N5 DDD Clydeview Answers

Out of Sync with Questions document

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# Revision Exercise

## Task 2

How many fields are in the database table above?

|  |
| --- |
| **7** |

How many records are in the database table above?

|  |
| --- |
| **4** |

For each field, write the field name and the data type used.

|  |  |
| --- | --- |
| Field Name  **KnownAs**  **Surname**  **Branch**  **AccountType**  **Balance(£)**  **Rate(%)**  **InterestDue** | Type  **Text**  **Text**  **Text**  **Text**  **Number**  **Number**  **Date** |

You have been asked to create a database to store information about pupils in your class. Complete the shaded cells of the table, adding your own fields and data types.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| First name | Surname | Eye Colour | **Date of Birth** | Reg. Class | **Photo** | ***Any sensible*** |
| **Text** | **Text** | **Text** | **Date** | **Text** | **Graphic** | ***Any appropriate*** |

You have been asked to create a database to store information about products in a shop. Complete the table, adding your own fields and data types.

|  |  |
| --- | --- |
| **Field name *Any sensible fields such as …*** | **Type** |
| **ProductName** | **Text** |
| **Price** | **Number** |
| **Manufacturer** | **Text** |
| **Category** | **Text** |
| **QuanitityInStock** | **Number** |

# Revision Exercise 2

## Task 2

Complete each of the following sentences by providing the missing search criteria and fields.

|  |
| --- |
| Find all the criminals with ginger hair.  Search the database for records which contain **ginger** in the field **hairColour**. |

|  |
| --- |
| Find all the criminals with the surname Smith.  Search the database for records which contain **Smith** in the field **surname** |

|  |
| --- |
| Find all the criminals aged 35.  Search the database for records which contain **35** in the field **age** |

|  |
| --- |
| Find all the criminals with brown eyes.  Search the database for records which contain **brown** in the field **eyeColour** |

|  |
| --- |
| Find all the criminals with blond hair and green eyes.  Search the database for records which contain **blond** in the field **hairColour**  AND contain **green** in the field **eyeColour** |

|  |
| --- |
| Find all the criminals named Steven and are aged 19.  Search the database for records which contain **Steven** in the field **firstName**  AND contain **19** in the field **age** |

## Task 3

Set 1 – ascending order

Set 2 – descending order

Set 3 – descending order

Set 4 – ascending order

## Task 4

Table 1 – age field has been sorted in ascending order

Table 2 – firstName field has been sorted in ascending order

Table 3 – surname field has been sorted in ascending order

## Task 5

Table 1 – year field has been sorted in ascending order

– class field has been sorted in ascending order

Table 2 – surname field has been sorted in ascending order

– class field has been sorted in descending order

Database Queries using SQL

# Exercise 1: Answers

## Task 1

SQL = Structured Query Language

|  |  |
| --- | --- |
| **Step No.** | **Step** |
| **1** | FROM |
| **4** | ORDER BY |
| **3** | SELECT |
| **2** | WHERE |

|  |  |  |
| --- | --- | --- |
| **Term** |  | **Description** |
| SELECT |  | The criteria which must be met |
| FROM |  | The fields to display |
| WHERE |  | The field and order used to sort the results |
| ORDER BY |  | The table used in the query |

## Task 2

This query will display the fields **firstName, surname and age**

From the database table called **Pupil**

For any record where the **age is more than 16**

The records will then be sorted **in ascending (or alphabetical) order of firstName**

This query will display the fields **itemName, price and quantity**

From the database table called **Stock**

For any record where the **price is less than 9.99**

The records will then be sorted **in descending order of price**

This query will display the fields **surname, address and postCode**

From the database table called **Customer**

For any record where the **title field has a value equal to Mr**

The records will then be sorted **in ascending order of dob**

# Database Queries using SQL Exercise 3

## Task 1

This query will display the fields **firstName, surname and age**

From the database table called **Pupil**

For any record where the **age is over 16 and the surname equals Smith**

The records will then be sorted **in ascending order of firstName**

This query will display the fields **itemName, price and quantity**

From the database table called **Stock**

For any record where the **price is less than 9.99 or the quantity is over 5**

The records will then be sorted **in descending order of price**

This query will display the fields **surname, address and postCode**

From the database table called **Customer**

For any record where the **title equals Mr and the age is over 50**

The records will then be sorted **in ascending order of dob**

**Database Design**

# Exercise 5: Answers

## Task 1

### Table: Member

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| memberID | PK | Text | 4 | yes | Length = 4 |
| lastName |  | Text | 20 | yes |  |
| firstName |  | Text | 20 | yes |  |
| ageInYears |  | Number |  | yes | >=18 |
| email |  | Text | 50 | yes |  |

