



ENGLISH FOR IT
LO 1 VOCABULARY

Computer Essentials
- Hardware

Today you will:

- learn the difference between a computer and a computer system
- study the basic structure of a computer system
- study the differences between certain types of computer
- learn basic vocabulary for hardware
- talk about computer applications in everyday life

In pairs, discuss these questions:

1. What kind of a computer do you have at home, school or work?
2. How often do you use it? What do you use it for?
3. What is the difference between the computer and the computer system?
4. What are the main features of your computer system?

What is a computer?

- A computer can be described as an electronic machine which can be used to store, process and display data. Computers are electronic and digital. The actual machinery of the computer, the wires, transistors and circuits, is called the hardware and the instructions and data are called the software.

Can you name different types of computers?

Different types of computer

laptop desktop PC PDA mainframe tablet PC



a _____



b _____



c _____



d _____



e _____

True or False? Correct the false statements.

- 1 A mainframe computer is less powerful than a PC.
- 2 A mainframe is used by large organizations that need to process enormous amounts of data.
- 3 The most suitable computers for home use are desktop PCs.
- 4 A laptop is not portable.
- 5 Laptops are not as powerful as desktop PCs.
- 6 Using a stylus, you can write directly onto the screen of a tablet PC.
- 7 A Personal Digital Assistant is small enough to fit into the palm of your hand.
- 8 A PDA does not allow you to surf the Web.

Do we still use PDAs today? What do we use instead?

Supercomputer



- A supercomputer is a fast computer that contains thousands of processors in it and that can perform trillions of calculations per second.
- The speed of a supercomputer is measured in floating-point operations per second (**FLOPS**). The speed of the normal computer is measured in million instructions per second (**MIPS**).

Supercomputer



Can you guess?

1. What are some uses of a supercomputer?
2. Which countries have the fastest supercomputers?

Read this article and check your guesses:

<https://www.itrelease.com/2023/02/what-are-uses-and-examples-of-supercomputer/>

The fastest supercomputer today



- Name: Frontier
- Speed: capable of performing up to 2 quintillion calculations per second (2 exaFLOPS in computing power)
- Estimated cost: US\$600 million
- Location: Oak Ridge National Laboratory and U.S. Department of Energy
- Space: 680 m² (7,300 sq ft)
- Purpose: Scientific R&D

Mainframe

Mainframes are data servers designed to process up to 1 trillion web transactions daily with the highest levels of security and reliability.

[Read this article on Mainframe](https://www.techopedia.com/definition/2157/big-iron)

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And answer the following questions:

1. What does Big Iron mean?
2. When were first mainframes introduced?
3. Which famous IT company still produces mainframes?
4. Why are mainframes sometimes referred to “dinosaurs”?
5. Are mainframes still used today and by whom?



the IBM z16 mainframe, 2008

Watch this video to learn more:

<https://www.ibm.com/topics/mainframe>

Workstation

Discuss these questions: Is a workstation the same as desktop computer? Can a gaming PC be a workstation?



Desktop vs. Workstation

Is a workstation a desktop?

A basic workstation can resemble a desktop PC with a **tower**, a **mouse**, and a **keyboard**. But it's what's inside that makes all the difference. With a large central processing unit (**CPU**) and **massive storage space**, a workstation can run multiple applications simultaneously at much faster speeds.

Can a gaming PC be a workstation?

