

الاسم : محمد حامد جلال السائس

المادة : أنظمة التشغيل

المستوي : الثاني

الرقم الجامعي : 806526718

البرنامج : العام

1- What is the capacity of Windows?

The capacity policy in Windows depends on the specific edition you are using. Different versions of Windows have different policies regarding the maximum system capacity. Therefore, please specify the edition you are interested in so that I can provide more accurate information.

As of my last update in January 2022, Windows 11 had certain system requirements and specifications for hardware. Here are the general hardware requirements for Windows 11:

Processor: 1 gigahertz (GHz) or faster with at least two cores on a compatible 64-bit processor or system on a chip (SoC).

RAM: 4 GB or more.

Storage: 64 GB or larger storage device.

System Firmware: UEFI, Secure Boot capable.

TPM: Trusted Platform Module (TPM) version 2.0.

Graphics Card: DirectX 12 compatible graphics / WDDM 2.x.

Display: >9” with HD Resolution (720p).

Internet connection: Internet connectivity is necessary to perform updates and to download and take advantage of some features.

These specifications are subject to change and Microsoft may update them in the future. It's always recommended to check the official Microsoft website for the most current information on Windows 11 system requirements.

2- What is the difference between Format and Delete?

"Delete" and "Format" are two different operations used in managing files and drives on computers. Here's an explanation of each and the difference between them:

1. Delete:

- The delete operation removes the file or folder from the file system, but it does not erase the data permanently from the disk.
- When you delete a file, it is typically moved to the Recycle Bin in Windows or Trash in macOS and can be restored later if desired before emptying the Recycle Bin or Trash.
- Deleting a file doesn't erase the data from the disk; it simply marks the space occupied by the file as available for new data, and recovery software may be able to retrieve it after deletion.

2.Format:

- Formatting erases all data on the drive permanently and prepares it for use.
- During the format process, all data, files, and partitions on the drive are erased.
- Once a drive is formatted, data cannot be easily recovered using conventional methods, though specialized data recovery software may sometimes be able to retrieve some data.

In summary, the main difference between "Delete" and "Format" is that the delete operation removes files temporarily and makes the space they occupied available for new use, while the format operation erases all data permanently and prepares the drive for reuse.

3- How to Calculate Disk's Capacity?

You calculate the capacity of a disk (such as a hard disk drive or solid-state drive), you need to know two main factors: the disk's storage density and its physical size. Here's a general formula to calculate disk capacity:

$$\text{Disk Capacity} = \text{Number of Platters} \times \text{Storage per Platter} \times \text{Number of Heads per Platter}$$

However, this formula is specific to traditional mechanical hard disk drives (HDDs). For SSDs, which don't have platters or heads, the calculation is typically simpler:

$$\text{Disk Capacity} = \text{Number of NAND chips} \times \text{Storage per NAND chip}$$

Here are some definitions for the terms used in the formulas:

- **Number of Platters**: This refers to the number of circular disks inside the hard drive enclosure where data is stored in a traditional HDD.
- **Storage per Platter**: This is the amount of data that can be stored on a single platter, typically measured in gigabytes (GB) or terabytes (TB).
- **Number of Heads per Platter**: Each platter in a traditional HDD has a read/write head that moves across its surface to read and write data. The total number of heads depends on the number of platters.

