Karlsruhe and at the University of Bonn. In 1886, he married Elizabeth Doll. They had two daughters.



Hertz was the first to demonstrate the existence of electromagnetic waves. He confirmed Maxwell's electromagnetic theory of light and made possible the development of radio, television and radar by proving that electricity can be transmitted in electromagnetic waves. In addition, he showed that the length and velocity of these waves could be measured and that light and heat are in fact electromagnetic waves.

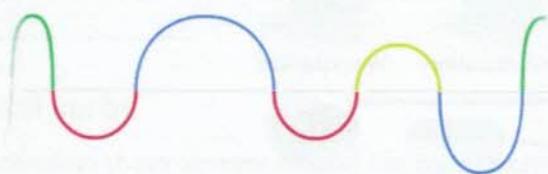
He died of blood poisoning at the age of 36 in Germany. One of the most important things that he left was the Hertz, the unit of frequency that was named in his honour. He is today remembered as one of the most important personalities in the world of telecommunications.

- 2) Find synonyms in the text for these words:

- a) Rich \_\_\_\_\_
- b) Lawyer \_\_\_\_\_
- c) Earned \_\_\_\_\_
- d) Speed \_\_\_\_\_

- 3) Look up these words in a dictionary and write a definition or synonym.

- a) Ph.D.: \_\_\_\_\_
- b) Professor: \_\_\_\_\_
- c) Wave: \_\_\_\_\_
- d) Blood poisoning: \_\_\_\_\_
- e) Length: \_\_\_\_\_



#### WRITING A BIOGRAPHY

A biography is simply the story of a life. Very short biographies tell the basic facts of someone's life and achievements. You can refer and organise the information in three main parts:

- Personal life
- Professional achievements
- Legacy

- 4) Write a short biography of a person that has been important and influential in the world of IT and Telecommunications.

Follow the sample above, use the past simple tense and include technical vocabulary.

# 3 Networking

Vocabulary: Networks

Reading: The basics of computer networking

Grammar: Modal verbs

Listening: Calling IT support

Speaking: Troubleshooting problems

Writing: Giving advice

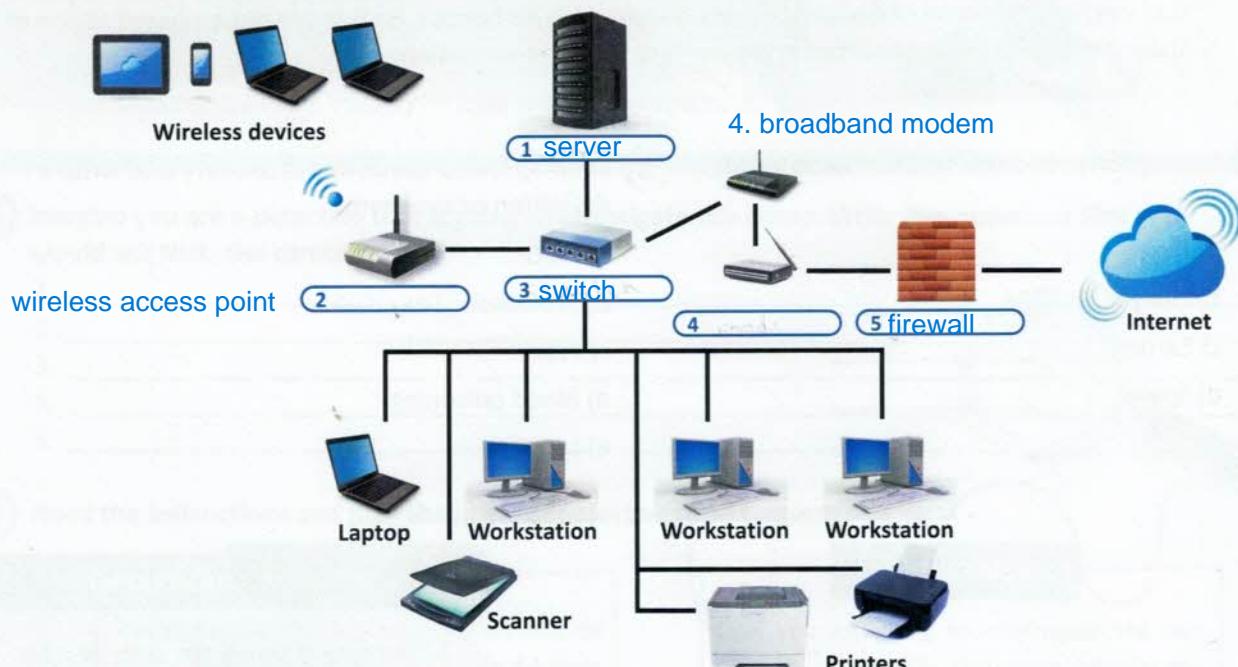
## Vocabulary

### Networks

#### 1 Read the following text about the computer network in an office.

In our office we have a mixed wired and wireless LAN. The central computer is a file **server** with a large hard drive used to store files and applications. The computers, acting as clients, are connected to the file server and to a printer via Ethernet cables. In the wireless part of the network, several devices, including laptops and tablets, are connected to each other without cables. This part is controlled by a **wireless access point** also called a wireless router, which transmits and receives radio frequencies from wireless-enabled devices. Each device that operates over the network is equipped with a wireless card or adapter. The whole network is linked to the Internet via a **broadband modem**. This model is plugged into a **switch**, which splits the internet connection into parts and allows all users to access web resources, scan and print. The whole network is protected by a **firewall** to make sure that any data it receives does not contain a virus or any material which has been banned by the company.

#### 2 Read the text again and label the elements of the network using the words in bold.



#### 3 Write definitions for the words in bold.

- Server is a central computer with a large hard drive used to store files.
- Wireless access point is a networking hardware device that allows other Wi-Fi devices to connect to a wired network.
- Broadband modem A device that connects cable or DSL Internet service to the computer or network.
- Switch is the device that connects two computers for send information.
- Firewall protect (a network or system) from unauthorized access with a firewall.

# Vocabulary

## 4 How much do you know about networks? Choose the correct options.

1. What does a network allow computers to share?
  - a) Electricity
  - b) Resources
  - c) IP addresses
2. What do **LAN** and **WAN** stand for?
  - a) Logical Assisted Network and Wireless Assisted Network
  - b) Local Area Network and Wide Area Network
  - c) Long Area Network and World Area Network
3. What is the name given to any system or device connected to a network?
  - a) Computer
  - b) Node
  - c) Wire
4. What is **data collision**?
  - a) Two devices on a network transmitting data at the same time
  - b) One device on a network receiving data
  - c) Several devices on a network having problems when receiving data
5. What does the term **cat-5** refer to?
  - a) A device that allows computers to connect wirelessly
  - b) A system that blocks wireless signals
  - c) A type of cable that is used in Ethernet connections in local networks
6. What is an **intranet**?
  - a) A private network that can only be accessed within a company or an organization
  - b) A misspelling of "Internet"
  - c) A network for home use where computers and peripherals are connected
7. What is a **hotspot**?
  - a) A site that offers Internet access over a wireless LAN
  - b) A piece of hardware used to connect a computer and a server
  - c) A system that prevents unauthorized access to a computer when it is connected to a network
8. What is a **network packet**?
  - a) A single digit of binary notation
  - b) A block of data transmitted over a network
  - c) A copy of a set of files made for storage as a security copy

## 5 Fill in the blanks with the correct words in the box.

turn - network - cables - address - configure - sharing

- a) To configure \_\_\_\_\_ your wireless access point you have to follow the instructions provided with the device.
- b) An IP address \_\_\_\_\_ identifies a particular computer on the Internet.
- c) If you have network connection problems call an IT professional.
- d) In a basic network two computers are connected by cable to allow file sharing \_\_\_\_\_.
- e) If your broadband connection fails, turn \_\_\_\_\_ off your router for at least 30 seconds.
- f) A router has several Ethernet ports, so you can connect several PCs to it via Ethernet cables \_\_\_\_\_.

## Phrasal verbs

## 6 Complete these sentences with the correct prepositions to form phrasal verbs. Then match each phrasal verb to its definition.

- a) Many people set \_\_\_\_\_ a home network because they want to share folders, files, and an Internet connection across all computers at their homes.
  - b) To make a router work you have to plug \_\_\_\_\_ the router's electrical power source and then turn it \_\_\_\_\_ by pushing the power button.
  - c) To log \_\_\_\_\_ to a router for the first time you will need the default administrator password.
- 1) To enter an identification number or password from a remote terminal to obtain access to a system
  - 2) To connect a device by an electrical cord to an electricity supply
  - 3) To arrange things properly for use
  - 4) To start the operation of a device

1 Read the following text.

### THE BASICS OF COMPUTER NETWORKING

- 1 In the world of computers, networking is the practice of connecting two or more computing devices together so that they can communicate with each other and share data.

