Verónica Real • Belén Pascual

New English for INFORMATION TECHNOLOGY and Telecommunications

Student's Book

educàlia editorial

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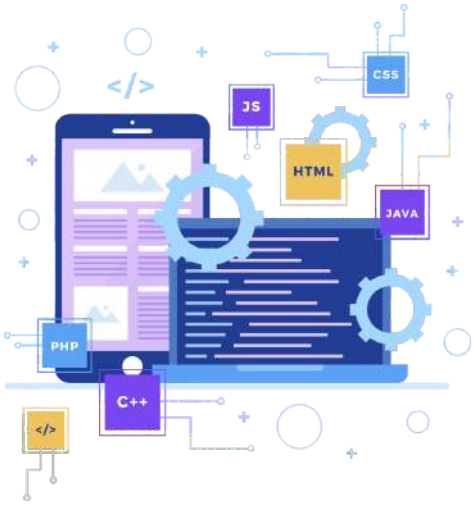
2 PROGRAMMING

Vocabulary: Programming; software development
Reading: Discover Python
Grammar: Past simple and past continuous
Listening: Fixing bugs
Speaking: Troubleshooting problems
Writing: A forum reply



Programming

1 **Work in pairs. Ask and answer the questions.**

a) Do you like programming? Why / why not?

b) When did you start learning programming?

c) Is programming important for the future? Why?

d) Do you think everyone should learn programming?

2 **Complete the definition of programming language. Use the words in the box.**

code · rules · hardware · syntax · tasks · programmers

A programming language is a set of 1..... used to instruct a computer to perform specific 2..... Each language has its own keywords and 3..... for organising instructions. Programming languages allow 4..... to write 5..... that controls how a computer works and how software behaves. High-level languages, such as Java, Python or C++, are closer to human language and easier to read and use. Low-level languages are closer to machine language, give more direct control over 6....., but are harder to learn.

3 **Match each language with its correct definition.**

Java · PHP · Python · C++ · SQL · JavaScript

a) It is used to make websites interactive, like buttons and animations.

b) It is used mainly for making dynamic web pages on servers.

c) It is used to make programs that can run on many different computers.

d) It is easy to learn and used for web development, data science and automation.

e) It is used to store, search and organise information in databases.

f) It is used for programs that need high speed or control, like games or system software.

Software development

4 Complete the sentences with the words in the box.

design · test · release · deploy · update · add · fix

Software development is a process with different stages. First, developers 1..... the software and plan how it will work. Then they develop the application by writing code and creating features. After that, they 2..... the software to find and fix errors. When the program is ready, they 3..... it so users can download or use it. Later, developers 4..... the software on servers or platforms. After some time, they 5..... and maintain the software to improve performance, 6..... new features and 7..... security problems.

Bugs

5 Match the definitions (a-e) to the correct words (1-4).

1. Patch	a) A small or temporary problem in a computer program that usually does not stop it from working completely.
2. Glitch	b) The process of finding and fixing problems in a program so it works correctly.
3. Crash	c) A small update or fix for software that corrects problems, improves security or adds small features.
4. Debugging	d) A sudden failure of a computer program or system that stops it from working.

Roles

6 Read the sentences and decide if they are true or false. Correct the false ones. Use the internet to help you.

a) A **programmer**'s main job is to find and fixes bugs in software.
b) A **developer** builds software, plans features, tests programs and maintains applications.
c) A **front-end** developer handles databases and server logic.
d) A **back-end** developer works on the part of a website that users see.
e) A **full-stack** developer works on both front-end and back-end.
f) A **QA tester**'s main job is to write code to create software.

1 **Read the following text. Have you ever used Python? What is your opinion about it?**

Python is one of the most popular programming languages in the world. Created in 1991 by Guido van Rossum, it was designed to be readable, simple and practical. More than thirty years later, Python remains one of the first choices for new developers—and it's not hard to see why.

One reason Python is so appealing is its clear syntax. Unlike some other languages, Python's code is easy to read and looks almost like English. You don't need complex symbols to write a program—you can simply use words like "if", "for", and "def" to create conditions, loops and functions.

Python also has a vast collection of libraries, which are pre-written collections of code that allow developers to complete common tasks quickly. For example: Pandas helps organise and analyse data, such as tables of numbers or lists of information. NumPy simplifies complex calculations, making maths easier and faster. And TensorFlow is used for programs that can "learn," like basic artificial intelligence. Thanks to these libraries, developers don't have to start from scratch.

Another factor in Python's success is its community. Millions of programmers worldwide share tutorials, libraries and advice online. This support not only makes it easier for beginners to learn but also helps experienced developers improve their skills continuously.

