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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **File Storage Capacity by Bits and Bytes** | | | | | | |  | **bit** | **byte** | **Kilobyte** | **Megabyte** | **Gigabyte** | | **bit** | 1 | 8 | 8,192 | 8,388,608 | 8,589,934,592 | | **byte** | 8 | 1 | 1,024 | 1,048,576 | 1,073,741,824 | | **Kilobyte** | 8,192 | 1,024 | 1 | 1,024 | 1,048,576 | | **Megabyte** | 8,388,608 | 1,048,576 | 1,024 | 1 | 1,024 | | **Gigabyte** | 8,589,934,592 | 1,073,741,824 | 1,048,576 | 1,024 | 1 | | **Terabyte** | 8,796,093,022,208 | 1,099,511,627,776 | 1,073,741,824 | 1,048,576 | 1,024 | | **Petabyte** | 9,007,199,254,740,992 | 1,125,899,906,842,624 | 1,099,511,627,776 | 1,073,741,824 | 1,048,576 | | **Exabyte** | 9,223,372,036,854,775,808 | 1,152,921,504,606,846,976 | 1,125,899,906,842,624 | 1,099,511,627,776 | 1,073,741,824 | | **Zettabyte** | 9,444,732,965,739,290,427,392 | 1,180,591,620,717,411,303,424 | 1,152,921,504,606,846,976 | 1,125,899,906,842,624 | 1,099,511,627,776 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **File Storage Capacity by Powers of Two (Base 2)** | | | | | | | | | | | |  | **bit** | **byte** | **Kilobyte** | **Megabyte** | **Gigabyte** | **Terabyte** | **Petabyte** | **Exabyte** | **Zettabyte** | **Yottabyte** | | **bit** | 2^0 | 2^3 | 2^13 | 2^23 | 2^33 | 2^43 | 2^53 | 2^63 | 2^73 | 2^83 | | **byte** | 2^3 | 2^0 | 2^10 | 2^20 | 2^30 | 2^40 | 2^50 | 2^60 | 2^70 | 2^80 | | **Kilobyte** | 2^13 | 2^10 | 2^0 | 2^10 | 2^20 | 2^30 | 2^40 | 2^50 | 2^60 | 2^70 | | **Megabyte** | 2^23 | 2^20 | 2^10 | 2^0 | 2^10 | 2^20 | 2^30 | 2^40 | 2^50 | 2^60 | | **Gigabyte** | 2^33 | 2^30 | 2^20 | 2^10 | 2^0 | 2^10 | 2^20 | 2^30 | 2^40 | 2^50 | | **Terabyte** | 2^43 | 2^40 | 2^30 | 2^20 | 2^10 | 2^0 | 2^10 | 2^20 | 2^30 | 2^40 | | **Petabyte** | 2^53 | 2^50 | 2^40 | 2^30 | 2^20 | 2^10 | 2^0 | 2^10 | 2^20 | 2^30 | | **Exabyte** | 2^63 | 2^60 | 2^50 | 2^40 | 2^30 | 2^20 | 2^10 | 2^0 | 2^10 | 2^20 | | **Zettabyte** | 2^73 | 2^70 | 2^60 | 2^50 | 2^40 | 2^30 | 2^20 | 2^10 | 2^0 | 2^10 | | **Yottabyte** | 2^83 | 2^80 | 2^70 | 2^60 | 2^50 | 2^40 | 2^30 | 2^20 | 2^10 | 2^0 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **New IEC Standard** | | | | bit | bit | 0 or 1 | | byte | B | 8 bits | | kibibit | Kibit | 1024 bits | | kilobit | kbit | 1000 bits | | kibibyte (binary) | KiB | 1024 bytes | | kilobyte (decimal) | kB | 1000 bytes | | megabit | Mbit | 1000 kilobits | | mebibyte (binary) | MiB | 1024 kibibytes | | megabyte (decimal) | MB | 1000 kilobytes | | gigabit | Gbit | 1000 megabits | | gibibyte (binary) | GiB | 1024 mebibytes | | gigabyte (decimal) | GB | 1000 megabytes | | terabit | Tbit | 1000 gigabits | | tebibyte (binary) | TiB | 1024 gibibytes | | terabyte (decimal) | TB | 1000 gigabytes | | petabit | Pbit | 1000 terabits | | pebibyte (binary) | PiB | 1024 tebibytes | | petabyte (decimal) | PB | 1000 terabytes | | exabit | Ebit | 1000 petabits | | exbibyte (binary) | EiB | 1024 pebibytes | | exabyte (decimal) | EB | 1000 petabytes | |