#### Area Networks

There are different types of networks according to the geographic area they span:

- **Local area networks (LANs)** extend over a small area such as an office building, a school or a residential home. As they operate in small places, LANs use cables to connect computers.
- 5 ■ A **MAN (Metropolitan Area Network)** is designed to extend over a large area. Several LANs are connected to form a larger network so that resources can be shared.
- **Wide area networks (WANs)** are not limited to a single location. They can extend over a large geographic area and are connected via telephone lines, fibre-optic cables, or satellite links. The Internet could be described as the largest WAN 10 "in the world.
- **WLANs (Wireless LANs)** use high frequency radio waves for communication instead of cables. At the centre of the WLAN there is a wireless switch or router used for sending and receiving data to the computers.
- **PANs (Personal Area Network)** are networks organized by the individual user for its personal use. Bluetooth is a 15 wireless networking technology designed for very short-range connections like connecting a computer to peripheral devices.

#### Network Architecture

The two main forms of network design are called **client/server** and **peer-to-peer**. On a client-server network each 20 node is either a client or a server. Servers are powerful computers that manage disk drives, peripherals and the traffic around the network. Clients are devices that run programs and access the data stored on the server. On the contrary, on a peer-to-peer network all devices are connected together and act as both suppliers and consumers of resources without needing a server.

#### Network Topology

Network topology refers to the layout of a network and how the different components are connected and communicate with each other. Some common types of network topologies include bus, ring, star and tree.

- In a **bus network** a central cable called the 'bus' is used to connect all of the devices together. Each node has a short cable linking it to the 'bus' which allows each of them to receive the information transmitted across it. This type of 25 network is cheap and easy to install as it consists of just one long cable, but it can be quite slow because all of the nodes share the same cable. The more workstations on the bus, the slower it goes and increased data traffic also leads to data collisions. In addition, the network will stop working if the main cable fails.
- In the so-called **ring networks** each node is connected to two other nodes. Data flows in one direction passing through 30 each machine until the destination device receives it. This type of network can transfer data quickly, even if there are many devices connected because there cannot be any data collisions. However, if there is a break in the cable or any device is faulty, the whole network will fail.
- **Star networks** are the most common. Each device on the network has its own cable that connects to a switch or hub. A 35 hub is slower as it sends every packet of data to every device, whereas a switch only sends a packet of data to the destination device. Star networks are very reliable systems because if a component fails, all the others still work. They are very fast due to the fact that each computer has its own cable but they are quite expensive to install since they require a lot of cable and extra hardware.

## Reading comprehension

2) Read the text again and decide if the following statements are true (T) or false (F). Copy the sentences that justify your answers.

a) A LAN is a large network covering cities, countries and continents. F

b) In a peer-to-peer network any client computer can also be a supplier. T

c) In ring networks the flow of data is unidirectional. T

d) Hubs can send information faster than switches. F

3) Answer these questions according to the information in the text. Use your own words.

In a LAN connection you can use a cable and in

a) What is the main difference between a LAN and a WLAN? WLAN no.

b) Why are bus networks slow? Because the nodes share the same cable.

c) Why are star networks expensive? Because it's need a lot of hardware and cable.

4) Complete the table with information from the text.

	Advantages	Disadvantages
Bus	cheaper	slow
Ring	quickly data transfer	
Star	most fast	expensive

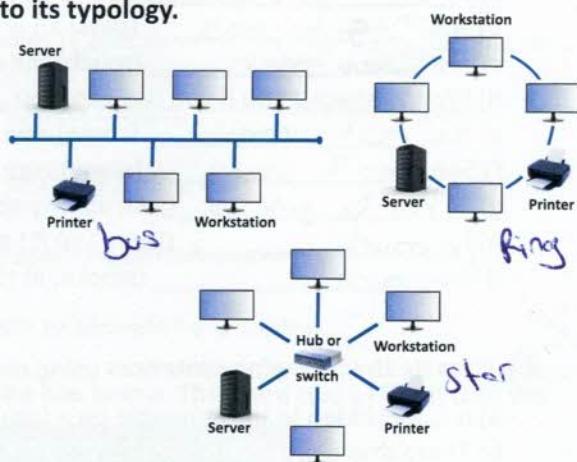
## Vocabulary

5) Find the underlined words in the text and match them with their synonyms in the box. There are two words that you don't need to use.

performed - need - device - travels -  
linked - structure - protocols

- a) Connected - - -
- b) Node - - -
- c) Layout - - -
- d) Flows - - -
- e) Require - - -

6) Write down the name of each network according to its typology.



7) Tell your partner which type of network is suitable in each situation: LAN, MAN, WAN or PAN. Explain why.



- A) An organization wants to communicate with different branches located in the city.
- b) A user wants to interconnect a tablet PC, a laptop and a printer without having to plug anything in.
- c) An IT worker has to arrange a computer lab in a school.

## Modal verbs I

### 1 Read the table.

#### Modal verbs (prohibition, obligation and no obligation)

##### Prohibition

- Mustn't is used to show that something is not allowed or to give strong advice.  
*You mustn't download films from the Internet. It's illegal.*

##### Obligation

- Must and have to are both used to express obligation.
- Must shows us that the obligation comes from the speaker. It isn't a law or a rule.  
*I must call my boss tonight.*
- Have to shows us that the obligation comes from somebody else. It's a law or a rule.  
*Alex isn't coming to class today because he has to work.*

##### No obligation

- We use don't have to to show that there is no obligation. You can do something if you want to but it's not necessary.  
*You don't have to wear a tie in our office. (You can wear a tie if you want to but it's not compulsory.)*

### 2 There is one mistake in each sentence. Correct them.

- I must to remember to send my CV and the letter of application. The deadline is tomorrow.
- Andrew have to work on Saturdays.
- You haven't to pay. The entrance is free.
- You musn't be late to work.
- Students don't have to smoke on the school grounds. It's forbidden.

### 3 Complete the following sentences. Use **must**, **mustn't**, **have to** and **don't have to**.

- I \_\_\_\_\_ take) this book back to the library or I'll get a fine.
- She \_\_\_\_\_ (pass) an entrance examination if she wants to study there.
- You \_\_\_\_\_ (touch) the electric plugs -you might get a shock.
- We can share a taxi if you want to. You \_\_\_\_\_ (walk) home.
- You \_\_\_\_\_ (come) and see us some time.
- Sue \_\_\_\_\_ (study) very hard. She's very smart.
- I \_\_\_\_\_ (pick up) my sister from the airport tomorrow.
- I \_\_\_\_\_ (hurry up) if I don't want to miss the plane.
- You \_\_\_\_\_ (smoke) at the petrol station.

### 4 Rewrite the following sentences using **must**, **mustn't**, **have to** and **don't have to**. The first example is given.

- It is forbidden to insult people on a forum. *You mustn't insult people on a forum.*
- There's no need to cook tonight. Mum has already made dinner.
- You aren't allowed to cheat in a test.
- It is not necessary for you to come to the meeting.
- I am obliged to work extra hours today.
- If you want to buy on ebay, it is necessary to create an account.

## Modal verbs II

5) Read the table.

## Modal verbs (advice and probability)

## Advice

- We use **should**, **shouldn't** and **ought to** to give advice.
- You **should/ought to** use passwords to protect confidential information.
- You **shouldn't** spend so much time playing videogames.

## Probability and possibility

- We use **might (not)** or **may (not)** to say that we think something is possible but we are not sure.
- The computer has shut down unexpectedly again. I think it **might** have a virus. I'm not sure the computer has a virus but I think it's possible.
- I'll try to fix your computer today but I **may not** be able if I have a lot of work.

6) Write sentences with **should**, **shouldn't** and **ought to**. More than one answer may be possible.

- Make a copy of all the important files before formatting your hard drive.
- Pull out a removable device without turning it off. It can damage your external drive.
- Scan all email attachments for viruses before opening them.
- Turn off the file sharing facility if you are working on a public network.
- Install and update a good antivirus program to protect your computer.

7) Rewrite the following sentences using **may**, **may not**, **should** and **shouldn't**.

- Maybe it will rain today. - *It may rain today.*
- It's possible that I get a promotion at work.
- I advise you to format your PC.
- Perhaps it is an infected file.
- It isn't a good idea to open unknown attachments in emails.
- I don't think I will get the new iPad.

8) Underline the correct modal verb in each sentence.