Python is also extremely versatile. It runs on Windows, Mac, Linux and even small devices like the Raspberry Pi. This flexibility allows developers to use Python for web apps, data science projects, automation scripts or even controlling robots.

Big companies like Google, Netflix, and Instagram rely on Python in many of their projects. Its combination of simplicity, power and flexibility makes it a favourite both for beginners and professional developers. Some even argue that learning Python first can make it easier to pick up other programming languages later.

Python proves that programming doesn't have to be intimidating. With the right tools, curiosity, and practice, anyone can create something meaningful. So, are you ready to start coding with Python?

Reading comprehension

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

a) Python was originally created to be a complex language.

b) Python's syntax avoids complicated symbols.

c) The Python community helps both beginners and experienced developers.

d) Python can only work on traditional computers.

e) Some people believe that starting with Python can make learning other programming languages easier.

3 Answer the questions according to the information in the text.

a) What makes Python's syntax easy to understand?

b) How do libraries help developers?

c) Why is the Python community useful for beginners?

d) Why do big companies rely on Python for their projects?

e) What three elements do you need in order to succeed when coding with Python?

4 Look at the underlined words in the text. Match them to their synonyms in the box. There are two words you don't need to use.

resources · script · attractive · clear · enables · help · executes

a) readable

b) appealing

c) support

d) allows

e) tools

5 Work in pairs or small groups. Discuss the following questions.

- Which programming languages do you know or have you studied?

- Have you ever used Python? If yes, what for? If not, would you like to learn it? Why?

-What makes a programming language easy or difficult to learn?

- Which programming language would you recommend to a beginner? Why?

The past tense

1 **Read the rules.**

PAST SIMPLE	PAST CONTINUOUS
Actions completed at a specific time in the past. - I **installed** a new program yesterday. **Past facts and habits.** - She **was** very good at maths when she was a child.	**Actions that were in progress at a specific time in the past.** -We **were playing** yesterday at 7 p.m. **An unfinished action interrupted by another action.** -We **were playing** when the computer crashed.

2 **Complete the text with the verbs in the box. Use the past simple.**

know · show · die · inspire · create · predict · be

Ada Lovelace 1..... born in 1815 in London. From a young age, she 2..... an interest in mathematics and logic. Ada 3..... the first algorithm designed to be executed by a machine, so she is considered to be the first computer programmer. She 4..... that computers could do more than just calculations. She 5..... that they could process music, graphics and other symbolic data. Ada Lovelace 6..... in 1852, but her work 7..... generations of mathematicians and computer scientists.

3 **Look at the part in bold in each sentence. Use it to write a question in the past simple. Then try to guess who we are talking about.**

a).....?

He grew up **in Seattle**, Washington.

b).....?

He started programming **when he was at school.**

c).....?

He left Harvard University **because he wanted to start Microsoft.**

d).....?

He started Microsoft **with Paul Allen.**

e).....?

He developed **the Windows operating system.**

4 Complete the sentences with the verbs in brackets. Use the past simple and the past continuous.

a) We ..... (run) the program when it ..... (give) an unexpected error.

b) The system ..... (crash) while I ..... (update) the software.

c) While she ..... (review) the code, she ..... (find) a small bug.

d) They ..... (install) a new server when the power ..... (go out).

e) He ..... (write) an email when the laptop suddenly ..... (freeze).

f) While they ..... (back up) the files, the server ..... (restart) automatically.

g) The developers ..... (check) the logs when the error ..... (appear) on the screen.

h) We ..... (test) the app when the database ..... (stop) responding.

5 Complete the sentences with the words in the box.

while · ago · suddenly · when · last night

a) I was printing a document ..... the printer ran out of ink.

b) I backed up all my files two days .....

c) The screen ..... went black during the video call.

d) I finished configuring the network ..... .

e) I was downloading a file ..... the antivirus was scanning the system.

6 Complete the text with the verbs in brackets. Use the past simple and the past continuous.

Last weekend, a graphic designer 1..... (work) on a new project. While she 2..... (edit) images and listening to music, her computer 3..... (begin) to run very slowly. She 4..... (feel) that something bad was going to happen, so she 5..... (decide) to move all her new files to an external drive. However, she 6..... (not have) enough time. While the files 7..... (transfer), the computer suddenly 8..... (freeze), and after a few minutes, the system 9..... (shut) down by itself. When the computer 10..... (turn) on again, all the project files were missing. She 11..... (search) through all folders and checked the recycle bin, but she 12..... (not find) anything.

Fixing bugs

1 Listen to two conversations about programmers solving problems in a website. Answer the questions.

Conversation 1

a) What problem did they find with the search feature?

b) When did the problem happen?

c) What caused the search to be slow?

d) How did they fix it?

e) What did they do to avoid similar problems in the future?

