

Definitions and Concepts for AQA Computer Science GCSE

Topic 7: Relational databases and structured query language (SQL)

Database: A structured collection of data that can be easily stored, searched, and updated.

Relational Database: A database with multiple tables that are linked together using keys.

Table: A collection of related data entries. This data is held in rows and columns, like a spreadsheet.

Record: A single row in a database table, representing a complete set of related data about a single item.

Field: A single column in a database table, representing a specific field type or characteristic of the data within each record.

Primary Key: A field (or a combination of fields) in a database table that uniquely identifies each record in that table. Its values must be unique and not null.

Foreign Key: A field in one database table that refers to the primary key in another table, used to establish and enforce a link between the data in the two tables.

Data Inconsistency: A situation where data points are stored in more than one place, but with different values. Relational databases facilitate its elimination.

Data Redundancy: The unnecessary duplication of data within a database, which can lead to inconsistencies and wasted storage space. Relational databases facilitate its elimination.

SELECT (SQL): A SQL command used to retrieve data from one or more tables in a database.

FROM (SQL): A SQL clause used with the SELECT statement to specify the table(s) from which the data is to be retrieved.

WHERE (SQL): A SQL clause used to specify a condition for filtering the records returned by a query, retrieving only those that meet the condition.

ORDER BY...ASC | DESC (SQL) : A SQL clause used to sort the result set of a query in ascending (ASC) or descending (DESC) order based on one or more columns (fields).

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INSERT INTO...VALUES (SQL): SQL commands used to add new rows (records) of data into a database table.

UPDATE...SET...WHERE (SQL): SQL commands used to modify existing data within records of a database table based on a specified condition.

DELETE FROM...WHERE (SQL): SQL commands used to remove one or more records from a database table based on a specified condition.

