

Databases - revision

Databases are organised collections of data about a subject

- data is stored in **tables**
- each table stores data about one type of “thing”

Relational databases use more than one table to avoid repeating rows of data. The tables are linked together

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Product Code	Product Name	Price	Supplier Code	Quantity in Stock
1239T	Baked beans	0.34	S121/A	154
1237T	Tomato soup	0.56	S121/A	450
1309T	Spaghetti hoops	0.80	S121/A	99
4550F	Oven chips	1.24	S234/F	550
3444F	Fish fingers	1.45	S234/F	756
3952T	Baked Beans	0.54	S009/C	17
2121G	Frankfurters	1.02	S009/C	52
5544C	Sausage rolls	2.45	S100/C	150

- this database table has **8 records** (don't count the header row)
- **records** hold data about an individual "thing" of the type stored in the table
- it has **5 fields**
- a **field** is a column of data about all of the things stored in the table
- the **primary key** is the Product Code field

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Primary key - an item of data which uniquely identifies an individual record

Foreign key - used to link tables together. Will be the primary key in one table and will be in the other table

id	name	species	age	gender	height	keeperID
001	Marg	Giraffe	12	F	4.7	001
002	Molly	Giraffe	6	F	4.4	002
003	Molly	Giraffe	5	F	4.2	003
004	Mike	Giraffe	14	M	5.1	001
005	Sammy	Giraffe	1	M	2.4	004
006	Rex	Lion	4	M	1.8	003

Data tables
linked together
using the
keeperID

keeperID	keeperName	phone	e-mail
001	Ford	321	iford@thezoo.com
002	Wright	521	nwright@thezoo.com
003	Bufford	894	wbufford@thezoo.com
004	Ford	400	cford@thezoo.com

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Examples of Primary Keys:

- National Insurance number
- Driving license number
- Bank account details
- Unique Pupil Number
- Candidate number
- Exam Centre number
- MAC address
- IP address (to an extent)
- Cell phone number
- SIM card ID

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Data is extracted and changed using **queries**

These are written in **Structured Query Language (SQL)**

Four types of query:

1. SELECT (SFWO)
2. INSERT INTO (IV)
3. UPDATE (USW)
4. DELETE (DW)