# Worksheet 5 Defining and updating tables using SQL

**Task 1**

# 1. The table below shows common data types:

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **Example** |
| CHAR(n) | Character string of fixed length n | ProductCode CHAR(6) |
| VARCHAR(n) | Character string variable length, max. n | Surname VARCHAR(25) |
| BOOLEAN | TRUE or FALSE | ReviewComplete BOOLEAN |
| INTEGER, INT | Integer | Quantity INTEGER |
| FLOAT | Number with a floating decimal point | Length FLOAT (10,2) (maximum number of digits is 10 and maximum number after decimal point is 2) |
| DATE | Stores Day, Month, Year values | HireDate DATE |
| TIME | Stores Hour, Minute, Second values | RaceTime TIME |
| CURRENCY | Formats numbers in the currency used in your region | EntryFee CURRENCY |

# (a) Write an SQL statement to create a table for a table called Member, which has the following fields:

MemberID 4 characters (Primary key, compulsory field)

Firstname max 12 characters (compulsory field)

Surname max 20 characters (compulsory field)

DateJoined Date dd/mm/yy (compulsory field)

SubPaid Yes/No (optional field)

CREATE TABLE

(

(b) Write an SQL statement to amend the table to add a new column for Category, a Boolean data type

ALTER TABLE

(c) Write an SQL statement to delete the column SubPaid

(d) Write an SQL statement to change the maximum length of the Firstname field to 15 characters

**Task 2**

# 

2. Three linked tables are defined as follows:

Product

ProductComponent

Component

Product (ProductID, Description, Price)

ProductComponent (*ProductID, CompID*, Quantity)

Component (CompID, CompDesc, Cost)

When there are three linked tables, the linking table is defined as follows:

CREATE TABLE ProductComponent

(

ProductID CHAR(4) NOT NULL,

CompID CHAR(6) NOT NULL,

Quantity INTEGER,

FOREIGN KEY ProductID REFERENCES Product(ProductID),

FOREIGN KEY CompID REFERENCES Component(CompID),

PRIMARY KEY (ProductID, CompID)

)

Write the SQL statements to create the table **Component**. CompDesc is to be a maximum of 25 characters, and Cost is a currency field. All fields are compulsory.

**Task 3**

3. (a) Write an SQL statement to insert a new record into the Member table described in Task 1a. The new record is to have the following data values:

MemberID M046

Firstname William

Surname Oldfield

DateJoined 23/06/2016

SubPaid No

(b) Write an SQL statement to update this record, the first name is to be changed to “Bill” and the subscription has now been paid.

(c) Write an SQL statement to delete the record for member M025.