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| G:\Brooke Weston Logos\Bitmap Images\Logo Only\BW Logo 2007 Shape GIF.gif | **Brooke Weston Academy**  OCR Level 3 Nationals in ICT  **Unit 06 – Advanced Databases** |

##### Unit 06 - Assignment Keywords

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| **KEYWORD** | **DEFINITION** | |
| **AO1 – Design a relational database to meet the needs of an organisation** | | |
| **1st Normal Form (1NF)** | Tables do not contain repeating data | |
| **2nd Normal Form (2NF)** | Tables do not contain fields that are not needed within that particular table | |
| **3rd Normal Form (3NF)** | Tables do not contain any fields that could act as a primary key (ie unique) other than the one used as a primary key | |
| **Audience** | Identify WHO you are making the system FOR | |
| **AutoNumber** | Numeric value generated by the database to create a UNIQUE value each time it is called upon | |
| **Currency** | Storage of numeric values in currency format | |
| **Data Dictionary** | A list of all the tables within a database showing all the fields and their attributes | |
| **Data Entry** | Input fields for data – numeric or characters | |
| **Database** | **SIMPLE** - An **organised collection** of information which can be ***interrogated, edited*** and ***amended***  **ADVANCED** - A **structured collection of records or data** that is stored in a computer system. In order for a database to be truly functional, it must not only ***store large amounts of records well, but be accessed easily***. In addition, ***new information and changes should also be fairly easy to input*** | |
| **DataTypes** | Data types describes the **context of the information the field requires**. There are many different types:   * Autonumber * Text * Number * Date/time * Currency * Yes/No * Memo * Lookup | |
| **Date/Time** | Storage of date or time values only | |
| **Designs** | Illustrate the structure/layout of the database | |
| **Entity** | Basically a table | |
| **Entity Relationship Diagram (ERD)** | Shows how tables are joined (related) to each other | |
| **Field** | A field would be one piece of information about the subject of the database. For example Forename, surname, telephone number | |
| **Field Size** | Number of characters that can be stored | |
| **File / Database** | A complete set of tables pertaining to a business function. For example an employee database | |
| **Flat File** | This consists of one table which contains all the information within the database | |
| **Foreign Key** | A field which links a primary key in another table | |
| **Forms** | An input area – see ***Data Entry*** | |
| **Indexed** | Used when two or more tables are joining a table based on the field name - by performing/identifying this step, it allows the database to access information from other tables and performance of searching the table based on this field | |
| **Initial Designs** | Sketches with annotation of ANY features possibly available | |
| **Input Mask** | Can be used as data validation check when storing information in a certain/required format | |
| **Character** | **Description** |
| **0** | Digit (0 to 9, entry required, plus [+] and minus [–] signs not allowed) |
| **9** | Digit or space (entry not required, plus and minus signs not allowed) |
| **#** | Digit or space (entry not required; spaces are displayed as blanks while in Edit mode, but blanks are removed when data is saved; plus and minus signs allowed) |
| **L** | Letter (A to Z, entry required) |
| **?** | Letter (A to Z, entry optional) |
| **A** | Letter or digit (entry required) |
| **a** | Letter or digit (entry optional) |
| **&** | Any character or a space (entry required) |
| **Lookup** | Link to another table for values – information required NEEDS to be available | |
| **Many-to-One Relationship** | Link to another table, where many items can be associated to one record – i.e. – a variety of products that is linked to a order | |
| **Memo** | Like Text, but able to stores larger contents | |

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| **Normalisation** | Normalisation is the process of sorting data into logical and simple structures for databases. It eliminates data that repeats itself unnecessarily  Benefits of normalisation include:   * Reduction of data redundancy * Greater database efficiency * Database can be updated and amended easier * Database takes up less memory which leads to quicker operations | |
| **Number** | Storage of numeric values only | |
| **One-to-Many Relationship** | Link to another table, where one record can be associate to many items – i.e. – a customer can be linked to several orders | |
| **One-to-One Relationship** | Unique link to another table – i.e. – a child has a link to only one set of parents | |
| **Primary Keys** | A unique field which is used to identify the record - for example our National Insurance number is a unique number | |
| **Queries** | Queries are questions you ask the database for finding from the list of records stored | |
| **Record** | A complete set of information about the subject of the database. For example a complete set of fields | |
| **Referential Integrity** | ***Referential integrity is a database constraint that ensures*** that references between data are considered ***valid and intact –*** If there is a link or dependency on data within another table then the data MUST be present for the NEW/MODIFIED data to be accepted | |
