

6-A-Day – Computer Science GCSE (34)

Q1

The security code for an alarm system is a long binary number which begins

10001111100101111011 ...

The technicians prefer to use hexadecimal to enter the security code.

- (i) When the number is converted into hexadecimal, the first two digits are 8F as shown below.

Complete the gaps to show the next three digits.

Binary:	1000	1111	1001	0111	1011
Hexadecimal:	8	F

[3]

Q2

- (ii) Explain why the technicians prefer to use hexadecimal.

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Q3

A railway company uses a computer terminal in the train station to sell train tickets.



Customers input their destination using a touch screen, pay by card and receive a printed ticket and receipt.

Describe two ways that the hardware in the computer terminal can be adapted so that blind customers can use it.

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Q4

An MP3 player contains a database of songs. This database has only one table.

A sample of the data in this table is shown below.

TrackNo	Artist	Song	Length	TimesPlayed	Protected
001	Dave Eade	Holidays	3.7	3	True
002	Tail	Seeing You	2.7	0	True
003	Dave Eade	Truly Cool	4	11	False
004	Aries	Love	1.9	0	True
005	MC Nail	Skit	0.4	0	False
006	The Flies	Skit	0.6	4	False
007	MC Nail	Game Over	2.7	1	True

Write down the query that will select all songs over 2.5 minutes, which have never been played.

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[3]

Q5

The mp3 player can be connected to a computer from which songs can be added. The computer has a relational database with many tables.

Explain, using an example, what is meant by an entity and how entities relate to the tables.

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[4]

Q6

State what is meant by compression.

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[1]