Conversation 2

a) Where in the website did they find a problem?

b) What happened when people typed their passwords?

c) Where was the mistake that was causing the problems?

d) Did the error happen only with wrong passwords?

e) How did Sophie solve the problem?

f) How did Sophie make sure they could remember what happened?

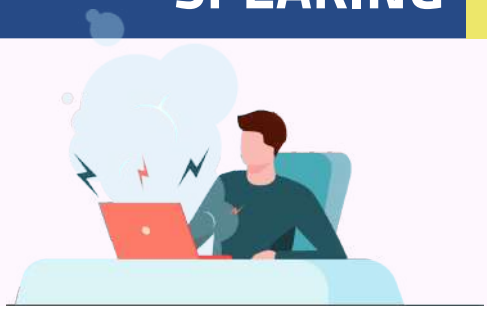
2 Work in pairs. Take turns to ask and answer the following questions about technology and solving problems.

a) Can you remember a time when you had to fix a problem with technology? How did you do it?

b) Have you ever helped someone solve a computer problem? What did you do?

c) Have you ever found a mistake in a program or app? How did you solve it?

Troubleshooting



1 Match the situations (1-5) with the problems (a-e).

1. The computer takes a long time to start.	a. Overheating
2. The screen suddenly goes black.	b. Slow startup
3. The user cannot connect to the internet.	c. Internet connection issues
4. The computer makes a lot of noise and gets very hot.	d. Screen/display problem
5. Programs close without warning.	e. Software crashes

2 Complete the dialogue with the words in the box. There are two words that you don't need to use.

behaviour · overheat · conflict · try · fine · keep

Technician: Good morning. How can I help you today?

Customer: Hi. My computer is very slow and some programs 1..... crashing.

Technician: I see. When did the problem start?

Customer: It started last week after I installed a new program.

Technician: Was the computer working normally before that?

Customer: Yes, it worked 2..... before I installed it.

Technician: Have you noticed any error messages or unusual 3.....?

Customer: Yes, I received an error message yesterday and the system froze twice while I was working on a document.

Technician: I see. It looks like the new program is causing a 4..... with other software. You may need to uninstall it and restart the system.

3 Work in pairs. Role-play these situations.

Student A - Customer

You have one of these problems:
- The laptop overheats.
- The operating system shows an error message.
- The screen goes black.
- An application crashes.

Explain what the problem is and when it happens.

Student B - IT Technician

You are talking to a customer who has some problems with their computer.
Ask questions to understand the problem.
Explain a possible cause.
Suggest a solution.

USEFUL LANGUAGE

Understanding the problem
- *What exactly happens when the problem occurs?*
- *What were you doing when it happened?*
- *Does it happen all the time or only sometimes?*

Explaining the cause
- *It might be caused by...*
- *This could be due to...*
- *It seems to be related to...*

Proposing a solution
- *You should try...* (-ing)
- *I recommend...* (-ing)
- *You may need to...*
- *If that doesn't work, we can...*

A forum reply

1 **Match the sentences to the correct parts of the diagram. Then, think about your own posture: do you follow these rules or should you change your habits?**

Ergonomics in the computer workstation

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

2 **Read the following forum post from an IT student. Have you ever experienced any similar physical issues while you were studying or gaming?**

Title: Need advice! My computer is killing me... 💀

User: FrustratedStudent

Hi everyone,

I need some serious help from you guys. Last term was a total nightmare. I was studying for my finals and having long gaming sessions. I was sitting at my desk for 12 hours a day, easily!

The problems started a month ago. While I was working on a project, my wrist started to ache. Then, my neck became very stiff. My eyes were dry and blurry, and I even had trouble sleeping. One night, I felt a sharp pain in my back and I couldn't move. It was so scary!

Have you ever experienced this? What did you do to fix it? Please give me some advice! 🙏

Thanks!

3 **Write a reply to the message.**

- Describe a similar situation you experienced.
- Use past simple and past continuous.
- Explain what you did to solve or reduce the problem.
- Give advice to the student.

USEFUL LANGUAGE

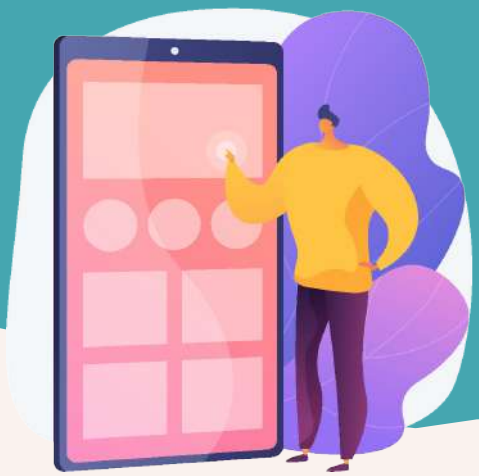
Giving advice

-You should / You ought to...
-Why don't you...?
-Make sure you...
-It's a good idea to...
-If I were you, I would...