| **Relational Database** | This consists of several tables which are connected together by relationships. These relationships allow information to be shared throughout the database - The relationships are normally one to many or many to one, but can be one to one – which is theoretically a flat file link | |
| **Relationship – Many to Many** | A link where the relationship is complex between the two tables – ***Tutees have the same teachers as each other***   * A Tutee has a link to several Teachers * A Teacher has a link to several Tutees | |
| **Relationship – One to Many** | A link where the relationship will be connected to another table – ***A form tutor has many tutees***   * A Tutee has a link to a Tutor * A Tutor has a link to several Tutees | |
| **Relationship - One to One** | A link where the relationship will be unique to another table – ***A tutee has an individual timetable***   * A Tutee has a link to a Timetable * A separate Timetable is linked to a Tutee | |
| **Relationships** | A link between these tables | |
| **Reports** | Reports are a different way of displaying information either from a query or table | |
| **Storage** | Saving records in the form of data within tables | |
| **Table** | A collection of associated records. For example customer information | |
| **Text** | Storage of alpha and numeric values (up to 255 characters) | |
| **User Interface** | Menu/Switchboard to provide the user a simple navigational toolbar system to manage the database | |
| **Yes/No** | Storage of two values only – Yes/No | |
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| **KEYWORD** | **DEFINITION** | |
| **AO2 – Produce the database according to the design** | | |
| **Data Entry Form** | User friendly simple form create to assist the user in submit NEW records to the table | |
| **Export Data** | Transferring information from the database to a file (Word Processing package or a spreadsheet) | |
| **External Source** | A file that is NOT the database consisting of the data/information | |
| **Import Data** | Transferring information from a file to the database | |
| **Integrity of Data** | Check that the information that the record is dependent on is present and correct | |
| **Leszynski Naming Convention** | Standardising your Database - a good way to name all of the elements are:   * Tables – Tbl\_name * Query – Qry\_name * Forms – Frm\_name * Reports – Rpt\_name   Where name represents the content or purpose of the element | |
| **Populate** | Submit and store data within the tables created | |
| **Test** | Check that the database functions as required for organising, storing and retrieving information | |
| **Validity of Data** | Check that the correct type of data is stored text value within a text field and number value within a number field | |
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| **KEYWORD** | **DEFINITION** | |
| **AO3 – Interrogate the database** | | |
| **<** | Less than | e.g. **>30** lists all numbers over 30 |
| **< =** | Less than or equal to | e.g. **<=30** lists all numbers that are 30 or less than 30 |
| **<>** | Not Equal | e.g. **<> 30** lists all numbers except 30 |
| **=** | Equals | e.g. **=30** lists only 30 |
| **>** | Greater than | e.g. in a money or field **<30** would show all numbers below 30 |
| **> =** | Greater than or equal to | e.g. **>=30** lists all numbers from 30 |
| **AND** | Finds examples of both | e.g. **American AND Australian** finds artists who are both American and Australian (will produce zero results) |
| **BETWEEN** | BETWEEN ? AND ? | |
| **Calculated Fields** | A calculated field takes numbers from other fields in the query and performs a calculation on them.   * You can add a calculated field to a query, as long as you include in the query all the data that the calculated field needs to perform its calculation.   A calculated field can take data from more than one field | |
| **Crosstab Queries** | Crosstab queries are used to summarise data in tables. It has a rows and columns format, where you can think of each row as a record and each column as a field describing that record. Unlike a table, however, there is an additional column that performs a calculation on the data.   * For example, you might create a crosstab query based on a table of sales orders. Products could be shown in rows and the Order Date in columns. You would also have a calculating column to Sum the values. The calculating column would provide a total value for each product.   A crosstab query can be based on tables or queries | |
| **Interrogate** | Question / Query the database data to filter and find relevant information from a range of sources (tables) | |
| **IS** | Finds exact matches only | e.g. **IS Rolf Harris** finds records which contain both names |
| **LIKE** | Finds any record that contains the term somewhere | e.g. **LIKE Rolf** finds any artist called Rolf |
| **Logical Operator** | Use of operators to assist in querying set of data by using the following symbols 🡺 =, <>, AND, OR | |
| **Multi-Stage Functions** | Use of various different functions for different purposes | |
| **Named Cells/Range** | Identifying a range of cells by a NAME | |