- I don't know how to help you. Try calling Tommy, he studies IT and **shouldn't** / **has to** / **may** be able to find a solution.
- I **have to** / **may** / **could** finish my project for the English subject tonight, but I have a bad headache. I think I'll go for a walk.
- If you have several computers in your home, you **have to** / **may** / **should** network them.  
- Yes, it would be a good idea.
- After installing a new router, you **may** / **should** / **can't** change the default password to improve the security of your network.
- If you set up a wireless network you **don't have to** / **mustn't** / **shouldn't** use cables.

9) Fill in the gaps with the correct form of the modals from the box below. There are two of them that you don't need to use.

shouldn't / don't have to / ought / must / might / may not

Social networking sites are a wonderful invention, however you (a)\_\_\_\_\_ to use them carefully. In order to protect your privacy, you (b)\_\_\_\_\_ keep your profile closed and allow only your friends to view it. Remember that many companies view current or future employees' social networking pages, so you (c)\_\_\_\_\_ say anything or post pictures that could cause you embarrassment. One of the biggest fears is hacking. Hackers (d)\_\_\_\_\_ steal all your personal information if you don't use a strong password.

## Calling IT support



Talk about these questions with your partners.



- What do you do to troubleshoot problems with your devices? (call technical support / call a friend / ask in a forum...)
- Have you ever called IT support? Talk about your experience.



- 1** The word **router** can be pronounced in two different ways: /'ru:tə(r)/ and /'raʊtə(r)/. Which one is the American? Which one is the British? Practise the pronunciation with your partner.



- 2** Listen to conversation one and answer the following questions.

- What problem does the client have?
- When did the problem start?
- What has he done to troubleshoot the problem before calling?
- How can you identify the wireless switch on a laptop?
- What is the key combination to activate the wireless switch on a laptop?



- 3** Listen to conversation two again and fill in the gaps to complete the summary of the conversation.

- The client's network connection \_\_\_\_\_ out every few minutes.
- He has tried \_\_\_\_\_ the router off and on but it still doesn't work.
- The connection fails when he's not working on the computer and the \_\_\_\_\_ comes on.
- The client needs to change the \_\_\_\_\_ on his router.
- He has a Linksys \_\_\_\_\_ router.
- The usual IP address for Linksys routers is \_\_\_\_\_. He has to type it into the \_\_\_\_\_ of his Internet browser.
- The IT worker decides to send a \_\_\_\_\_ because the man doesn't know how to follow the steps.

- 4** The word **switch** can have many different meanings. Read these extracts from the conversations and give a synonym for the word **switch** in each sentence.

- I have also switched it (the router) off and on several times.
- You must have an on/off switch somewhere on your keyboard.
- Try switching to a different channel.

## Try + gerund (-ing)

- Try + gerund means to experiment with different methods to see if something works.
- Have you **tried** turning the router off and on again?

## Won't

- We use **won't** to explain that a machine refuses to work.
- My laptop **won't connect** to my home wireless network.

## Speaking

## Troubleshooting problems

- 1 When you call technical support, you need to answer a lot of questions about your computer problem.  
Match these common questions (1-6) to the correct answers (a-f).



1. What's the *exact* error message on your screen?
  2. What *exactly* is your computer doing?
  3. When did the problem start?
  4. Did anything else happen at the same time the problem started?
  5. What have you already done to troubleshoot the problem?
  6. Has the problem changed since it first started?
- a) Yes, the computer shuts off more frequently.
  - b) It says "Not found. The requested URL was not found on this server."
  - c) The first time was two days ago when I downloaded a program from the net.
  - d) I have tried resetting my modem but it hasn't worked.
  - e) The computer started smoking and there was a bad smell.
  - f) When I turn my computer on, it suddenly powers back off. I hear the fans inside, and the lights on the front also turn on and flash, but then it all stops.

- 2 The class is divided into two groups: members of technical support and customers. Role-play the situations on pages 96 and 97.



## Tech support

You are a member of technical support and clients are going to call you to solve their problems with computers.

Ask them about their problems, tell them how to solve them, and give them some advice.

Look at your cards on page 97 and complete the table.



## Customers

You are a customer. Call technical support and tell them about your problems with your computer.

Look at your cards on page 96 and complete the table.



## Giving advice

- 1 Read the following comment in a forum. What health problems does the writer mention?

Hello everyone!

My name is Angela. I'm only 20 years old and I have constant back and neck pain that spreads to my arm. At the end of the day I have bad headaches and my eyes are often sore and dry.

My parents say it is because I spend too much time on the computer but I disagree. I'm a student and I have a busy social life, but I just use it as often as other teenagers. In the mornings I work on my laptop in class and in the afternoons I use the PC at home to do uni assignments, check my email, update my social networks and play from time to time.

Do you think these symptoms are related to computer use? What can I do to prevent them? Any help will be welcome!

Angela

- 2 This picture shows how to set up a computer workstation to make computer use more comfortable and efficient. Match the sentences with the correct parts of the diagram.



- a) Adjustable chair with dynamic chair back
- b) Top of monitor at eye level
- c) Feet flat on the floor or resting on a foot rest
- d) Wrists flat and straight in relation to forearms
- e) Arms and elbows relaxed close to body
- f) Back straight

- 3 Write a reply to Angela's message giving advice about how to prevent health problems associated with computer use.

## USEFUL EXPRESSIONS

- First of all, it is very important to...
- It would be a good / bad idea to...
- In my opinion, you should / shouldn't...
- I think the best thing for you to do is...
- I advise you to / not to...
- Make sure you...

## Vocabulary

### TCP-IP address



- What does TCP-IP stand for?
- What is an IP address?
- What is an intranet?

#### 1) Read this short text.

**TCP/IP** stands for Transmission Control Protocol/ Internet Protocol and refers to the standard protocol that allows computers to communicate over the Internet. It is the main **protocol** for the Internet and it is used for transmitting data over **networks**.

The **IP address** is a unique address that computing devices use to identify themselves and communicate with others. As it is unique, a computer can be found thanks to it. Computers in an **intranet** have private IP addresses while computers on the Internet have public addresses.



Do we use IP addresses? It is difficult for a common user to understand all the numbers in an IP address. If you need to find something in a specific website, you do not have to enter its IP address. Instead, you enter its **domain name**.

#### 2) Match the words in bold from the previous text with the following definitions or examples.

- a) www.google.com
- b) A system of interconnected computers or other devices
- c) 209.85.229.99
- d) A private network
- e) The set of rules that computers follow
- f) Protocol for computers

- domain name \_\_\_\_\_
- networks \_\_\_\_\_
- IP address \_\_\_\_\_
- intranet \_\_\_\_\_
- protocol \_\_\_\_\_
- TCP/IP \_\_\_\_\_

#### 3) Read the definition of *gateway* and complete it with the missing words.

email - connection - bridge - log - data - networks



A gateway acts as a \_\_\_\_\_ between \_\_\_\_\_ so \_\_\_\_\_ can be transferred from one computer to another. For instance, when you send an \_\_\_\_\_ to a friend or \_\_\_\_\_ into a web, there is a gateway that makes the \_\_\_\_\_ possible.

# Vocabulary

## The World Wide Web

4 Work in pairs. Do you know the meaning of these words? Explain them in your own words.

**World Wide Web    URL    Email**  
**Browser    Router    Newsgroup**  
**DNS    Search engine    HTML**



5 Now, match them with their correspondent definitions.

- a) An Internet-based discussion about a particular topic.
- b) The specific address of a specific site on the Internet.
- c) Pages that can be accessed using a web browser.
- d) A service that enables you to easily find websites and information you are looking for (e.g. Google and Bing).
- e) A hardware device that routes data from a LAN to another network connection.
- f) A program used to access the World Wide Web. *Internet Explorer* is one of them.
- g) A service used to deliver electronic messages to users.
- h) Domain Name System. With it, users do not have to remember the specific numbers of an IP address.
- i) Hypertext Markup Language: The language that web pages are written in.

6 Work in pairs. Talk with your partner about these questions:



- Do you usually send **emails**? When? What for?
- Which **domain names** do you usually type in your web browser?
- Describe the **router** that you have at home and its location.
- What is the best **search engine** in your opinion? Which one do you use the most?
- Have you ever participated in a **newsgroup**? What was it about?
- Which **browser** do you usually use? Why?
- Have you ever used a **private network**?



**1** Read the following text.

**WEB 3.0**

1



5

You may be acquainted with the concept of Web 2.0 in referring to an interactive and social web facilitating collaboration between people. Taking into account this definition, we can derive a definition of Web 3.0. Web 3.0 is the next relevant change in both how websites are created and how people interact with them. The world of computers is based on changes but changes require time and precision. It took ten years to make the transition from the original web to Web 2.0 so it may take longer to make a new change.

