

A Side-by-Side Comparison of the Numbers

What's the next largest?

41,962
41321
9874

Compare these two.

"4" is equal to "4."

"1" is equal to "1."

What's bigger, "," or "3"?

Ah, so "41321" is the middle value. Good.

Comma (x2C)
is smaller than
'3' (x33).

So the Computer is Right?

It seems that the computer is right.

At least, for some definition of "right."

This type of answer is what you get if you **sort strings in ASCII order** (instead of numerical order).

	"41,962"	"41321"	"9874"
humans	biggest	middle	smallest
computers	smallest	middle	biggest

Remember: Computers are Dumb

Think it's just a silly example?

Take a look at the index of Patt and Patel.

Should "EXTERNAL" come before "Equality"?

"ASCII" before "Address"?

Computers do exactly what they are told.

Another Example: Adding Strings

Here's a **software representation** for a **string of text** (the string is "19").

The **address** of the first **ASCII** character in memory, **x4012**, is **used to represent the string**.

x4012	x0031	'1'
x4013	x0039	'9'
x4014	x0000	NUL

To "read" the string,

- look at consecutive memory locations
- until we find a **0** (an **ASCII NUL** character),
- which indicates the end of the string.