

Memory Units

The **smallest possible storage unit for data** is one bit. This unit has two possible states: 0 or 1. But how does a bit relate to a yottabyte? To understand the relationship between the two sizes, it's helpful to convert them to a byte which is made up of 8 bits. Since each bit can take on two different states, there are already 2^8 , i.e., 256 states for one byte. This helps to display a character that's readable by humans.

The byte is followed by the units kilo-, mega-, giga-, tera-, peta-, exa-, zetta- and finally the yottabyte. Each unit is **1,024 times larger** than its predecessor. A yottabyte is therefore a multiple of a byte. According to the decimal system, one yottabyte is 10^{24} (1,00

1024 (1,000,000,000,000,000,000,000,000,000)
bytes.