10

But what is exactly Web 3.0? First of all, the name is itself a marketing strategy. It is popular, attractive and catchy. It is said that the Web 3.0 will be an artificially intelligent web. Computers will be similar to humans and information will be stored and categorised in such a way that a computer will be able to understand it as well as a human. For example, Web 3.0 will allow you to find movies and food easier and faster instead of visiting many webs. Just typing a complex sentence, the computer will help you find what you're looking for. It will become your personal assistant and the more you show your preferences, the faster the computer will learn about tastes. Finally, one of the most outstanding changes will be the use of webs based on virtual worlds. For instance, if a user wants to buy something online, he/she will be able to visit the different stores of the mall and see the products on the shelves. The possibility of walking around places and visiting virtual settings will be, however, much more complex in terms of programming and graphics.

15

The emergence of Web 3.0 has to do with the increasing popularity of mobile devices and the use of the Internet for entertainment in mobile phones.

20

**2** After reading the text, define Web 3.0 in your own words. What is it? Explain the concept orally to your partners.



- Web 3.0 is...
- It is for...
- It is used to...
- You can...
- The positive/negative aspects about it are...

### Reading comprehension

**3** Read the text again and answer the following questions.

- Why may it take long to create the Web 3.0?
- Is the name of the web a marketing strategy? Why?
- Mention two things you might be able to do with Web 3.0.
- Can a computer know about your tastes? How?
- What is the main reason for the emergence of Web 3.0?

## Reading

**4** Say if these sentences are true or false. Explain the false ones.

- Web 3.0 results from the improvement and development of Web 2.0.
- Web 3.0 is only about websites and their layout.
- It takes time to make an important change in the world of IT.
- Computers will interact with users just like humans.
- It will not be necessary to visit several websites to find out what you want.
- Mobile phones have contributed greatly to the creation of this new web.

## Vocabulary

**5** Look for words in the text that have the same meaning.

- important
- captivating
- kept
- noticeable
- shops
- shopping centre

catchy
store
outstanding
mole

**6** Give synonyms for these expressions.

- To be acquainted with
- To allow somebody to do something
- Become
- For instance
- In terms of

**7** Work in pairs. Imagine two more situations in which Web 3.0 could be useful for the user.

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Surf the Internet and find out more information about the Web 3.0. Then share the ideas in class.

Look for:

- News
- Interesting articles
- Photographs

## Revision of the future tense

- 1) Read the table and complete the rules. Write *present continuous*, *will*, *present simple* or *be going to*.

## The future tense

1. We use \_\_\_\_\_ to:

- **Talk about the future.**

*It'll be spring soon.*

- **Make predictions.**

*The videogame will be a success.*

- **Make spontaneous decisions at the moment of speaking.**

*I cannot listen to music with this Mp3. I'll buy a new one tomorrow.*

- **Make promises.**

*I will help you with the database.*

2. We use \_\_\_\_\_ to:

- **Refer to plans and intentions.**

*I am going to make a cake for my brother's birthday.*

- **Predictions based on evidence.**

*Look out! You are going to fall.*

3. We use the \_\_\_\_\_ to:

- **Refer to arrangements.**

*I am visiting the doctor this evening at 7:30.*

4. We use the \_\_\_\_\_ to:

- **Talk about schedules.**

*The English class starts at 9.*

- 2) Complete these sentences with the verbs in brackets. Use the appropriate future tense in each case.

a) The train from Madrid \_\_\_\_\_ (arrive) at 10 a.m.

b) - I cannot take you to the airport, I'm afraid.

- Ok, don't worry. I \_\_\_\_\_ (call) a taxi.

c) My parents \_\_\_\_\_ (buy) a new car because the black one is broken.

d) Tomorrow at 4 we \_\_\_\_\_ (present) our new project at the Conference Centre.

e) Don't worry. I \_\_\_\_\_ (help) you with your homework.

f) I think I \_\_\_\_\_ (buy) a new pair of boots. It's so cold!

g) When I retire, I \_\_\_\_\_ (travel) around the world.

h) Look at those clouds! It \_\_\_\_\_ (rain)!

i) She \_\_\_\_\_ (go) to the exhibition tomorrow.

j) The second term \_\_\_\_\_ (finish) in March.

- 3) Write five questions to ask to your partner about his/her future plans.

1. \_\_\_\_\_ ?

2. \_\_\_\_\_ ?

3. \_\_\_\_\_ ?

4. \_\_\_\_\_ ?

5. \_\_\_\_\_ ?

- 4) Talk about your future plans with your partners. Ask and answer questions and try to keep a conversation.



A: Are you going to have a car soon?

B: Yes, my parents are going to buy one for me and my sister.



## 5 Choose the best option.

- a) -I'm hungry -Oh, *I will / am going to* make a sandwich for you!
- b) My sister *is going to / will* study law in Manchester next year.
- c) The coach *leaves / is going to leave* in ten minutes.
- d) I think he *is going to / will* be successful in his field of study.
- e) Who do you think *is winning / will win* the next elections?
- f) I promise. *I will / am going to* clean my room.
- g) When *will you meet / are you meeting* the teacher? Tomorrow at 10 am.

## 6 Read the examples below and match them with the correspondent meaning.

- a) My brother **is about to** create his own website.
- b) Sheila is **on the point of** finishing her final paper.
- c) I was **on the verge of** calling the doctor when she got better.
- d) The end of the crisis **is likely to** take place next year.
- e) I **am unlikely to** pass the English exam if I don't study.

1. Express how certain we are that something will happen in the future.
2. Express that something is ready to happen in the near future.

## 7 Write sentences about you in affirmative or negative using the expressions in exercise 6.

a) Do my homework for tomorrow

---

b) Clean my room

---

c) Finish my studies

---

d) Look at my phone

---

## 8 Work in pairs and role-play the following situations.



Student A

You are going shopping this afternoon.

Student B

Ask questions to your partner about his/her plan using **where, when, who, why, what and how**.

Student B

You are throwing a party on Saturday.

Student B

Ask questions to your partner about his/her plan using **where, when, who, why, what and how**.

**Blogs**

- What kind of blogs or websites do you usually visit?
- Describe one. Why do you like it better than other similar websites or blogs?
- Have you ever created one? What was it about?



**1** You will hear a woman talking about her own blog. Listen to the interview and answer the following questions.

- a) What is the blog about?
- b) When did Loraine decide to create the blog?
- c) What makes her blog different and special?
- d) What was the most difficult part of creating a blog?
- e) What can you find in the blog apart from recipes? Mention three things.
- f) What are the three recommendations that she gives to listeners?



**2** Listen again and choose a, b or c.

- |  |                                      |
|--|--------------------------------------|
| 1. How long has the blog been working? | 4. When does she update the blog?    |
| a) Two years                           | a) During the week                   |
| b) Just one year                       | b) On Sundays                        |
| c) Five years                          | c) Twice a week                      |
| 2. Loraine's recipes are...            | 5. Loraine's ideas will influence... |
| a) unhealthy                           | a) young entrepreneurs               |
| b) perfect                             | b) cooks                             |
| c) real                                | c) future creators of blogs          |
| 3. Loraine attended a course of...     | 6. The name of the blog is...        |
| a) web management                      | a) Eat with you                      |
| b) Information Technology              | b) Living with you                   |
| c) old people's needs                  | c) Eating with you                   |

**3** Read the transcript on page 104 and find synonyms for these words.

- |                         |       |
|-------------------------|-------|
| a) Advertisements       | _____ |
| b) Registered, joined   | _____ |
| c) Old                  | _____ |
| d) Pictures             | _____ |
| e) Original, attractive | _____ |

**4** In pairs, you are going to create your own blog. Think about the following aspects and then present the project to the class.

- What will the blog be about?
- Who will be the target audience?
- What information will you offer?
- How will the design be?
- How will you promote the blog?

# Speaking

## Making an oral presentation

### 1 Look at the website and analyse the following aspects:

- Target audience
- Description of the web
- Sections of the page
- Description of the layout
- Attractive elements
- Language/s of the website
- Possibilities for users

### 2 When presenting a topic in front of an audience, you must consider these points.

- Prepare an outline with the main ideas you want to talk about.
- Separate the ideas into sections or parts.
- Practise your speech several times until you feel comfortable with it.
- Be clear, concise and do not read the script.
- Interact with the audience and use body language.
- Speak calmly and at a moderate pace.
- If you use visuals, use them just as a support.
- Relax and keep calm.



