

terms

CPU	processor (central processing unit). The more processor cores a CPU has, the faster it usually is: e.g. a quad-core processor is faster than a single-core processor
hard disk	Currently, hard disks have 500 GB up to several TB.
SSD	An SSD is an electronic storage medium similar to a hard disk. An SSD contains no moving parts and is therefore more robust than a hard disk. SSDs deliver data much faster than hard disks.
GHz (gigahertz)	Processor speed is measured in GHz (one billion clocks per second). Currently, computer processors have a speed of up to 4 GHz.
RAM	Main memory or random access memory. abbreviation for R andom A ccess M emory, working memory, volatile memory (data is deleted when the power of the computer is turned off). Currently, computers work with 4 to 16 GB of RAM. A large RAM can increase the speed of the computer.

main components of the computer

- **processor - CPU (Central Processing Unit)**
The CPU is the central processing unit of a computer.
- **main memory (RAM = Random Access Memory)**
used to store data for a short period of time. The RAM is the working memory (main memory) of a computer. When the computer is started, parts of the operating system are copied to the RAM.

The **RAM** is a volatile memory: when the power is switched off, the memory contents are lost.
- **hard disk or SSD:** Current PCs have hard disks or SSDs with up to several terabytes of storage built in.

An SSD (**s**olid **s**tate **d**rive) is a storage medium similar to a hard disk, but without moving parts.

SSDs are much faster than hard disks!



processor



main memory: RAM



hard disk: 2 TB



SSD

What factors influence computer performance?

- **processor speed (= CPU speed):**
measured in MHz (megahertz) or GHz (gigahertz).

Current processors have clock frequencies of up to 4 GHz.

number of processor cores: The more cores a processor has, the more tasks it can perform simultaneously. There are single-core processors (1 core), dual-core processors (2 cores), quad-core processors (4 cores), etc.

- **main memory (RAM):** The larger the RAM, the less often the computer has to store to or read from the hard disk which is much slower. Current PCs have 8 GB and more RAM.

For special requirements, such as video editing, more RAM (up to 64 GB) may be necessary.

The key combination Windows + Pause calls up information about the size of the main memory. equally possible: start (bottom left), settings (cogwheel), system, info

- **SSDs** read data much faster than hard disks do.

Replacing a hard disk with an SSD makes a computer much faster!

All running application programs have an entry in the taskbar. The application can be closed with a mouse click (right) on the taskbar icon (→ close window).

Answer the following questions:

How big is the working memory in current computers? A: _____

Which key combination can be used to get information about the size of the main memory and general information about the computer?

A: _____

What is the main memory (RAM) size in **your** computer? Which processor is installed in your computer? Which Windows edition is installed?

A: RAM: _____ A: processor: _____ A: Windows-edition: _____

What happens to the data in the main memory (RAM) when the computer is shut down?

A: _____

Why should hard disks be replaced by SSDs in computers?

A: _____

What does the abbreviation GHz stand for?

A: _____

How many GHz can a processor have? A: _____

scan this QR-code, open the link and solve the quiz:



points achieved: _____