

5 An online game has a database that stores data about users and the characters each user creates in the game. Each user can create multiple characters and purchase multiple items for each character.

The normalised database has the following design:

USER (Username, Password, DateOfBirth)

CHARACTER (CharacterName, CharacterID, Username, Level, Money)

ITEM (ItemName, MinimumLevel, Cost)

CHARACTER\_ITEM (CharacterID, ItemName)

(a) Explain the purpose of the table CHARACTER\_ITEM in the database.

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(c) A Database Management System (DBMS) provides data security.

(i) Identify **two** methods the DBMS can use to protect the data in the table USER from unauthorised access.

Explain how each method protects the data.

Method 1 .....

Explanation .....

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Method 2 .....

Explanation .....

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[4]

(ii) The DBMS also supports data integrity.

Give **two** ways that a DBMS can support data integrity.

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[2]

(d) (i) Write a Structured Query Language (SQL) script to count the number of items purchased by the user with the username "KAT123".

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(ii) The following changes need to be made to the character with the ID "0002":

- level changed to 3
- money changed to 10000.00

Write an SQL script to change the character's data.

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