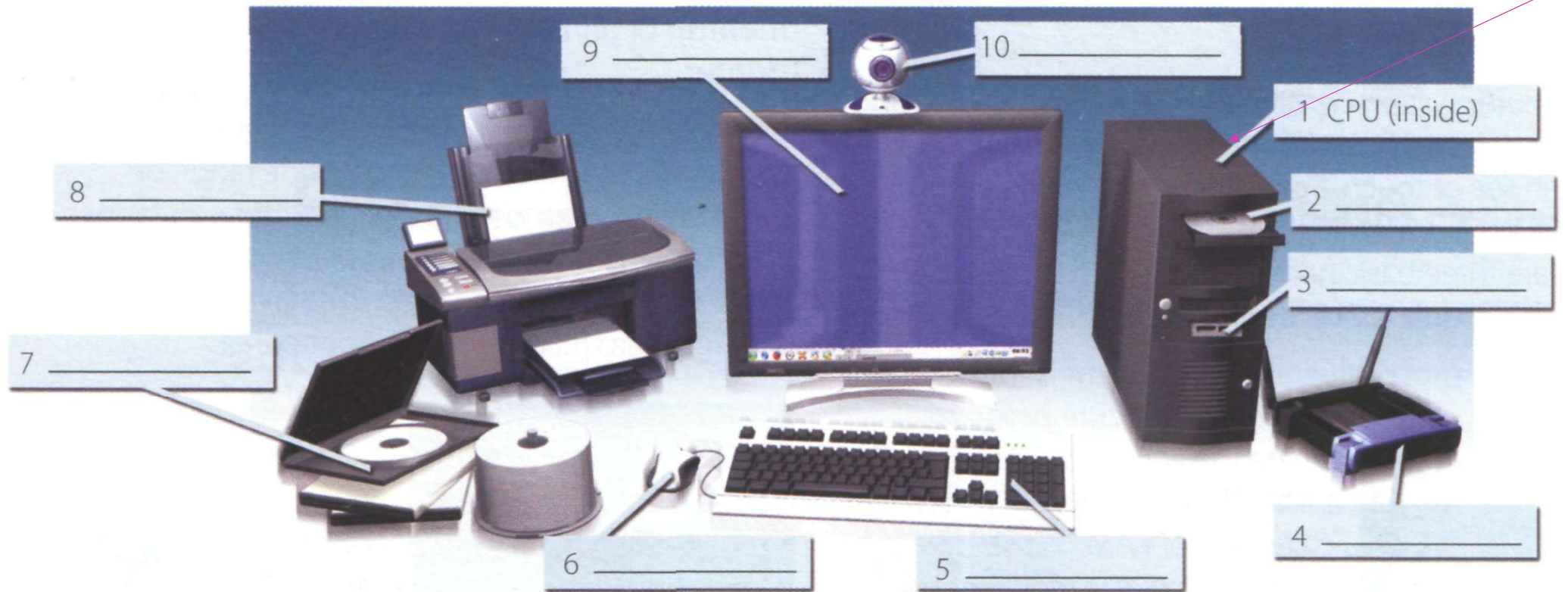
Yes, absolutely. Gaming PCs basically are regular PCs, but with more robust hardware inside like specialized GPUs and CPUs. Also, they sometimes contain more RAM (random access memory) as well. This hardware is what enables it to handle very demanding video games and work tasks.

So, what is the difference between a computer and a computer system?

- **A computer is just a machine!** - an electronic machine which can accept data in a certain form, process it and give the results of processing in a specified format (such as information).
- **A computer system consists of 2 parts:**
 1. **HARDWARE** – any electronic or mechanical part that you can see or touch
 2. **SOFTWARE** – a set of instructions, called a program, which tells the computer what to do