### 3 Work in groups of 3. Prepare a presentation to the class about a website. Refer to the aspects of exercise 1. Pay attention to:

- Content
- Coherence and Cohesion
- Grammar
- Vocabulary
- Pronunciation
- Fluency

#### FORMAL LANGUAGE IN ORAL PRESENTATIONS

##### INTRODUCTION

*We would like to talk about...*

*Let me first give you a brief overview...*

##### BODY

*This leads to the next point*

*Let's move on to...*

*Let's take a look at...*

*Regarding... / With regard to...*

*Moreover / In addition*

*As I said earlier*

*We think / We consider*

*This is about...*

##### CONCLUSION

*In conclusion / To sum up / To finish*

## Predicting the future

- 1 Work in pairs. Talk about how life will be in the future regarding these topics. Then, share your ideas with the class.



- Houses
- Human relationships
- Cars
- Teaching
- Television
- Health
- Eating- Food
- Information Technology



- 2 In 1964, science fiction writer Isaac Asimov predicted how life would be by 2014. Read his predictions and say if he was right.

- a) "Kitchen devices **will be designed** to prepare automeals, heating water and converting it to coffee."
- b) "Ready-made food **will be stored** in people's freezers."
- c) "Appliances of 2014 will not have electric cords."
- d) "Cars **will be designed** with robot-brains."
- e) "Transportation will have little contact with the surface."
- f) "Satellites will make it possible for you to direct any spot on Earth."
- g) "Communications will become sight-sound and you will see as well as hear the person you phone."
- h) "There will be 3D televisions."
- i) "Robots will not be very common."
- j) "Human beings will suffer badly from the disease of boredom."

- 3 Look at the verbs in bold in exercise 2. They are written in future passive voice.

### will be + past participle

- A new house **will be built** in the neighbourhood.
- A new vaccine **will be discovered** soon.
- The book **will be published** in two weeks.
- The car **will be washed** for the wedding.

- 4 Write a text about how life will be in 2050.

- Refer to different **topics** (languages, media, houses, health, relationships, computers, food...)
- Use **will**, the passive voice and other future expressions to refer to the **future**.
- Structure your writing in **paragraphs**.
- Use **connectors** and specific **vocabulary**.



# 5 Office software

Vocabulary: Word processors. Spreadsheets and databases  
Reading: Open-source software

Grammar: Questions  
Listening: A talk

Speaking: Dealing with complaints  
Writing: A survey

## Vocabulary

### Word processors

- 1) Look at the toolbar. Which function does each button have?  
Write the correct number next to each word.



- What are word processors? What do people use them for?
- Which word processors do you know?
- Which one is the most popular?
- Which one do you like the best? Why?

Indent

Italics

Undo



Highlight

Justify

Bold

Align

- 2) Read the following sentences. Which functions in the previous toolbar do they refer to? Write the names and then find the secret word.

1) Applies certain style that darkens a selected text to emphasize it.  
\_\_\_\_\_

2) Reverses the last action or deletes the last entry you typed.  
\_\_\_\_\_

3) Places the selected text in a line to the right, to the left or to the middle.  
\_\_\_\_\_

4) Marks text in a different colour so that it stands out from the surrounding text.  
\_\_\_\_\_

5) Increases or decreases the distance of the paragraph from either the left or the right margin.  
\_\_\_\_\_

6) Applies certain style that makes the letters slope to the right to emphasize a particular word or indicate a foreign term.  
\_\_\_\_\_

7) Aligns the selected paragraphs to both the left and right margins.  
\_\_\_\_\_

The secret word is \_\_\_\_\_

- 3) Choose the correct option.

- A *template / format / file* is a pre-designed document that you can use to create documents quickly without having to format them.
- The *font / layout / header* is the area in the top margin of each page where you can insert text or graphics, usually a company logo or the author's name.
- The *footer / font size / toolbar* is the area in the bottom margin of each page where you can insert text or graphics, usually page numbers.
- The *spellcheck / print preview / redo* tells you if your text contains any spelling mistakes.
- A *clipart / macro / table* is a series of keyboard and mouse actions that have been recorded and can be repeated.

# Vocabulary



## 4 Complete these instructions with the correct verbs from the box.

right-click - place - choose - click - drag - press - highlight - hold

### How to cut and paste text in a word processor

First, (a)\_\_\_\_\_ the part of the text that you want to copy. You can either (b)\_\_\_\_\_ the mouse over a specific portion of text or (c)\_\_\_\_\_ Ctrl and (d)\_\_\_\_\_ E to select all of the text on the document. Then, (e)\_\_\_\_\_ on the *Cut* icon on the toolbar. The selected part will disappear and go on to an invisible clipboard. Finally, (f)\_\_\_\_\_ the cursor where you want to paste the text. To insert the content of the clipboard, click on the *Paste* icon on the toolbar. Other options are to use the shortcuts Ctrl+X to cut and Ctrl+V to paste or (g)\_\_\_\_\_ the selected text and (h)\_\_\_\_\_ the *Cut* icon and the *Paste* icon from the menu.

## Spreadsheets and databases

### 5 Decide if the following functions refer to spreadsheets or databases.

- a) Perform calculations about sales data.
- b) Perform a complex **query**.
- c) Create a **formula** using different functions and **operators**.
- d) Use the data in the **cells** of a **worksheet** to create charts and graphs.
- e) Enter names and addresses into the **field**.

### 6 Find in the previous exercise the correct words to complete these definitions:

- a) \_\_\_\_\_ are the symbols (+,-,\*,:) that represent an arithmetic operation in a formula.
- b) A \_\_\_\_\_ is an expression that represents a mathematical spreadsheet calculation.
- c) A \_\_\_\_\_ is a search that locates all information of a specific type.
- d) \_\_\_\_\_ are the units of a spreadsheet that hold a piece of information.
- e) A \_\_\_\_\_ is a database category that holds a type of information.
- f) A \_\_\_\_\_ is a single page of a spreadsheet.

### 7 Look at the worksheet and decide whether these sentences are true or false.

A	B	C	D	E
1	MY BUDGET SPREADSHEET	JANUARY		
2	INCOME		TRANSPORTATION	
3	salary	1100	Petrol	100
4	salary	1200	Public transport	
5	<b>total</b>	<b>2300</b>	Car insurance	
6			Repairs	
7	HOME EXPENSES		<b>total</b>	100
8	Rent/Mortgage	700		
9	Electricity	85	ENTERTAINMENT	
10	Water	53	Hobbies	250
11	Internet	40	Holidays	
12	Telephones	20	<b>total</b>	250
13	<b>total</b>	<b>898</b>		
14			MEDICAL	
15	DAILY LIVING		Prescriptions	
16	Food	500	Glasses & contacts	90
17	Clothing	100	Dental	
18	<b>total</b>	<b>600</b>	<b>total</b>	90
19				
20	TOTAL INCOME	2300		
21	TOTAL EXPENSES	1938		
22	<b>DIFFERENCE</b>	<b>362</b>		

- a) The value of cell B5 is the result of adding the value in cells B3 and B4.
- b) Row 20 shows the money that a family has spent during the month of January.
- c) Cell B22 is the result of a formula that subtracts the contents of cell B21 from cell B20.
- d) Column A and column D are wider than the other columns.
- e) If you type a value in cell E6, the value in cell E3 will be recalculated.

**1** Read the following text. What do these numbers refer to?

42 \_\_\_\_\_

40 \_\_\_\_\_

### OPEN-SOURCE SOFTWARE

1 Software is one of the most useful tools of the Digital Age. Unfortunately, since purchasing a license of a software program is quite expensive and it is very easy to make a copy of a program in seconds, software piracy is a widespread problem.

5 According to BSA (The Software Alliance), 42% of all PC software packages installed in the world in the year 2012 were pirated, which meant a loss of more than 40 billion dollars worldwide. It is undeniable that piracy is harmful for software manufacturers. However, they are not the only victims. By using unlicensed or counterfeit software, consumers face considerable risks as these products may contain viruses or other malicious code that can damage computers or even lead to identity theft.

10  It is very important to understand that software is protected by intellectual property law, which varies by country. All legal software comes with a license so it is illegal to copy a program purchased legitimately and use it on more computers than the license authorises. You are also violating the terms of license if you break the protection of software or encryption to obtain a serial number or password, also known as "cracking", or if you reproduce and distribute counterfeit software. In any of these cases your country can impose you a fine or a penalty for copyright infringement.

15 For those individuals or companies that want to save money there is an alternative to piracy called open-source software. For instance, OpenOffice is one of the most popular free office suites, GIMP is the free alternative for photo editing, and VLC is a well-known free audio and music player.

