IGCSE 09 Database

Database
A database is a structured collection of data that allows people to extract information in a way that meets their needs. Data can include text, numbers and pictures.
A single-table database contains only one table.
A table consists of many records.
each **record** is a **row** in the table
each **field** is a **column** in the table.

Primary keys
The primary key is a field that **uniquely** identifies the record. Each primary key contains a **unique value**; it must contain data values that are never repeated in the table.

Mathematical operators

Data type	Description	Access data type
Text/alphanumeric	A number of characters	Short text/long text
Character	A single character	Short text with a field size of one
Boolean	One of two values: either True or False, 1 or 0, **Yes or No**	Yes/No
Integer	Whole number	Number formatted as fixed with zero decimal places
Real	A decimal number	Number formatted as decimal
Date/time	Date and/or time	Date/Time

Mathematical operators

SQL query statement	Description of statement
SELECT	Fetches specified fields (columns) from a table; queries always begin with SELECT
FROM	Identifies the table to use.
WHERE	Includes only records (rows) in a query that match a given condition.
ORDER BY	Sorts the results from a query by a given column either alphabetically or numerically.
SUM	Returns the sum of all the values in a field (column). Used with SELECT
COUNT	Counts the number of records (rows) where the field (column) matches a specified condition. Used with SELECT

Examples

SQL query statement	Description of statement
SELECT ItemDescription, Price FROM ItemsForSale WHERE Price > 10.00 ORDER BY Price;	Displays the description and price of all items for sale with a price of more than 10.00
SELECT SUM(Price) FROM ItemsForSale WHERE Price > 10.00	Displays the total value all items for sale with a price of more than 10.00
SELECT COUNT(Price) FROM ItemsForSale WHERE Price > 10.00	Displays the number of items for sale with a price of more than 10.00