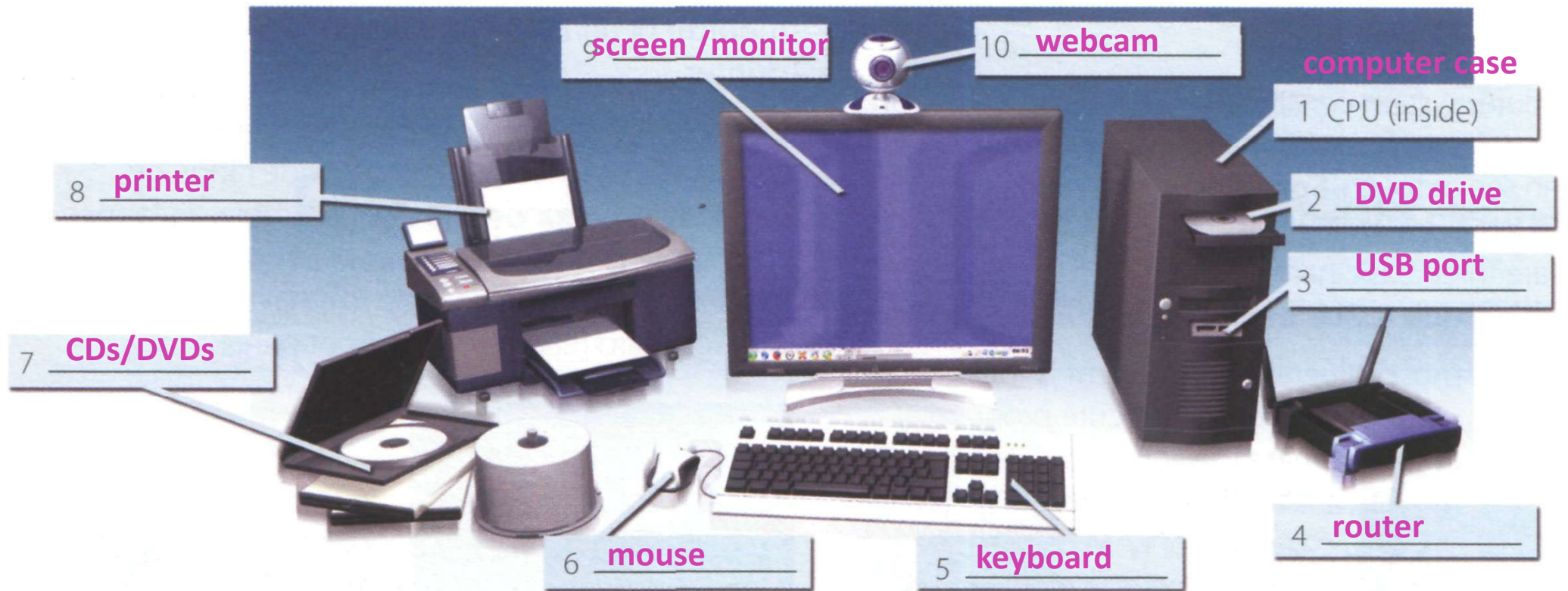
B In pairs, label the elements of this computer system.