20 Open-source software is completely free to use and distribute so if you download one of these programs without paying anything or you decide to create a copy, you are not breaking the law. And what's more, this software provides you with a wide range of advantages over licensed software.

25 Open-source software does not depend on its original creators, which makes it more secure. Its codes are available for anybody and they are developed by volunteers. If any bugs are found in a version, users do not have to wait for the next version of the program because any interested programmer can fix the problem. In addition, this kind of software uses open standards, which means that there aren't any problems of incompatible formats.

30 On the other hand, we may encounter some problems. Not all applications run both on open source and proprietary software. There are many parallel developments on open source software, which creates confusion. Many projects die because programmers quit or lose interest and move on to another project as they are not hired by any particular company.



### Reading comprehension

**2** Read the text again and answer the following questions. Use your own words.

- What are the two main reasons of software piracy?
- What are the risks of using unlicensed software?
- Which three examples of license violation does the text mention?
- Why are some open-source projects cancelled?

## Reading

**3** Decide if the following sentences are true (T) or false (F) according to the information in the text.  
Justify your answers.

- a) Software piracy is happening all around the world.
- b) Piracy only damages software manufacturers.
- c) All countries have the same copyright laws.
- d) If you don't want to buy a licensed program, the only solution is to pirate it.

**4** Choose the correct answer.

- |   |  |  |
|---|--|--|
| 1. Open-source software can be modified by anyone because...  | 2. Any volunteer...  | 3. When you crack software, you...   |
| <ul style="list-style-type: none"> <li>a) it uses compatible formats</li> <li>b) the source code is included</li> <li>c) it doesn't depend on its creators</li> </ul> | <ul style="list-style-type: none"> <li>a) is able to find a problem</li> <li>b) is authorised to solve a bug</li> <li>c) can be hired by a company to work on a project</li> </ul> | <ul style="list-style-type: none"> <li>a) gain illegal access to protected software</li> <li>b) distribute copied software</li> <li>c) install the same license on more than one computer</li> </ul> |

## Vocabulary

**5** Find words in the text that mean:

- a) Helpful (line 1)
- b) Popular (line 20)
- c) Mistakes in a computer program (line 25)
- d) Repair (line 26)

**6** Match the words in column A and B to form collocations.

A	B
a) Hire	the law
b) Break	a problem
c) Fix	a license
d) Save	a programmer
e) Purchase	money

 Surf the Internet and find out more free and open software to replace expensive software packages.  
Then share the ideas in class.




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## Questions

### 1 Read the tables.

#### Verb to be

Question word	Verb to be		
What Who Where When Whose Why How	is / was	▪ he / she / it / my bag? ▪ this / that (bag)? ▪ at the party?	▪ Where is she? ▪ What is this? ▪ Who was at the party?
	are / were	▪ we / you / they / my ▪ keys? ▪ these / those (keys)?	▪ Where are they? ▪ Whose are those keys? ▪ Why were you at the party?

#### Other verbs

Question word	Auxiliary	Subject			
What Who Where When Why How How much How many	is / are was / were	you he she it we they	doing going	seeing meeting	▪ What are you doing?
	do / does did		do go	see meet	▪ Who did you see?
	can / could will / would should		do go	see meet	▪ When can we meet?
	have / has had		done gone	seen met	▪ Where has she gone?



### 2 Make questions using these prompts. Then ask and answer them with your partner.

- a) How fast / your internet connection?
- b) How much / pay for internet access last month?
- c) How long / live in this town?
- d) How often / format your PC?

### 3 Write questions for these answers.

- a) I am crying because I have hurt my leg.
- b) When I go to London I will stay at a hotel near Piccadilly Circus.
- c) The film finished at midnight.
- d) When I'm sad I listen to music.
- e) I was at the cinema when you called me.
- f) If I were you I would apologise.
- g) I am going to buy a car next month.
- h) She has had her current mobile phone for a couple of months.

## Grammar

- 4**) Read the tables.

Subject questions	Object questions
<p>When <i>who</i> or <i>what</i> is the subject of the question, we use the affirmative form of the verb and we don't need the auxiliary.</p> <ul style="list-style-type: none"> <li data-bbox="225 518 595 534">▪ <i>Who invited you to the party?</i></li> <li data-bbox="225 538 616 554">▪ <i>What happened after the party?</i></li> </ul>	<p>When <i>who</i> or <i>what</i> is the object of the question, we use the interrogative form of the verb.</p> <ul style="list-style-type: none"> <li data-bbox="774 518 1164 534">▪ <i>Who did you invite to the party?</i></li> <li data-bbox="774 538 1164 554">▪ <i>What did you do after the party?</i></li> </ul>

- 5 Decide if *who* or *what* is the subject or the object in each question. Then correct the mistakes.

- a) Who did the Internet invent?
  - b) Who did tell you that story?
  - c) What does make you laugh?
  - d) What studies she?
  - e) Who arrested the police?
  - f) What did happen last night?
  - g) What stole he?

- ### 6) Read this table about indirect questions.

## Indirect questions

Indirect **questions** are more formal and polite than direct questions. We use them when talking to a person we don't know very well or in professional situations.

- If the direct question has a question word (wh-), we change the interrogative form to the affirmative form and we put the subject before the verb.  
**Direct:** *What time is it?*  
**Indirect:** *Could you tell me what time it is?*
- If the direct question is a yes/no question, the indirect question will have *if*.  
**Direct:** *Does Tom like Chinese food?*  
**Indirect:** *Do you know if Tom likes Chinese food?*

- ### 7 Change these questions into indirect questions.

- a) Why did you move to England? I was wondering...
  - b) Has Steve ever studied abroad? Do you have any idea...
  - c) How much does this alarm clock cost? I'd like to know...
  - d) Are your parents coming tomorrow? Could you tell me...
  - e) What time does the shop close? Do you know...
  - f) Do you speak English? I was wondering...
  - g) Why did you leave that job? Could you tell me...



**A talk**

- 1** You are going to listen to a talk. Listen to the first part and decide if the following sentences are true or false. Then correct the false ones.

a) Dana Moar founded Little Cute Things on her own.

---

b) Dana and Andrés decided to set up a business because they didn't have a job.

---

c) Before starting the business they had planned to look for a job abroad.

---

d) Dana studied journalism but she has never worked as a journalist.

---

e) They launched the site in February 2012.

---

f) Dana is responsible for creating the products of the company.

---



- 2** Listen to the second part and answer the following questions.

a) Was it easy for them at the beginning?

---

b) How much money did they earn last year?

---

c) According to Dana, why is the business successful?

---

d) What are their strategies to attract new customers?

---

e) What are their plans for the near future?

---

- 3** Read the transcript on page 105 and put the following events in order.

- a) They had the idea of setting up a business.
- b) Andrés finished his degree in Graphic Design.
- c) They decided to sell their products in shops.
- d) Dana worked as a journalist.
- e) They launched the website of the company.
- f) They started having profits.



- 4** Work with a partner. Write down the questions that you would ask Dana at the end of the talk.
- 
- 
- 
- 
-

## Speaking

## Dealing with complaints

- 1) Look at the sentences below. Who do you think says each sentence -the salesperson (S) or the customer (C)? Then put them in order.

S I see. Would you like to exchange them for a new pair?  
 — I don't need anything for now so I'll take the credit note. Thank you.  
 — Good morning. Can I help you? 1  
 — Yes, I bought these waterproof headphones last month and they're not working properly.  
 — Well, they aren't waterproof at all. One of the earphones stopped working well as soon as I started to swim. I had to dry them out to get them work again. Plus, the sound quality is terrible. I'm really disappointed.  
 — I'm sorry about that. Have you got the receipt?  
 — Well, actually I'd like my money back, please.  
 — Yes, here it is.  
 — What seems to be the problem, sir?  
 — Oh, I'm afraid we don't give cash refunds. You can either choose something else or we can offer a credit note.



- 2) Read the expressions in the table. Label each category with the titles in the box.

explaining what you want - explaining a problem - apologising - offering a solution

1

The instructions are missing.  
 This product is faulty.  
 I'm afraid it isn't working.  
 It doesn't seem to work.

3

I'd like a refund.  
 I'd like to have my money back.  
 I'd like to exchange / return the item.  
 Can I speak to the manager, please?

2

We can give you a credit note.  
 We can send it off to be repaired.  
 We'll repair it free of charge.  
 Would you like an exchange?  
 Would you like a refund?

4

I understand you are upset.  
 I'm sorry about that.  
 I'm afraid we can't exchange goods without the receipt.  
 I'm afraid it's not our policy to give

- 3) Work in pairs. Take turns and role play the following situations.