| **Nested Functions** | Use of functions within a function (dependencies of results to perform ANY of the functions) | |
| **OR** | Finds examples of either | e.g. **American OR Australian** finds records artists who are either American or Australian |
| **Parameter Queries** | A **parameter query** is a query in which the criteria for selecting records are determined when the query is executed rather than when the query is designed | |
| **Processing** | How the database processes/calculates/uses the information | |
| **Range Operator** | Use of operators to assist in querying set of data by using the following symbols 🡺 BETWEEN, GREATER THAN or LESS THAN | |
| **Results** | The presentation of the information | |
| **Searching/Filtering Information** | Searching and finding specific information from a large list | |
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| **KEYWORD** | **DEFINITION** | |
| **AO4 – Create a user interface** | | |
| **Action Buttons** | See ***Macros*** | |
| **Automated Function** | An automated function is a series of commands that are carried out using a single press of a button, like a macro – link to running a query/report/etc... | |
| **Customised** | Personalisation of the database | |
| **Macros** | A set of instructions/actions performed that are recorded for performing as a repetitive activity at a later date | |
| **Subform** | Sub forms consist of two or more forms and show information relating to each other | |
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| **KEYWORD** | **DEFINITION** | |
| **AO5 – Produce reports** | | |
| **Analysis** | Concluding the use of the information | |
| **Data Used** | Information used to calculate or display | |
| **Graphs/Chart** | Presenting the information within a bar chart, line graph, pie, etc... | |
| **Header/Footer** | Including relevant information within the printouts like a footnote | |
| **Normal View** | What you see on the screen | |
| **Numerical Data** | Use of Numbers used within the database | |
| **On Screen** | Displayed on the computer screen for viewing purposes | |
| **Presentation** | Displaying the information in clear and understandable manner/form | |
| **Printable** | Formatted to print onto a sheet via. the printer | |
| **Processing** | How the database processes/calculates/uses the information | |
| **Results** | The presentation of the information | |
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| **KEYWORD** | **DEFINITION** | |
| **A06 - Produce user documentation and technical information** | | |
| **Advanced Features** | Skills used within the database application are exceptional | |
| **Functionality** | Features and Processes within the database | |
| **Instructions** | Step-by-step list to perform a activity | |
| **Navigation** | Link from one table to another or the smooth transition between the activities implemented within the system | |
| **Screenshots** | Picture evidence of the screen | |
| **Standard Features** | Basic skills used within the database application | |
| **Technical Specification** | Explains how the system was built with ALL skills and features used | |
| **User Guide** | Very much a laymen's guide on using the piece of software you have created and should be fully illustrated and contain written easy to understand jargon free instructions | |
| **Verification and Validation Checks** | Database checks for correct information entered by the user | |
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| **KEYWORD** | **DEFINITION** | |
| **A07 – Test the database** | | |
| **Test** | A stage where the database is checked thoroughly for any possible mistakes/problems based on the success criteria | |
| **Test Plan** | Plan a range of tests of the database – data, types of data, links to data, relationships, querying, etc... | |
| **Test Results** | Results of the Tests carried out – SUCCESSFUL or FAILURE | |
| **Test Type – Boundary** | Testing to see if the validation operates, eg if you are expecting a value between 1 and 10 but get a number above 10, such as 11 | |
| **Test Type – Erroneous** | Data that should produce an error ie ‘twenty’ instead of 20 | |
| **Test Type - Extreme** | Very large numbers to see if the database handles the number | |
| **Test Type - Normal** | What you would expect to be used | |
| **Test Type - Operational** | No data as such | |
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| **KEYWORD** | **DEFINITION** | |
| **A08 – Database evaluation** | | |
| **Benefits** | Advantages to using the systems compared to the previous method | |
| **Evaluate** | Based on the ***Client Requirements***, how the database meets the NEEDS identified | |
| **Improvements** | Suggestions of making new/more changes to the website that could be beneficial | |
| **Improvements & Suggestions** | Based on the end result, can you see any additional functions/features that could be added | |
| **Key Success Criteria** | Based on the initial requirements of the customer/client, have to produced a system that meets ANY or ALL of the needs identified | |
| **Personal Experiences** | Focusing on personal abilities (knowledge and skills) during this unit of implementing a new database system | |
| **Refine** | Modify or improve current system | |
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