DATABASE TERMS

RECORD

FIELD

PRIMARY KEY

RELATIONSHIP

QUERY

FORM

REPORT

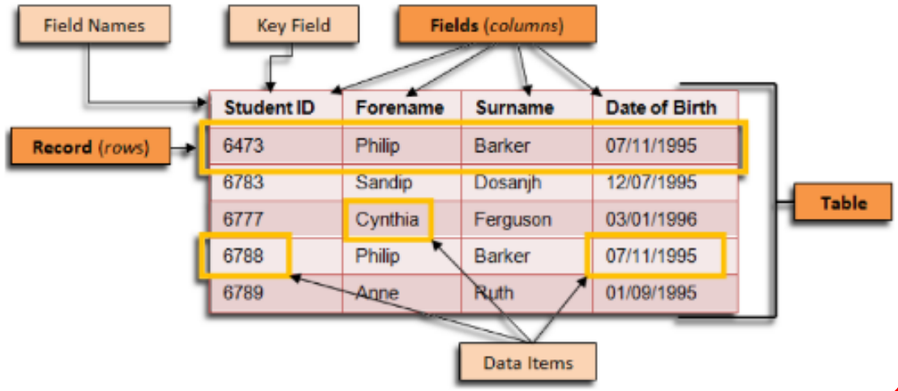
MODULE

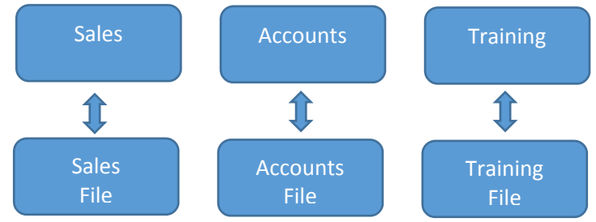
DATABASE =

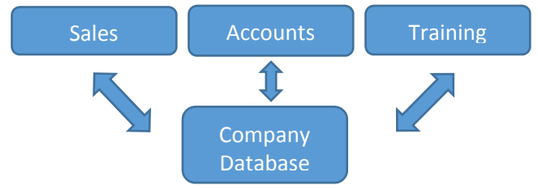
PERSISTENT Structure Maintained when programmes not running (NON VALATILE)

ORGANISED Records / Fields

STORE OF DATA







DBMS - > MANAGE

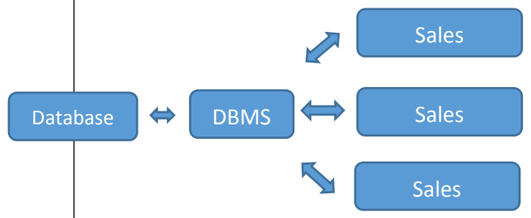
SECURITY

INTEGRITY

QUERYING

LOGS

VALIDATION



SEPERATION

Key Fields to CONNECT Databases

Your local computer shop wishes to record its sales in a database. Here is a handwritten list of sales produced by the salesman.

Order number	Date	Qty	StockID	Description	Price
001	12/07/2008	3	4692	Keyboard	£9.99
001	12/07/2008	3	5723	Mouse	£4.99
001	12/07/2008	1	7789	Scanner	£69.90
002	29/07/2008	1	0134	Laser printer	£124
003	30/07/2008	1	4692	Keyboard	£9.99
003	30/07/2008	1	5723	Mouse	£4.99
003	30/07/2008	1	9834	External Hard Drive	£59.99

It would be more efficient to store the data like this:

Order

Order Number	Date
001	12/07/2008
002	29/07/2008
003	30/07/2008

OrderItem

Order Number	Qty	StockId	Description	Price
001	3	4692	Keyboard	£9.99
001	3	5723	Mouse	£4.99
001	1	7789	Scanner	£69.90
002	1	0134	Laser printer	£124
003	1	4692	Keyboard	£9.99
003	1	5723	Mouse	£4.99
003	1	9834	External Hard Drive	£59.99