**STUDENT A:** You work in an electrical goods store. You think the customer has damaged the product. You can't give a refund unless you are sure it was damaged when the customer bought it.

**STUDENT B:** You bought a mobile phone a week ago but it stopped working when you accidentally dropped it in water. However, you are going to say that it was faulty and you would like your money back.

**STUDENT A:** You work in an electrical goods store. You can only offer an exchange if the customer has the receipt.

**STUDENT B:** You bought a printer yesterday and when you got home you realised that it didn't work. You want to exchange the item but you don't have the receipt. You are very angry because you are a regular customer and you think the shop assistant is not treating you well.

**A survey**

- 1** Read this survey on mobile phones. Answer the questions with your own information and then compare your answers to your partner's.

**1 How long have you had your present mobile phone?**

- a) Less than one month    b) Between one month and one year    c) More than one year



**2 Which mobile operating system do you have?**

- a) Android    b) iOS    c) Symbian    d) Blackberry    e) Windows Phone    f) Others

**3 How much is your mobile phone bill every month?**      a) <15€    b) 15-30€    c) >30€

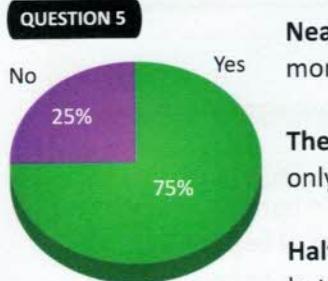
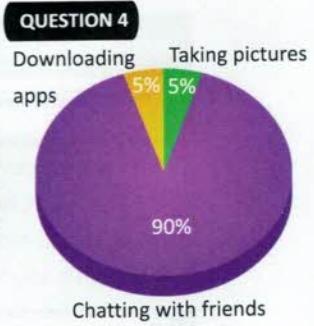
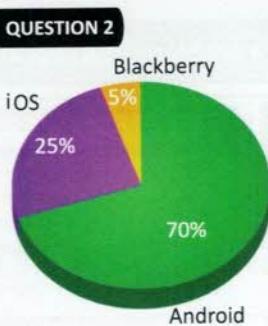
**4 If you could use your mobile for only one of the following activities, which activity would you choose?**

- a) Downloading apps    b) Chatting with friends    d) Taking pictures    e) Listening to the radio

**5 Have you ever used your smartphone in class to chat with your friends?**    a) Yes    b) No    c) N/A

**6 Do you think you check your smartphone compulsively?**    a) Yes    b) No    c) N/A

- 2** Look at the pie charts and read about the results. How do you say the expressions in bold in your language?



**Nearly all students** have had their current mobile phones for more than a month and less than a year.

The **majority of students** use Android; **one out of 4** has an iOS smartphone and only 5% own a blackberry. **No one** uses a different operating system.

**Half of the students** pay a bill of less than 15€ a month; 40% of them pay between 15 and 30€ and only 10% pay more than 30€.



**Most students** would choose chatting with their friends if they had to use their mobile phones for only one activity.

**A good part of students** say that they have used their phones in class to chat but only **one third of them** admit that they check their phones compulsively.

- 3** Think of an interesting topic and write five questions and possible answers. Then do the survey to your partners and write a summary of the results.

# 5 Programming languages

Vocabulary: Programming languages  
Reading: Java

Grammar: Giving instructions  
Listening: Web programmers

Speaking: Creating an online tutorial  
Writing: A set of instructions

## Vocabulary

### Programming languages



- What is a programming language?
- How many programming languages do you know?
- What are the two most common types of programming languages?

- 1) Complete the definition of programming language with the words in the box.

software    code    Java    language    tasks    rules    programmers



A programming (a) \_\_\_\_\_ is a set of (b) \_\_\_\_\_ for instructing a computer to perform specific (c) \_\_\_\_\_. Each language has keywords and a special syntax for organising program instructions. Languages that (d) \_\_\_\_\_ use to write code are called "high-level languages" such as (e) \_\_\_\_\_ or C++. Those languages help developers build useful (f) \_\_\_\_\_ with only a few lines of (g) \_\_\_\_\_.

- 2) There are two common types of programming languages: compiled and interpreted. Match them with the following definitions.

a) It is a programming language which needs compilers to generate machine code from source code. \_\_\_\_\_

b) It is a programming language which executes instructions directly without previously compiling a program. For this reason, this language is slower since it requires more time to be executed. \_\_\_\_\_

- 3) Divide programming languages that you know into compiled or interpreted.

COMPILED	INTERPRETED

# Vocabulary

**4** Match the following programming languages with their correspondent definitions.

PHP    Java    Objective-C    HTML    C/C++    XML    JavaScript

- a) It is a markup language web pages are written in.
- b) It is a markup language used in documents. For example, it allows the user to create a database of information without having the actual database.
- c) Interpreted language used in a combination of HTML and XML to make programs more dynamic. This is commonly used to access databases and create HTML web pages with the data gathered from them.
- d) This programming language can be integrated into standard HTML pages. It is mainly used to create dynamic and interactive webs.
- e) The fastest languages in terms of execution. They were used for writing Unix programs but now they are used to write applications for any available platform.
- f) It is the C adaptation for Apple devices.
- g) Now maintained by Oracle, it is multiplatform and is used in applications and games.

**5** Write a definition for the following words. Use the Internet if necessary.

- a) To program: \_\_\_\_\_
- b) Compiler: \_\_\_\_\_
- c) Variable: \_\_\_\_\_
- d) Function: \_\_\_\_\_
- e) Parameter: \_\_\_\_\_



**6** Complete the sentences with the words in the box.

execute    debug    script    IDE

- a) A \_\_\_\_\_ is a list of commands that are executed one by one.
- b) To \_\_\_\_\_ means to identify and remove errors from computer software.
- c) \_\_\_\_\_ stands for Integrated Development Environment. Software program that is designed to help programmers and developers build software.
- d) To \_\_\_\_\_ implies carrying out an instruction or program.

**7** Work in pairs. Talk with your partner about these questions:



- What is the programming language used in your school?
- Who is the programmer of your school?
- Which programming languages do you study in this vocational training course?

**1** Read the following text.

**JAVA**

- 1 Java is one of the most popular programming languages. It **was developed** by Sun Microsystems. Since 1995, Java **has been** a language developed specially to run on the Web but it has also made devices smarter, more functional and more entertaining. It does not only work on the Internet but also behind applications and devices that users find in their day-to-day lives. Most computer users and even non computer-literate people know or have heard of Java and its specifications. However, curiously enough, what has caused more interest among the population is the history of Java's name. Why did they decide to call it Java? Java seemed to be such a weird name for a programming language that people started to wonder why the engineers **had chosen** it for a language that **would revolutionize** the computer world. Why they did so is still something of a mystery.
- 10 Java **was created** by a group of Sun engineers led by James Golding and it **was first named** Oak after an oak tree that stood outside Golding's office. However, this name was soon discarded as it already belonged to an existing trademark. The way to find the perfect name for the new language **had just started**. The engineers working on the project did not want a name that contained the word "web" or "net" because it implied a direct association with the web and the Internet. Moreover, people were used to seeing those words in computer devices and programs and that is why they intended to escape from routine and from the expected. Kim Polese -manager of the product- says that they **were looking for** something that reflected the essence of technology; something lively, dynamic, easy, unique and revolutionary.
- 20 All the engineers involved in the project agree that the name Java originated in a meeting where about a dozen people got together to brainstorm. Everyone yelled out original, non-sense and out-of-the-blue names which were written on a board. Names like DNA, Pepper, Neon or Silk came up. It is said that they had been in the meeting for so many hours that one of the engineers, while he **was drinking** a cup of Peet's Java coffee, picked Java as an example to add to that long list of proposals. Chris Warth is believed to have suggested the name but there are still doubts about who really did. From that list of names, they chose their three favourites: Java, Silk and DNA. They even asked opinion to their colleagues, family members and friends and the result of this non-official survey was that Java got more positive reactions.
- 30 There **has always been** a concern about the origins of Java. People have always been interested in solving the mystery. If you **do** a quick search of this topic, you **may find** that Java was the name of the cafeteria the engineers used to go to while working on the project, that Java was chosen because they loved the island of Java, that they chose the coffee name for marketing reasons... The truth is that the decision was not made by just a hero or for just one reason; it was the result of a group of individuals trying to achieve their goals and a cup of coffee placed in the perfect room at the perfect time.