CPU=
central
processing
unit

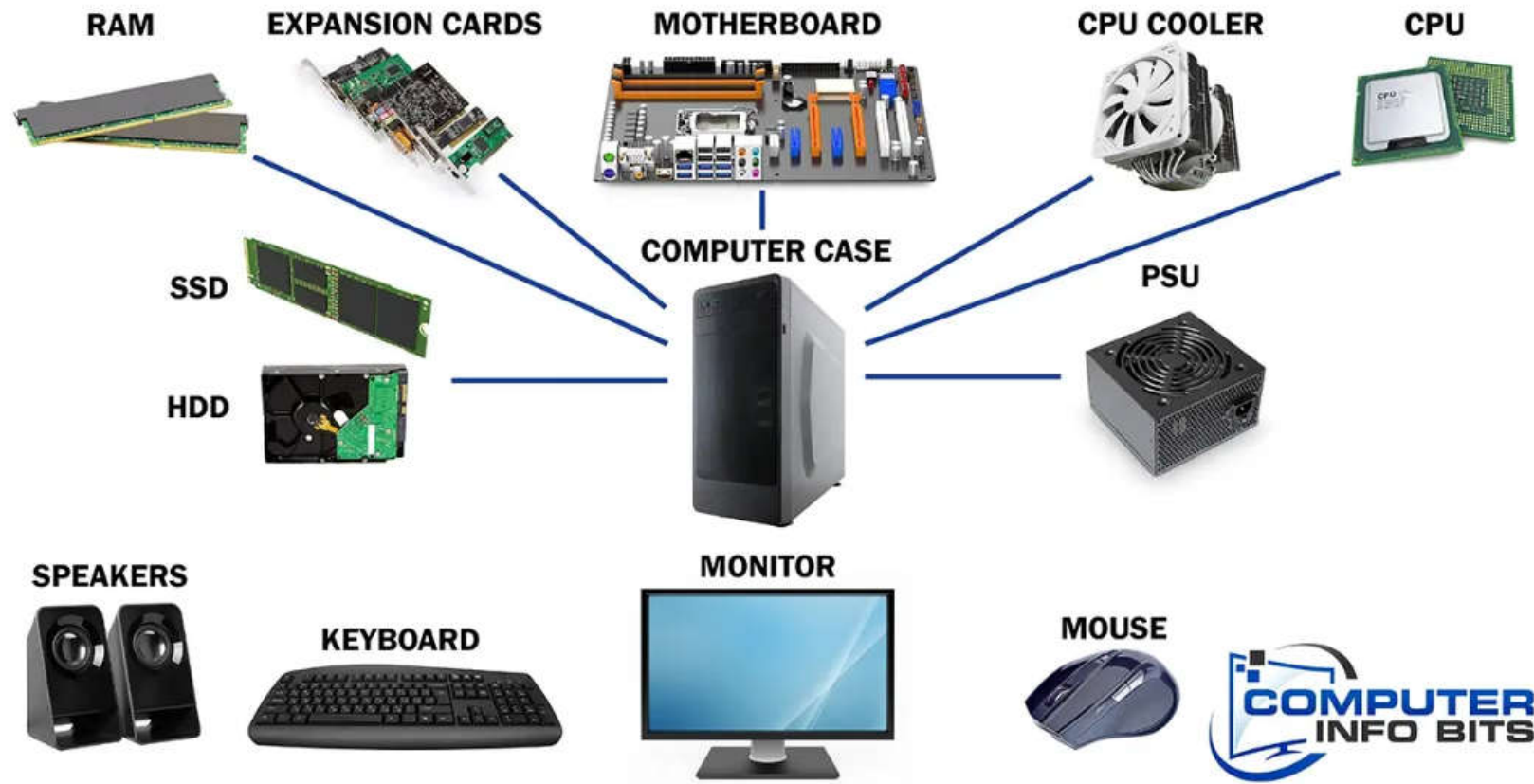


Which elements are outdated?
What are their replacements today?

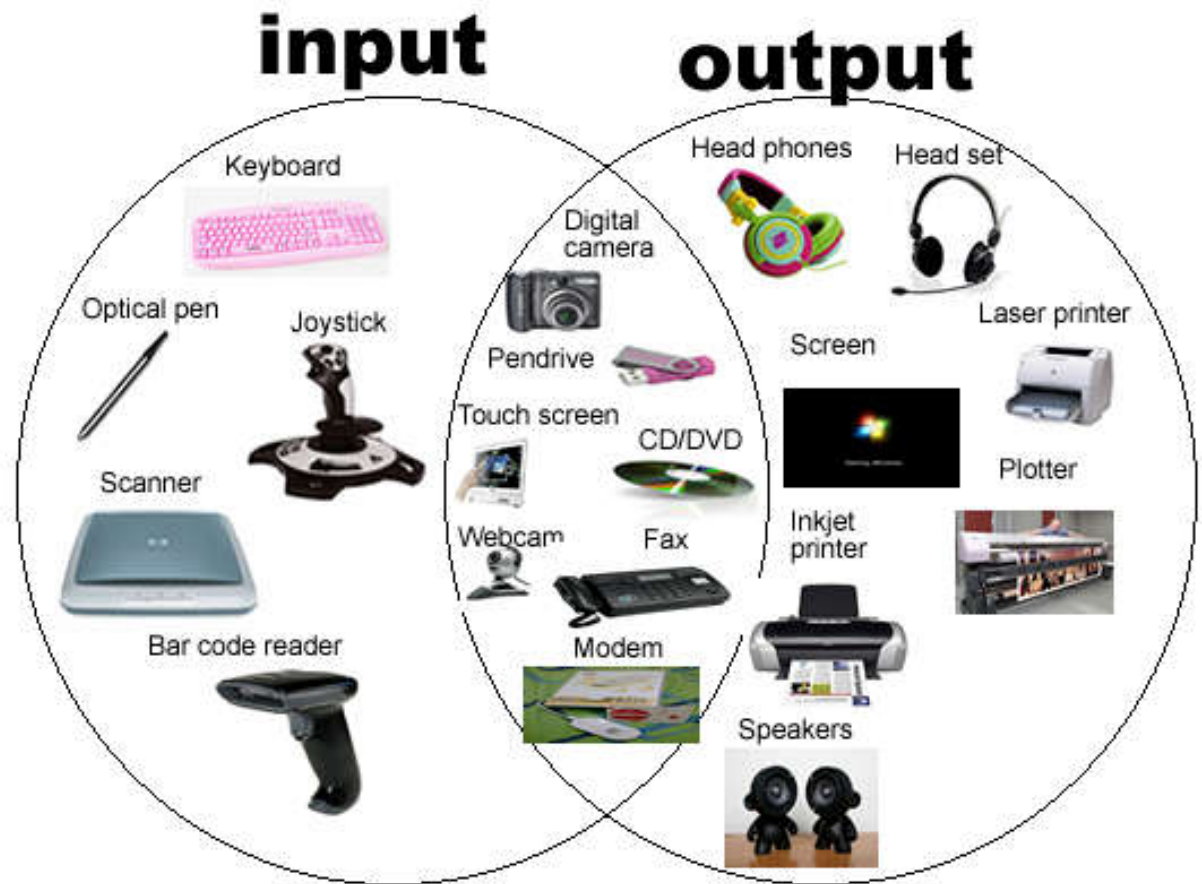
B In pairs, label the elements of this computer system.