2

PROJECT

A PRESENTATION



Practising **presentations** helps you gain confidence in public speaking, and improves your ability to communicate professional concepts in English. With this project, you will get better at talking in front of people and learn how to present information in a clear and interesting way.

PROJECT

1 TASK

You are going to prepare and give a short presentation about a website or an app.

2 RESEARCH AND PLANNING

Choose a website or app (e.g. a programming platform, a productivity app, a social network or a tech website).

Research information online and take notes.

Organise your ideas into clear sections:
-Introduction
-Description
-Key features
-Target audience
-Opinion and recommendation

3 ACTION!

Create a visual presentation and present the project to the class.

Be ready to answer a few simple questions from your classmates.

USEFUL LANGUAGE

Introduction:
- *Today, I'm going to talk about...*
- *The website / app I have chosen is called…*
- *It is a popular / useful / well-known app.*

Describing what it does:
- *This app / website is used for...*
- *Its main function is to...*

Talking about features:
- *One of the main features is...*
- *It allows users to...*

Talking about who it is designed for:
- *This app / website is mainly for...*

Giving your opinion:
- *In my opinion, this app is...*
- *I would recommend it to…*

Ending the presentation:
- *That's all. Thank you for listening.*
- *Do you have any questions?*

Vocabulary

1 Write the correct computer component for each definition.

a) A device that keeps the computer cool by moving air inside the case.

b) A storage device that uses spinning disks to save data permanently.

c) The main circuit board that connects and allows communication between all the components of a computer.

d) Another name used for the CPU.

e) A device that provides electrical energy to all parts of the computer.

2 Change the words in bold so that the sentences make sense.

a) A **printer** allows a laptop or tablet to connect to multiple external devices.
b) **Speakers** allow users to listen to sound privately.
c) A **webcam** allows users to control the cursor using finger movements.
d) A **docking station** produces physical copies of digital documents and images on paper.
e) A **keyboard** is a portable data storage device that connects to a computer through USB.

3 Complete the sentences with the words in the box.

fix · add · release · deploy · design

a) The developers need to ..... a new login feature to the application.
b) The team will ..... the latest version of the app to the company servers tomorrow.
c) We should ..... a new user interface.
d) We have to ..... the bug that is causing the app to crash.
e) The company is going to ..... an update for the software.

Grammar

4 Complete the sentences using the present simple or the present continuous form of the verbs in brackets.

a) A scanner ..... (convert) paper documents into digital files.
b) The system ..... (run) several applications at the same time right now.
c) Don't touch the computer. It .... (install) a security update.
d) My classmate and I ..... (replace) the graphics card at the moment.
e) Pete ..... (work) as an IT technician. He usually ..... (repair) computers, but today he ..... (fix) a network problem.

5 Correct the mistake in each sentence.

a) Where do she work?

b) Why the computer is freezing crying?

c) Do the system need more RAM?

d) Do you go to the AI conference tomorrow?

e) What time you start school?

6 Complete Steve Jobs' biography. Use the past simple and the past continuous.

a) Steve Jobs ..... (be) born in 1955 in San Francisco, California.
b) He ..... (study) at Reed College when he ..... (meet) Steve Wozniak.
c) They ..... (experiment) with electronic devices in a garage when they ..... (build) the first Apple computer.
d) In 1985, while he ..... (work) on new projects at Pixar, he ..... (leave) Apple.
e) He ..... (not return) to Apple until 1997, when the team ..... (develop) the iMac.
f) He ..... (die) in 2011.
g) ..... he ..... (change) the world?
h) Absolutely! He ..... (change) the world with his vision and the technology that he ..... (develop).

Translate the words into your language.

Unit 1

COMPUTER COMPONENTS

CPU

Cooling fan

Graphics card

Hard drive

Motherboard

Network card

Power supply

Processor

RAM (Random Access Memory)

ROM (Read-Only Memory)

Sound card

SSD (Solid State Drive)

USB port

PERIPHERALS

Barcode scanner

Card reader

Docking station

External hard drive

Headphones

Keyboard

Microphone

Monitor

Mouse

Printer

Scanner

Speakers

Touchpad

VR headset

Webcam

Unit 2

PROGRAMMING

code

rules

syntax

tasks

SOFTWARE DEVELOPMENT

Actions

add

deploy

design

fix

release

test

update

Problems

bug

crash

debugging

issue

patch

Roles

back-end developer

developer

front-end developer

full-stack developer

programmer

QA tester