ENTITY – REAL WORLS THING about which data is held

A CUSTOMER, A DVD, A CAR, A TREATMENT etc

ATTRIBUTE = FEATURE OF THAT ENTITY

ENTITY stored as TABLE, ATTRIBUTE stored as FIELD

VALIDATION

Rule built into database to check that the data entered is

Sensible ***Complete***
Reasonable ***Within Boundaries***

<u>Methods of Validation</u>

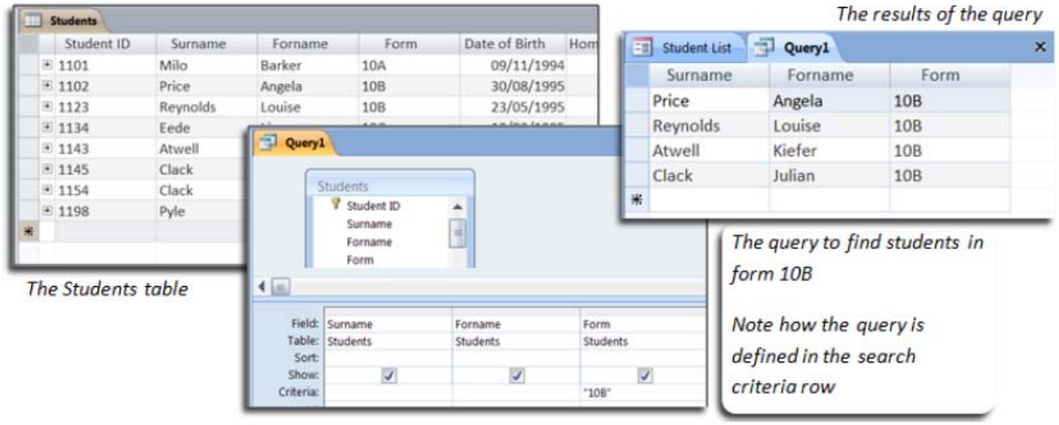
Type Checks ***Length Checks***

Range Checks ***Lookup***

Check Digits ***Input Masks***

Presence Checks

QUERY



The Students table

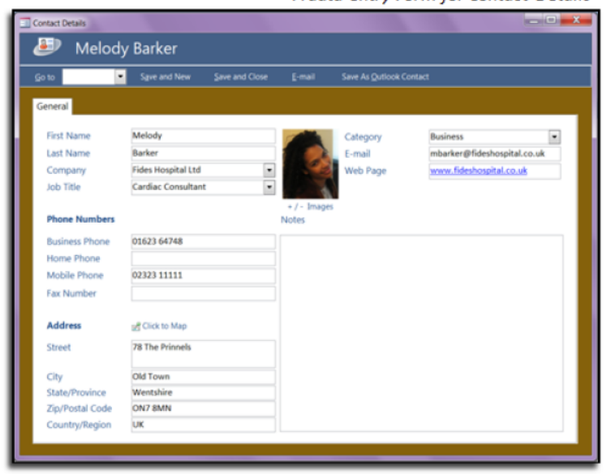
The results of the query

The query to find students in form 10B

Note how the query is defined in the search criteria row

FORM

A data entry Form for Contact Details



It is far more user friendly for a user to input data into a well designed data input form compared to entering data directly into the associated table. When the user saves the form data, the database table is updated to show the new or changed details.

REPORT

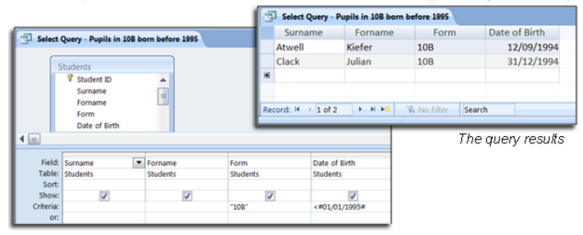
A report is a printed document that contains information from the database that has been organised and presented in a specific way. It is easier to read and obtain the information you need from a report than from looking at the data in the database tables.

Reports are useful for presenting query results in a professional manner. They can also be used to display totals, averages and other calculated fields.

A complex query looks for data in two or more fields and uses the logical operators OR, AND or NOT.
The following example uses a complex query to find all of the pupils in Form 10B who were born before 1995.
This query uses the logical operator AND:

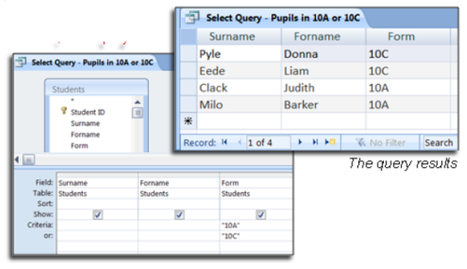
(Form = "10B") AND (Date of Birth < 01/01/1995).

The query design is shown below. Note that this time there are two entries in the search criteria row. Also note that this time the query has been given a meaningful name ("Select Query – Pupils in 10B born before 1995"). This saves other database users from unnecessarily creating the same query.



The query results

Below is a new complex query that uses the logical operator OR to find pupils who are in Form 10A or Form 10C: (Form = "10A" OR "Form = "10C") This time, in the query definition there will be two criteria lines. The query and its results are shown below:



The query results