PARTS OF A COMPUTER



- The central idea of a computing system is that **input** is processed into **output**.
- Input is the data which is entered into the computer, and output is the result of processing done by the computer, usually printed out or displayed on the screen.



What input and output devices do you know?

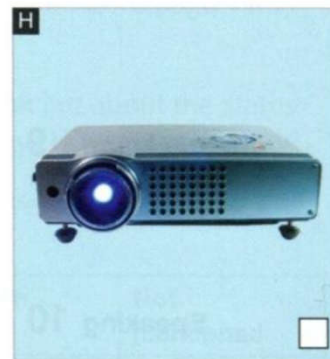
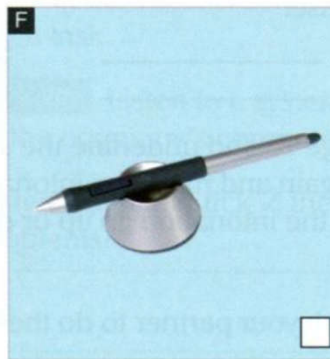
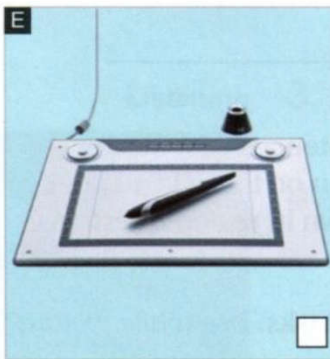
Peripherals

A computer peripheral is **a device that is connected to a computer** but is not part of the core computer architecture. **The core elements of a computer are the central processing unit (CPU), power supply unit (PSU), motherboard and the computer case that contains those three components.** Technically speaking, **everything else is considered a peripheral device.**

Can you name these peripherals?



In pairs, name these peripherals, decide if they are input or output devices and provide a definition



Check your answers here

- 1 NAS (network attached storage) device: a collection of drives in a single box, accessed through a network and thus more flexible than a device attached to only one computer _____
- 2 touchpad: part of a laptop computer used instead of a mouse for moving the cursor _____
- 3 stylus: a pen-shaped device sometimes used with some kinds of screens _____
- 4 graphics tablet and stylus: a flat pressure-sensitive pad and pen-shaped device, often used with graphic design software _____
- 5 touch screen: a screen that can detect when and where a finger touches it _____
- 6 projector: a device that shows a copy of the computer's screen on a large screen, often used in presentations _____
- 7 headset: a device people wear on their heads that includes a microphone as well as headphones _____
- 8 multifunction printer: a printer that also has other functions such as scanning, copying and/or faxing _____

In groups, discuss the roles of a computer:

