

Counting Sequences

1. ASCII uses sequences of 7 bits to encode characters. How many **different characters** can be encoded using 7 bits?

2. Are 7 bits **sufficient** for encoding lowercase and uppercase letters, digits, and symbols? Explain why.

3. With an 8-bit coding scheme how many characters can there be? Why do you think it was necessary to extend the original 7-bit code with an additional binary digit?