

**DATABASE TERMS**

**RECORD**

**FIELD**

**PRIMARY KEY**

**RELATIONSHIP**

**QUERY**

**FORM**

**REPORT**

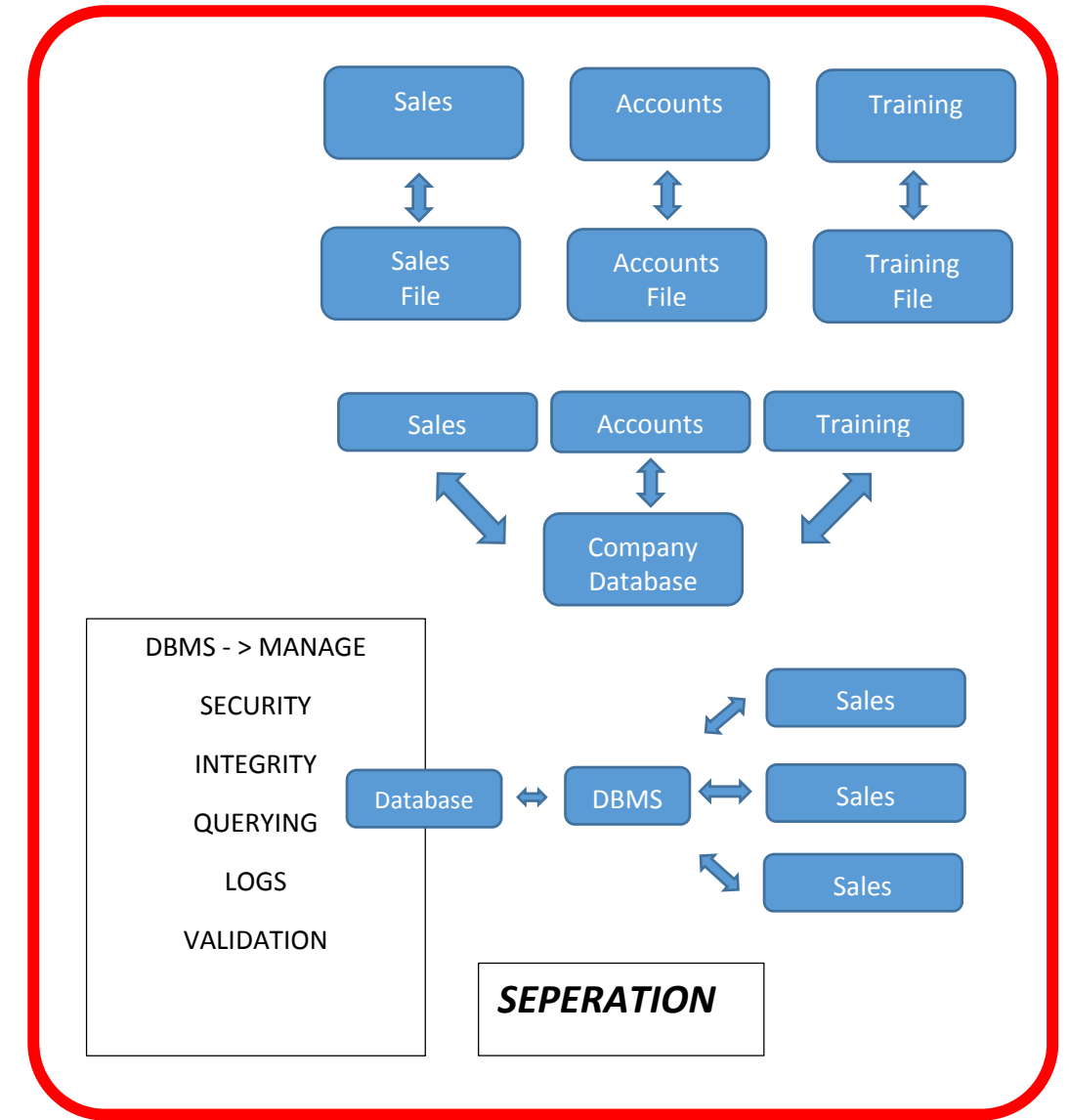
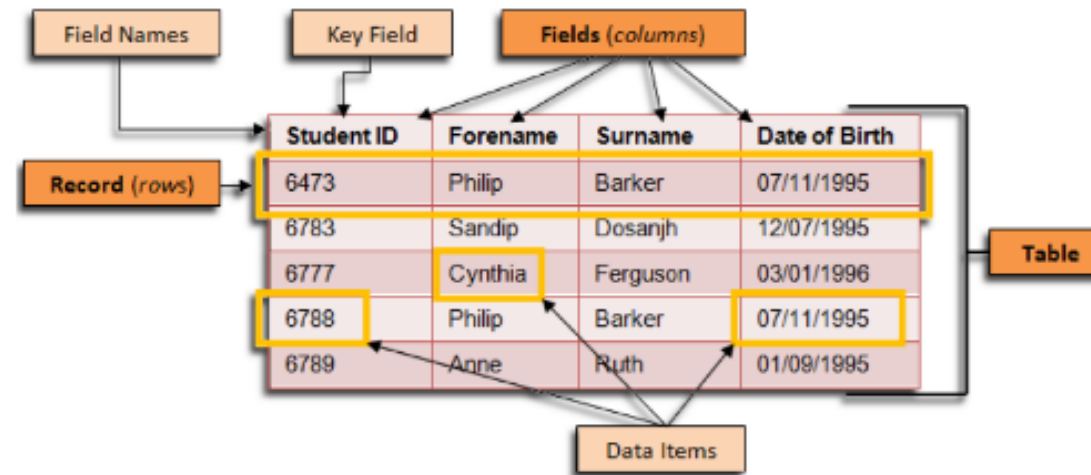
**MODULE**

