

## Different between character set and collation

**A character set** is a set of symbols and encodings

**A collation** is a set of rules for comparing characters in a character set. Let's make the distinction clear with an example of an imaginary character set.

Suppose that we have an alphabet with four letters: 'A', 'B', 'a', 'b'. We give each letter a number: 'A' = 0, 'B' = 1, 'a' = 2, 'b' = 3. The letter 'A' is a symbol, the number 0 is the encoding for 'A', and the combination of all four letters and their encodings is a character set.

Now, suppose that we want to compare two string values, 'A' and 'B'. The simplest way to do this is to look at the encodings: 0 for 'A' and 1 for 'B'. Because 0 is less than 1, we say 'A' is less than 'B'. Now, what we've just done is apply a collation to our character set. The collation is a set of rules (only one rule in this case): "compare the encodings." We call this simplest of all possible collations a binary collation.

But what if we want to say that the lowercase and uppercase letters are equivalent? Then we would have at least two rules: (1) treat the lowercase letters 'a' and 'b' as equivalent to 'A' and 'B'; (2) then compare the encodings. We call this a case-insensitive collation. It's a little more complex than a binary collation.