**What is a character encoding**

**Character encoding** is the process of assigning numbers to [graphical](https://en.wikipedia.org/wiki/Graphics) [characters](https://en.wikipedia.org/wiki/Character_(computing)), especially the written characters of [human language](https://en.wikipedia.org/wiki/Language), allowing them to be [stored](https://en.wikipedia.org/wiki/Data_storage), [transmitted](https://en.wikipedia.org/wiki/Data_communication), and [transformed](https://en.wikipedia.org/wiki/Computing) using [digital](https://en.wikipedia.org/wiki/Digital_electronics) [computers](https://en.wikipedia.org/wiki/Computer). The numerical values that make up a character encoding are known as "[code points](https://en.wikipedia.org/wiki/Code_point)" and collectively comprise a "code space", a "[code page](https://en.wikipedia.org/wiki/Code_page)", or a "[character map](https://en.wikipedia.org/wiki/Character_Map_(Windows))".

**Definition of byte order mark and difference between UTF-8 with and without BOM**

Each 2-digit hexadecimal number represents a byte in the stream of text. You can see that the order of the two bytes that represent a single character is reversed for big endian vs. little endian storage. In the UTF-8 encoding, the presence of the BOM is not essential because, unlike the UTF-16 encodings, there is no alternative sequence of bytes in a character. However, the BOM may still occur in UTF-8 encoded text, either as a by-product of an encoding conversion or because it was added by an editor to flag the content as UTF-8. In this situation, the BOM is often called a **UTF-8 signature**.

**ASCII art (provide example)**

ASCII is an 8-bit code. That is, it uses eight bits to represent a letter or a punctuation mark. Eight bits are called a byte. A binary code with eight digits, such as 1101 10112, can be stored in one byte of computer memory.

**What are HTML character entities**

HTML entities are the reserved characters that are used in the HTML document. They are not present in your standard keyboard. They provide a wide range of characters, allowing you to add icons, geometric shapes, mathematical operators, and so on.

**Use cases for the and <pre> and <code> HTML tags**

Both <pre> and <code> are HTML tags that are used to display text. Pre defines what preformatted text will look like. By using this tag, spaces and line breaks are preserved since the HTML default ignores multiple spaces and line breaks.