**DATABASE =**

PERSISTENT Structure Maintained when programmes not running (NON VOLATILE)

ORGANISED Records / Fields

STORE OF DATA



**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 WORLDS 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**

**Methods of Validation**

**Type Checks**      **Length Checks**

**Range Checks**      **Lookup**

**Check Digits**      **Input Masks**

**Presence Checks**

**QUERY**

The Students table

Student ID	Surname	Forname	Form	Date of Birth	Home
1101	Milo	Barker	10A	09/11/1994	
1102	Price	Angela	10B	30/08/1995	
1123	Reynolds	Louise	10B	23/05/1995	
1134	Eede				
1143	Atwell				
1145	Clack				
1154	Clack				
1198	Pyle				

The results of the query

Surname	Forname	Form
Price	Angela	10B
Reynolds	Louise	10B
Atwell	Kiefer	10B
Clack	Julian	10B

The query to find students in form 10B

Note how the query is defined in the search criteria row

Field:	Surname	Forname	Form
Table:	Students	Students	Students
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			"10B"

**FORM**

A data entry Form for Contact Details

Melody Barker

First Name: Melody  
Last Name: Barker  
Company: Fides Hospital Ltd  
Job Title: Cardiac Consultant

Category: Business  
E-mail: mbarker@fideshospital.co.uk  
Web Page: www.fideshospital.co.uk

Phone Numbers:  
Business Phone: 01623 64748  
Home Phone:  
Mobile Phone: 02323 11111  
Fax Number:

Address:  
Street: 78 The Prinnels  
City: Old Town  
State/Province: Wenshire  
Zip/Postal Code: ON7 8MH  
Country/Region: UK

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.

City Car Sales  
Monthly Sales Report by Region

Report generated 04/05/2009

Month to Date	Jan	Feb	March	April	May	
South West Region Manager - Nick Evans	£8,992.64	£4,000.00	£9,707.48	£3,117.39	£2,902.64	£3.00
Year to Date	£26,608.51					
South East Region Manager - Tania Deacons	£1,299.00	£0.00	£1,875.20	£713.32	£1,299.00	£3.00
Year to Date	£4,017.42					
North Region Manager - Michael Barker	£0.00	£0.00	£18,642.74	£2.00	£3.00	£3.00
Year to Date	£18,643.74					
<b>Sales Totals:</b>						
Month to Date	£10,292.64					
Year to Date	£49,289.67	£4,000.00	£30,416.42	£4,509.61	£10,292.64	£9.00

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.

Select Query - Pupils in 10B born before 1995

Surname	Forname	Form	Date of Birth
Atwell	Kiefer	10B	12/09/1994
Clack	Julian	10B	31/12/1994

The query results

Field:	Surname	Forname	Form	Date of Birth
Table:	Students	Students	Students	Students
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			"10B"	<#01/01/1995#
or:				

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:

Select Query - Pupils in 10A or 10C

Surname	Forname	Form
Pyle	Donna	10C
Eede	Liam	10C
Clack	Judith	10A
Milo	Barker	10A

The query results

Field:	Surname	Forname	Form
Table:	Students	Students	Students
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			"10A"
or:			"10C"