

Computer Essentials

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Resources

- GCFLearnFree.org Computer Basics

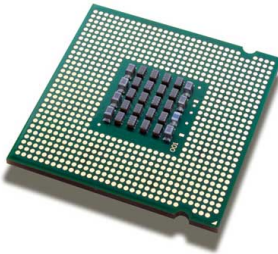


Hardware & software

- Computer hardware refers to the physical components.
- Computer software refers to the programs running on the computer.



Hardware components

- **Central Processing Unit (CPU)** is the brain
 - Does math!
 - Processes data / information
- **Memory** is the "working memory"
 - Stores data that the CPU is actively working with
- **Storage** is the "long-term memory"
 - Stores data that will be used later

Microprocessor (CPU)	RAM (Memory)	HDD (Storage)
		

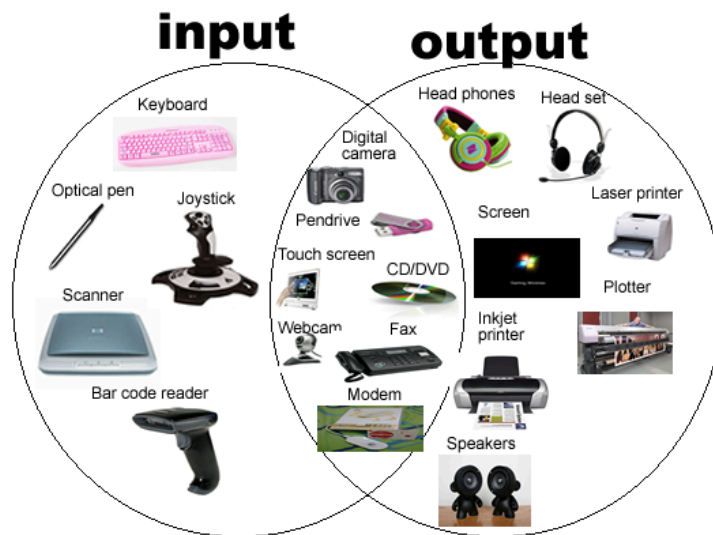
Data

- Information on a computer is called data.
- All data is ultimately represented using 0's and 1's.
 - A bit is the smallest unit of storage, a 0 or 1.
- 8 bits equals 1 byte.
 - 1 byte can represent a single character (such as the letter 'a')
- Larger units of storage roughly follow the metric prefixes:
 - 1024 bytes = 1 kilobyte (KB)
 - 1024 KB = 1 megabyte (MB)
 - 1024 MB = 1 gigabyte (GB)

Binary Code							
A	100 0001	H	100 1000	O	100 1111	V	101 0110
B	100 0010	I	100 1001	P	101 0000	W	101 0111
C	100 0011	J	100 1010	Q	101 0001	X	101 1000
D	100 0100	K	100 1011	R	101 1010	Y	101 1001
E	100 0101	L	100 1100	S	101 0011	Z	101 1010
F	100 0110	M	100 1101	T	101 0100	a	110 0001
G	100 0111	N	100 1110	U	101 0101	b	110 0010

Input / Output

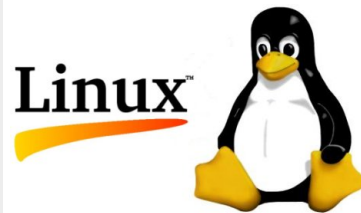
- Input devices are the things you use to communicate with the computer.
 - Mouse
 - Keyboard
- Output devices are how the computer gets information back to you
 - Monitor
 - Speakers



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Software: Operating System (OS)

- An operating system (OS) is the software that performs basic functions, such as scheduling tasks, executing applications, and controlling hardware devices.
- Applications are the programs that run within the OS.



Desktop applications

- Desktop applications are applications that you access using the Start menu (or other shortcuts) in MS Windows.
- Many desktop applications don't require an internet connection.

¹ Source: <http://edugeeks.in/computer-basics-for-bank-online-aptitude-tests/>

Web applications

- Web applications (apps) are applications that are used within a web browser.
- A few web browsers:
 - Internet Explorer (IE)
 - Google Chrome (Chrome)



Mobile applications

Mobile applications (apps) are used on a smartphone and / or tablet.

- Some desktop apps have different versions for mobile.
- Many web apps are available for mobile too.



Files & documents

- Basically the same thing...
- Files
 - computer's point-of-view.
 - A file is data encoded in a certain format.
- Documents
 - user's POV.
 - A document is a written, printed, or electronic record.

- On the desktop,
 - users interact directly with files.
 - a file type / file extension tells the computer what application the file works with.
 - For example, a file ending in .docx is a MS Word Document and opens with the application MS Word.
- On the web,
 - files are mostly abstracted (hidden) from the user.