

3.3 Fundamentals of data representation

3.3.5 Character encoding

Content	Additional information	Chk
Understand what a character set is and be able to describe the following character encoding methods: <ul style="list-style-type: none"> • 7-bit ASCII • Unicode 	Students should be able to use a given character encoding table to: <ul style="list-style-type: none"> • convert characters to character codes • convert character codes to characters 	
Understand that character codes are commonly grouped and run in sequence within encoding tables.	Students should know that character codes are grouped and that they run in sequence. For example in ASCII 'A' is coded as 65, 'B' as 66, and so on, meaning that the codes for the other capital letters can be calculated once the code for 'A' is known. This pattern also applies to other groupings such as lower case letters and digits.	
Describe the purpose of Unicode and the advantages of Unicode over ASCII. Know that Unicode uses the same codes as ASCII up to 127.	Students should be able to explain the need for data representation of different alphabets and of special symbols allowing a far greater range of characters. It is not necessary to be familiar with UTF-8, UTF-16 or other different versions of Unicode.	