

Computing

Flat file databases

Overview

- Data consists of raw facts and figures, while information is what we learn by examining and interpreting that data.
- There are many methods for gathering, recording, and making sense of data, one of which is through the use of databases.
- Databases help structure data, making it easier to update, store, and retrieve. Digital databases, in particular, enable users to quickly sort, search, and modify large volumes of data.



Labels and properties

A database is an organised collection of data, stored in tables with rows and columns. Each record holds information split into fields, making it easy to access and use.

Paper Databases

Paper databases are written and sorted by hand. They're useful for small, unchanging sets of data but are less efficient for larger tasks.

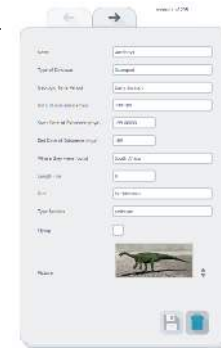
Computer Databases

Programs like j2data or Excel let us create digital databases. These are faster and more flexible, allowing easy editing, sorting, and searching.

Using computer databases

Large databases can be searched, filtered, and sorted to find specific data.

- Search finds exact words or records.
- Filter shows only records matching certain criteria (e.g. age = 23).
- Sort arranges records by a chosen field (e.g. age from youngest to oldest).



Visualising Data in Databases

Data can be displayed visually using graphs or charts, which helps users quickly understand information, identify patterns, and spot trends.



To create a chart, you usually click on a chart icon and choose which fields to use for the x-axis and y-axis, depending on what you want to show.

For a database to be useful, its data must be well-organised into clear records and fields—this allows information to be searched, sorted, and displayed efficiently.

Databases are used in many areas of everyday life, such as tracking medical histories, storing student details in schools, managing flight schedules, and keeping business records.

Key Questions

What is the difference between data and information?

Data is made up of raw facts and figures, while information is what we understand after analysing and interpreting that data.

How does interpreting data help turn it into information?

By examining and understanding the patterns or meaning in data, we can learn something useful.

What does it mean to sort data, and why might you do it?

Sorting arranges data based on a chosen field, to make patterns easier to see.

How can charts and graphs help when using a database?

They allow users to easily spot trends and understand patterns in the data.

Why are databases important in places like schools, hospitals, or businesses?

They help store and manage large amounts of information so it can be accessed, updated, and used quickly and accurately.

Key Vocabulary

Database, Record, Field, Sort, Order,
Group, Value, Criteria, Graph, Chart, Axis, Compare, Filter