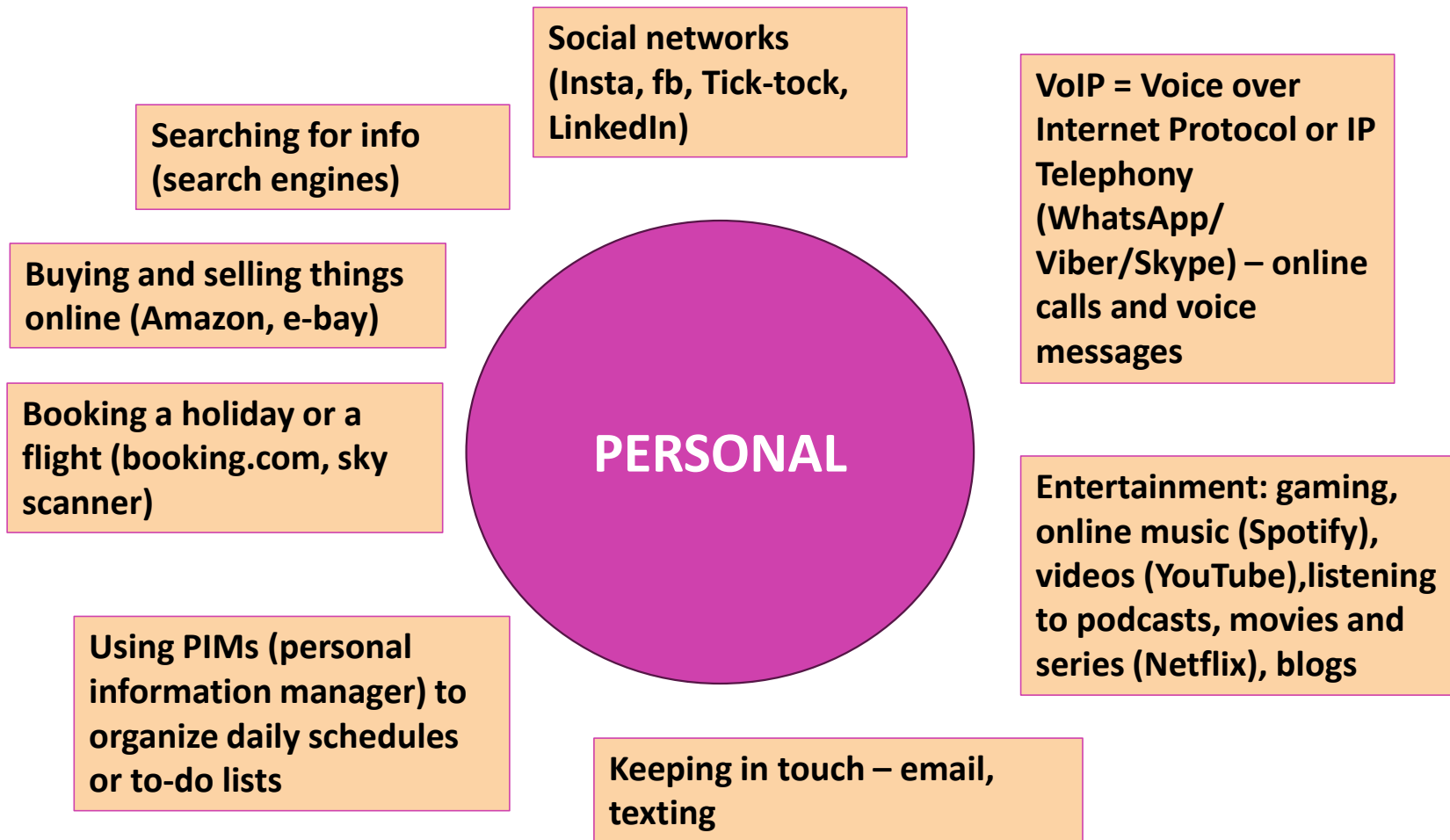
How do we use computers in these 3 categories?

