KIT102 Data Modelling Assignment

Due: 29 May, 11:55pm, Week 13

All submissions are through MyLO.

The marking rubric is available on MyLO. You should look at the rubric.

This assignment will take a lot of time. You need to start early.

# Task

You have been presented with the case study below. You need to turn this into a MySQL database.

These are the requirements:

1. Read the case study and develop an Entity-Relationship Diagram using the conventions for this unit. This diagram needs to describe all of the business rules in the case study.
2. Using this unit’s Entity-Relationship to Relational Schema Algorithm, convert your Entity-Relationship Diagram into a relational schema.
3. Using MySQL create the database based upon your relational schema.
4. Enter two records into each of the relations that you have created in your MySQL database.
5. If you are stuck at any stage – speak to your tutor or email your Unit Coordinator: [matthew.springer@utas.edu.au](mailto:matthew.springer@utas.edu.au) Ask for help.

# Submission Requirements

1. In a Word Document or PDF, submit your Entity-Relationship Diagram and relational schema INCLUDING all of the steps involved in the conversion algorithm to MyLO. Using Visio is recommended for the E-R Diagram, but any diagramming package, or a hand-drawn diagram included as an image in your Word Document or PDF is acceptable.
2. In a separate text document, submit your file called Assignment.sql to MyLO in which you have recorded all of the MySQL code to create and populate your database.

# Case Study

Winnaleah Essential Oils Co (WEOC) is a world-famous producer of bespoke perfumes, located in North Eastern Tasmania. It has been operating since 1996 and is now the largest producer of organic essential oils in Tasmania.

WEOC produces Essential Oil and Perfume. Each perfume *consists of* one or more essential oils. There may be many perfumes created from each essential oil, or there may be none. For marketing and legal purposes, every Perfume Name is unique. A Description of each perfume is also recorded.

To help with mixing perfumes, each essential oil has a Fragrance Wheel position recorded.

Usually, WEOC produces its own essential oils from PLANTs. Each Essential Oil *originates from* one and only one plant, but each plant will be used in one or more essential oil. Plants have unique Botanical Names, but their Common Name and Habitat are also recorded.

Plants are *grown by* FARMERs. Each plant is grown by one and only one farmer, but each farmer may grow one or more plants. Farmers have Given Names and Surnames. Each farmer *works on* one or more FARMs, but each farm has one and only one farmer. The combination of a Farm Name and Farm Address is unique.

When essential oils cannot be sourced from plants and farmers, a supplier *supplies* one or more essential oil, but each essential oil comes from one and only one supplier to help ensure quality. Supplier Names are unique. A Supplier Address is recorded for each supplier.

BOTTLEs are also *supplied by* suppliers. For marketing reasons each bottle type is supplied by one and only one supplier. Each supplier may supply zero or more bottles. The Colour, Size and Shape of each bottle is recorded so that each bottle may be *unique to* one and only one perfume. A perfume may use zero or more bottles.

Each RETAILER *buys* one or more perfume. And each perfume is bought by one or more retailer. Retailers’ Company Names are unique. Retail Addresses are also recorded.

CUSTOMERs also *purchase* perfume directly from WEOC. A customer may buy one or more perfume, however each perfume may be purchased by zero or more customers. Customers’ Given Name and Surname are recorded.

An EMPLOYEE *designs* one and only one perfume and a perfume may be designed by zero or more employees. Employee’s Payroll Numbers are unique. Given Names, Surnames and Addresses are also recorded for each employee. In a unary relationship, each employee manages zero or more employees, and each employee is managed by one and only one employee.

With these business rules, Winnaleah Essential Oils Co hopes that you can help them by developing a database to store their required data.