# Assessment 3: Design, Build & Test Database

# Data Design Requirements

*<A sentence describing the system at a high level.>*

### Orders entity

Orders are functional groupings of customer orders. Each Order entity has an Order No., Order Date and a Customer Name.

**Attributes**

* *Order Number – Is used to track the order a customer made. Contains numbers and letters.*
* *Order Date – Is an attribute in date format that identifies when the order was placed.*
* *Customer Name – This attribute identifies the name of the person who placed the order. Is linked to Order Number attribute.*

### Items Entity

*<A sentence describing this entity and why it is needed.>*

*Items record information about individual items. Each item has an Item No., Item Description, Size, Cost, Quantity field and total. Not all fields are mandatory like Size and Total.*

**Attributes**

* *Item No. – Attribute contains numbers and letters which is used to link items to an Order Number from the Orders table.*
* *Item Description – Attribute contains numbers and letters that is used to identify the item required.*
* *Size – Attribute containers letters that is used to identify the size of an item required.*
* *Cost – Attribute containing numbers to identify the cost of an item.*
* *Quantity – Attribute containing numbers to identify the quantity required.*
* *Total – attribute container numbers which calculates the total of the items required*

# Relationship Design Requirements

*<Provide two sentences describing the relationship between the two entities using this formula:>*

“Each <entity1> < must be / may be > *relationship name\** < one or more / one and only one > <entity2>.

Each Orders entity may be contains one or more Items.  
Each <entity2> < must be / may be > *relationship name\** < one or more / one and only one > <entity1>.”  
Each

\* The relationship name between the entities is a verb that describes what one entity does to the other. For example, between Departments and Employees the relationships would be “employs” and “employed by”.

# Functional Design Requirements

*<What data functionality is required? For example what data functionality is required when a new record is created, what values are valid and invalid for certain fields, which fields are generated automatically? One sentence is usually enough for each point.>*

*Each Order may have one or more items.*

*Each Item can be on one Order.*

* *<Bullet points describing the functionality required.>*
* *Oder Number is required*
* *Customer Name is required.*
* *Quantity attribute needs to be greater than 0.*
* *Cost attribute needs to be greater than 0.*
* *Size attribute needs to be greater than 0.*
* *Attribute must be contain characters s, x , l, m to identify the*

<Delete all text in angled brackets. Remove rubric. Upload to eLearn.>

# Example Data Design Requirements for Departments & Employees

# Data Design Requirements

Note:   
This page shows an example of how the template would be completed for Departments and Employees.

These are example data design requirements for Employees and Departments.

This organisation has human resource requirements to record current  
Employee details and the areas where they work, called Departments.

## Departments entity

Departments are functional groupings of employees. Each has a name, a head of   
department employee and a location.

Attributes

* DEPARTMENT\_ID The unique department number.
* DEPARTMENT\_NAME The name of the department.
* MANAGER\_ID The Employee ID of the head of department.
* LOCATION\_ID Where a department is located; links to the Locations table.

## Employees entity

Employees record information about people who are employed in a Department. It contains contact information about the person, remuneration information and job details.

Attributes

* EMPLOYEE\_ID The unique ID of the employee.
* LAST\_NAME Last name of the employee.
* FIRST\_NAME First name of the employee.
* HIRE\_DATE The date when the employee started on this job.
* EMAIL Email of the employee.
* PHONE\_NUMBER Phone number of the employee; includes country code & area code
* SALARY The monthly salary of the employee.
* COMMISSION\_PCT Commission percentage of the employee (only for Sales employees).
* JOB\_ID Current job of the employee. This links to the jobs table.
* MANAGER\_ID The Employee\_ID of the employee’s immediate supervisor. Links to the Employee\_ID of a different record in the Employees table.
* DEPARTMENT\_ID Links to the Departments table to show the area that employs this employee.

# Relationship Design Requirements

“Each Department may employone or more Employees.  
Each Employee may be employed by one and only one Department.”

# Functional Design Requirements

* It is possible for a Department to be added to the database with no Employees.
* DEPARTMENT\_ID Required. When the use clicks in this field it will auto populate with a unique number.
* DEPARTMENT\_NAME Required.
* MANAGER\_ID Links to the Employee\_ID column in the Employees table.
* LOCATION\_ID Links to the Location\_ID column in the Locations table.
* An employee is usually, but not always employed by a Department.
* EMPLOYEE\_ID Required. When the use clicks in this field it will auto populate with a unique number.
* FIRST\_NAME Required.
* LAST\_NAME Required.
* EMAIL Required. Email should usually be the first letter of the First\_Name and the first 7 letters of the Last\_Name.
* PHONE\_NUMBER Phone number of the employee; includes country code & area code with separating dots (eg ‘590.423.4567’).
* HIRE\_DATE A valid date is required with no minutes ie. “00:00”.
* JOB\_ID Required.
* SALARY If a value is given, it must be greater than zero.
* MANAGER\_ID Links to the Employee\_ID of a different record in the Employees table.
* DEPARTMENT\_ID Links to the Department\_ID column in the Departments table.