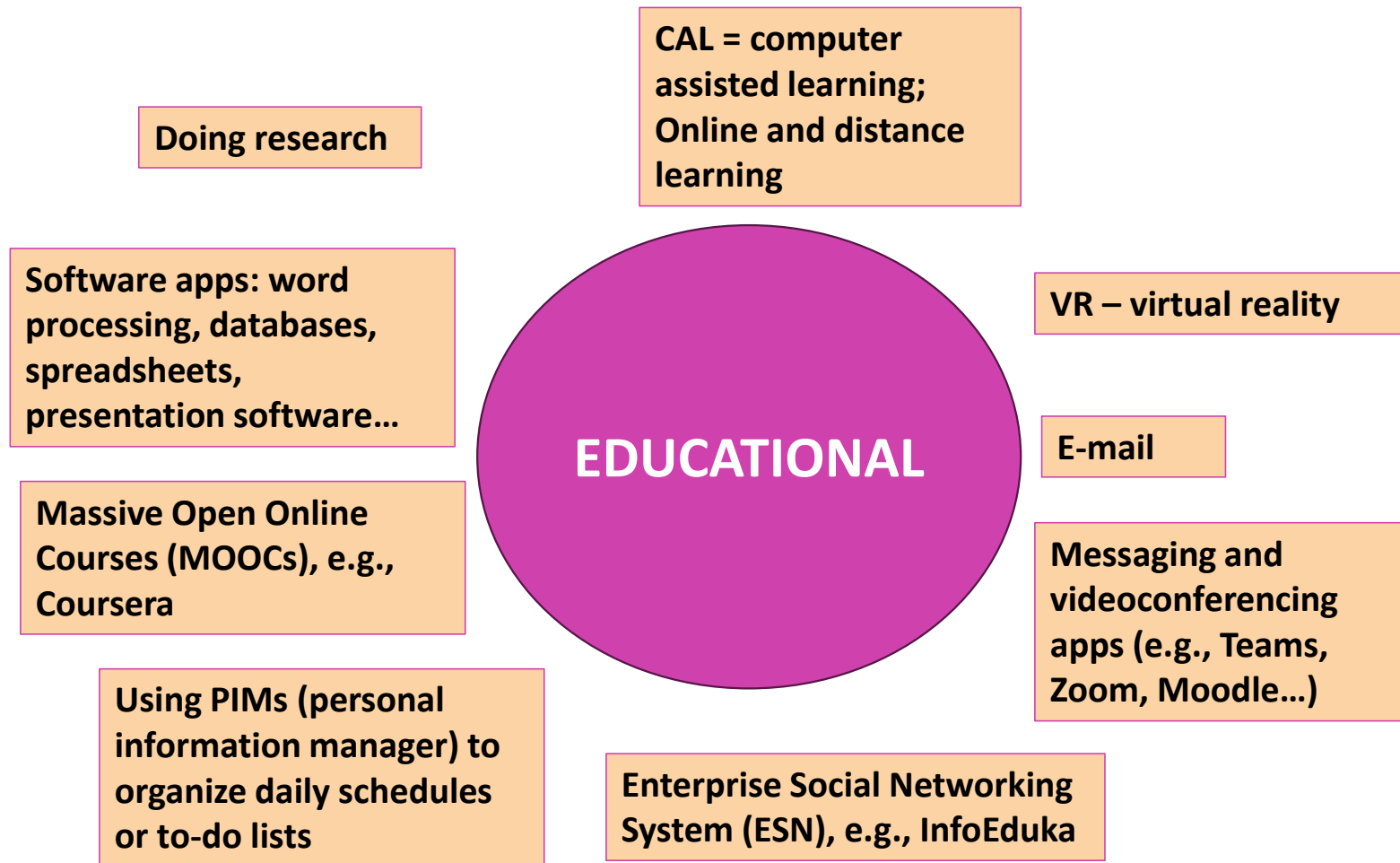
Brainstorm and list as many computer uses/ applications as you can.