### Reading comprehension

**2** Read the text again and answer the following questions.

- Why were people so interested in the origins of Java's name?
- Why was Oak not a possible name?
- What did the engineers want to avoid in the new name?
- How did Chris Warth come up with the idea of Java in the meeting?
- What may you find if you research the origins of Java's name?



## 6 Programming languages

# Reading

### 3 Say if the following sentences are true or false. Explain the false ones.

- a) Java has contributed to the web as well as to the improvement of applications and devices.
- b) Oak was suggested as a name after the oak that was in Golding's office.
- c) The word "web" was a must for a name that implied the essence of technology.
- d) In the brainstorm meeting the attendants were euphoric and enthusiastic when giving ideas.
- e) Chris Warth is today believed to have suggested the name Java.
- f) The name Java was chosen by family members, colleagues and friends out of three final names.
- g) The truth is that Java refers to the cafeteria the engineers used to go to.
- h) The origin of the name comes from the willingness of a group of people and a pure coincidence.

### 4 Match the following words/expressions from the text with their correspondent synonyms or definitions.

smart - weird - achieve - survey - discard - trademark - lively - concern -  
run - dozen - yell out - out of the blue - day-to-day - computer-literate

- a) animated, cheerful
- b) cry out, shout
- c) worry
- d) intelligent
- e) operate, perform
- f) get rid of, eliminate
- g) symbol, brand
- h) odd, bizarre
- i) twelve
- j) analysis, study
- k) daily, periodic
- l) able to use computers
- m) unpredicted
- n) get

### 5 Find the verbs in bold in the text and classify them. Can you find more examples?

- a) Conditional
- b) Present Perfect
- c) Past Perfect
- d) Passive
- e) Past Continuous



## Giving instructions

- 1 There are many ways to give instructions in English. Read the following examples:

Imperative	By + -ing
<ul style="list-style-type: none"> <li>Click on the right button.</li> <li>Search the information using this search engine.</li> </ul>	<ul style="list-style-type: none"> <li>Start the search by typing a word in the search box.</li> <li>Print the document by pressing the green button.</li> </ul>
Sequence words	Complex instructions
<ul style="list-style-type: none"> <li>First, select the information you want.</li> <li>Then, press Ctrl+C to cut it.</li> <li>Finally, press Ctrl+V to paste it in the new document.</li> </ul>	<ul style="list-style-type: none"> <li>After having clicked on "send", you won't be able to make any changes.</li> <li>Once the document has been sent, you won't be able to make any changes.</li> </ul>
To + infinitive	
<ul style="list-style-type: none"> <li>To print the document, press the green button.</li> <li>To scan the document, use the new scanner.</li> </ul>	

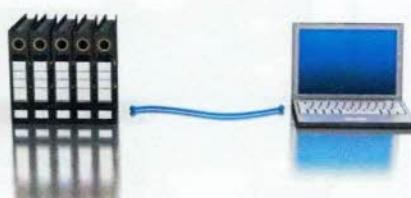
- 2 Your mother has a new mobile phone and she does not know how to take photos and send them to you. Write instructions for her using the previous forms:



- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_
- f) \_\_\_\_\_
- g) \_\_\_\_\_

- 3 Complete the following instructions for scanning a document:

- a) First \_\_\_\_\_ (switch on) the scanner by \_\_\_\_\_ (press) the orange button.
- b) To \_\_\_\_\_ (scan) the document in black and white, \_\_\_\_\_ (press) the "copy" button.
- c) Start the scan process by \_\_\_\_\_ (press) the "scan" button.
- d) Having \_\_\_\_\_ (scan) the first side of the paper, \_\_\_\_\_ (turn) the page.
- e) Once the document \_\_\_\_\_ (scan), \_\_\_\_\_ (switch off) the scanner.
- f) Finally, \_\_\_\_\_ (save) the new document in your folder or pen drive.



## 6 Programming languages

## Grammar

4 Work in pairs. Give instructions to your partner orally for the following actions. Use the expressions in exercise 1.



### **Student A**

- Share a document with your partner using Dropbox or Google Drive
  - Make ten photocopies of a document
  - Play your favourite videogame
  - Make a Spanish omelette
  - Use the washing machine

Student B

- Send a photograph to your friends via Whatsapp
  - Download and install an antivirus
  - Play your favourite mobile game
  - Prepare a nice cup of coffee
  - Use the microwave

**5**) Match the sentences a-e to 1-5 to give appropriate instructions.

- |  |  |
|--|--|
| a) Turn on the television                      | 1. use the kettle.                           |
| b) Having finished the activity,               | 2. add them to the pan.                      |
| c) To heat the water,                          | 3. by pressing the red button of the remote. |
| d) Once the selection of photos has been made, | 4. help your partner with it.                |
| e) Having whisked the eggs,                    | 5. delete the rest.                          |

## Asking for instructions

**6** Work in pairs. Student A is going to ask for suggestions to use the following devices. Student B is going to give specific instructions.



## How do you...?

## What is the best way to...?

## What do you suggest?

## What is the first step?

## What do you do next?

## Can you explain to me how...?



**Web programmers**

- 1** Meredith and Derek work for a software development company. They are going to start a new project. Listen to the conversation and answer the following questions:

- a) What type of website does Mr Taylor need?
- b) What three programming languages are they going to use?
- c) What database program will they use?
- d) How many people will be involved in the project?
- e) How long will it take to finish the project?



- 2** Listen again and write the name of the person that corresponds to the following statements (Meredith, Derek, Mr Taylor, Sarah, Michael).

- a) \_\_\_\_\_ had a good weekend.
- b) \_\_\_\_\_ had an ordinary weekend.
- c) \_\_\_\_\_ is an entrepreneur and has good ideas.
- d) \_\_\_\_\_ wants to do a more dynamic web.
- e) \_\_\_\_\_ and \_\_\_\_\_ will be the programmers.
- f) \_\_\_\_\_ was the usual designer.
- g) \_\_\_\_\_ is not working at the company because of a health problem.
- h) \_\_\_\_\_ hired an inefficient person some time ago.
- i) \_\_\_\_\_ will be the systems administrator.
- j) \_\_\_\_\_ will revise the web after one week.
- k) \_\_\_\_\_ has to make some phone calls.

- 3** Read the transcript on page 105 and look at the expressions in blue. What do they mean?



## 6 Programming languages Speaking



### Creating an online tutorial

1 Answer these questions and share your ideas with the class:



- a) What is a tutorial?
- b) Have you ever searched a tutorial online? Was it useful? Why/Why not?
- c) What are the websites that people usually visit to find good tutorials?
- d) Who are the creators of tutorials? Who is the target audience?
- e) What are the most common topics that tutorials are made about?
- f) Mention the elements that make a tutorial useful and good.
- g) Is music necessary in an online tutorial? Why/Why not?

2 Work in groups. Search an online tutorial in English and show it in class. Analyse the following elements:

- Instructions
- Clarity and brevity
- Image and sound
- English language
- Usefulness



3 Work in pairs or groups. You are going to create a video-tutorial. Follow these instructions:



1. Choose the device/service/program you want to give instructions for.
2. Prepare an outline with the necessary instructions. Be clear and concise.
3. Use proper grammar (page 55- instructions) and specific vocabulary.
4. Record a video using the digital resources that you need: camera, video-editing programs, audio programs or other specific programs.
5. Present the video to the class.
6. Pay attention to fluency, grammar, vocabulary, content, structure and pronunciation.



## A set of instructions

- 1) Read the following set of instructions for setting up a TV remote control:

**ENG FAIOS REMOTE CONTROL**

This user manual will show you how to program and operate your new FAIOS remote control.

1. Turn on the TV and the FAIOS remote control. Make sure you can see live television.
2. Locate the 3-digit code for your TV brand in the list that appears on the screen.
3. Once you have located the brand code, press and hold the <OK> button. The red led on the remote will blink twice and then stay on.
4. Press <OK> to save this TV brand code programming.
5. Turn the TV off by using the red button.
6. Turn the TV on to test that the remote control is programmed for your TV.
7. Press and release <VOL +><VOL -> and <CH +><CH -> to make sure that these keys work.

**YOUR REMOTE CONTROL IS NOW PROGRAMMED FOR YOUR TV!**



- 2) Read the text again and look at the words in bold. What do they mean?

- 5) Write a set of instructions for setting and programming two of the following devices.

- 3) Underline the following grammar structures in the text:

a) Imperative forms of the verbs

b) Future forms

c) By + *ing* structures

ebook - Thermomix - fan - vacuum cleaner - microwave - air conditioning - TV - iron - DVD player - fridge - stereo - washing machine

- 4) Look for sets of instructions you may have at home. Check that they are in English and take them to class. Analyse them in groups.