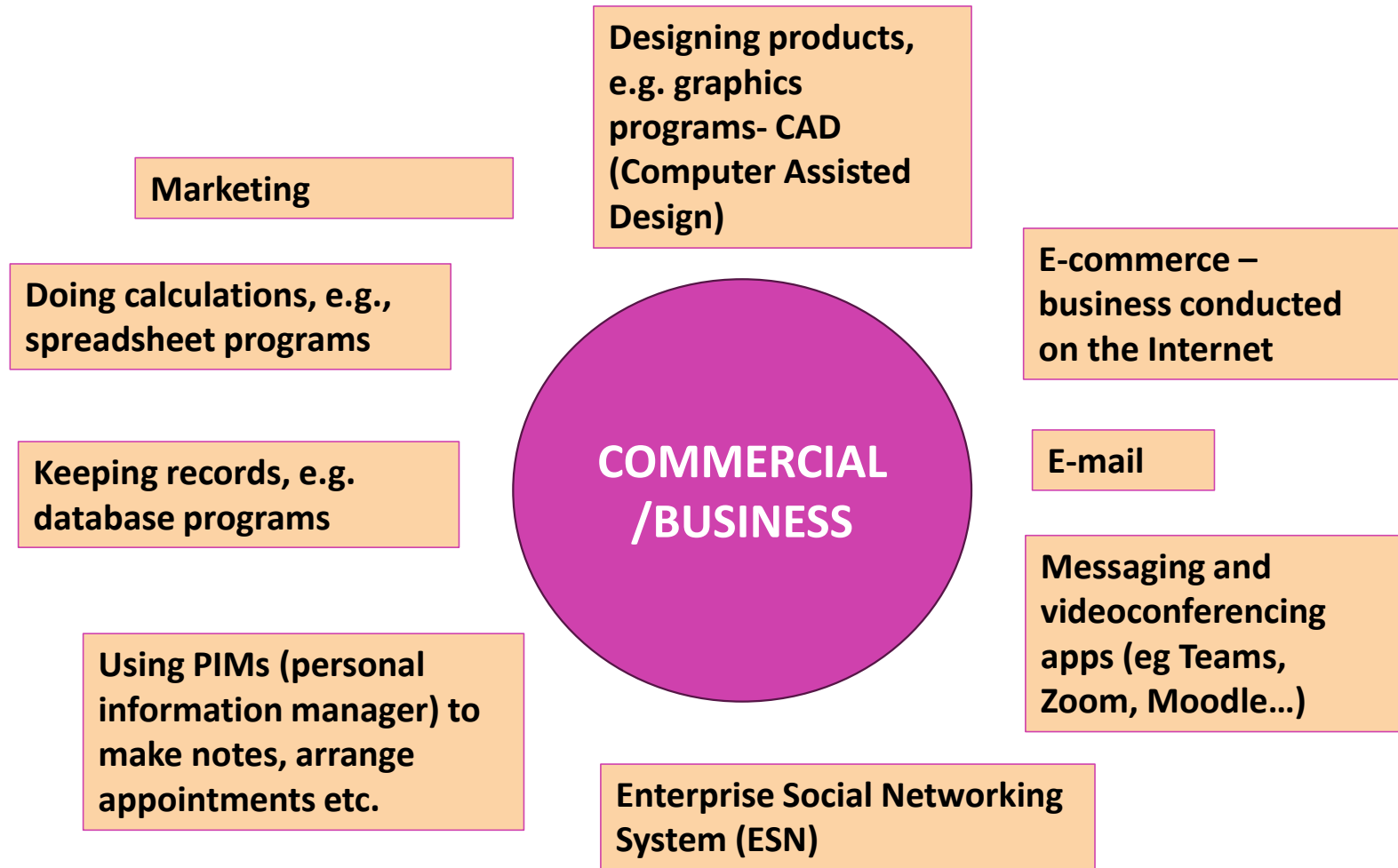
PERSONAL

COMMERCIAL
/BUSINESS

EDUCATIONAL







Do you remember what these initialisms and acronyms stand for?

PC

PDA

FLOPS

MIPS

R&D

CPU

GPU

PSU

SSD

HDD

PIM

VoIP

RAM

USB

CAL

MOOC

ESN

VR

CAD

CD

DVD

For those who want more

Do exercises from the Vocabulary Book (pages 6-9) and check your answers in the answer-key section:

1.1 Hardware

1.2 Some useful verbs

1.3 The workstation

You can download the Vocabulary Book here:

<https://www.scribd.com/document/266312924/Check-Your-English-Vocabulary-for-Computers-and-Information-Technology>

Sources:

- Remacha, Infotech - Unit 2 (pp 7-10)
- Marks, Vocabulary Book – 1.1 Hardware, 1.2 Some useful verbs, 1.3 The workstation (pp 6-9)
- Hill, English for IT 2 – Peripherals, p 34
- <https://www.techopedia.com/definition/2157/big-iron>
- <https://www.itrelease.com/2023/02/what-are-uses-and-examples-of-supercomputer/>
- <https://computerinfobits.com/parts-of-computer-and-their-functions/>



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