### Table: Post

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| postID | PK | Text | 4 | yes | Length = 4 |
| title |  | Text | 50 | yes |  |
| date |  | Date |  | yes |  |
| memberID | FK | Text | 4 | yes | Existing memberID from Member table |
| numberOfWords |  | Number |  | yes | >=20 and <=250 |

## Task 4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Album table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| albumID | PK | Number |  | yes |  |
| name |  | Text | 30 | yes |  |
| category |  | Text | 7 | yes | Restricted choice: animals, cars, castles, surfing, towns |
| description |  | Text | 50 | yes |  |
| numberOfPhotos |  | Number |  | yes | >=0 and <=120 |
| **Photo table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| photoID | PK | Number |  | yes |  |
| albumID | FK | Number |  | yes | Existing albumID from Album table |
| title |  | Text | 30 | yes |  |
| image |  | Text | 30 | yes |  |

## Task 5

|  |  |  |
| --- | --- | --- |
| **Album** | has | **Photos** |

## Task 6

Each album has many photos and each photo is stored in one album.

## Task 7

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| itemCode | PK | Text | 7 | yes | length=7 |
| description |  | Text | 40 | yes |  |
| size |  | Number |  | yes | Restricted choice: 8, 10, 12, 14, 16 |
| era |  | Text | 5 | yes | Restricted choice: 1940s, 1950s, 1960s, 1970s |
| brandID | FK | Text | 2 | yes | Existing brandID from Brand table |
| **Brand table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| brandID | PK | Text | 2 | yes |  |
| brand |  | Text | 20 | yes |  |
| yearEstablished |  | Number |  | no |  |
| nationality |  | Text | 8 | yes | Restricted choice: American, British, Italian |

## Task 8

|  |  |  |
| --- | --- | --- |
| **Item** | belongs to | **Brand** |

## Task 9

Each item belongs to one brand and each brand has many items.

## Task 10

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Player table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| playerID | PK | Text | 4 | yes | length=4 |
| teamID | FK | Number |  | yes | Existing teamID from Team table |
| starRating |  | Number |  | yes | >=1 and <=5 |
| firstName |  | Text | 20 | yes |  |
| lastName |  | Text | 20 | yes |  |
| dateOfBirth |  | Date |  | yes |  |
| **Team table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Rb eqd** | **Validation** |
| teamID | PK | Number |  | yes |  |
| teamName |  | Text | 30 | yes |  |
| sport |  | Text | 10 | yes | Restricted choice: basketball, handball, hockey, netball |
| manager |  | Text | 30 | no |  |
| coach |  | Text | 30 | no |  |
| homeTown |  | Text | 30 | yes |  |

## Task 11

|  |  |  |
| --- | --- | --- |
| **Player** | plays for | **Team** |

## Task 12

Each player plays for one team and each team has many players.

**Relational Databases**

# Exercise 6(1): Answers

## Task 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| ownerID | PK | Number |  | yes |  |
| firstName |  | Text | 20 | yes |  |
| surname |  | Text | 20 | yes |  |
| address |  | Text | 40 | yes |  |
| town |  | Text | 20 | yes |  |
| contactTele |  | Text | 11 | yes | length=11 |

## Task 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| petCode | PK | Text | 5 | yes | length=5 |
| petName |  | Text | 20 | yes |  |
| petType |  | Text | 8 | yes | Restricted choice: budgie, cat, dog, gerbil, tortoise |
| dob |  | Date |  | yes |  |
| vaccination |  | Boolean |  | yes |  |
| ownerID | FK | Number |  | yes | Existing ownerID from Owner table |

## Task 4

has

|  |  |  |
| --- | --- | --- |
| **Owner** |  | **Pet** |

# Exercise 6(2): Answers

## Task 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| productName |  | Text | 30 | yes |  |
| productCode | PK | Text | 4 | yes | length=4 |
| numberInStock |  | Number |  | yes | >=0 and <=50 |
| onOrder |  | Boolean |  | yes |  |
| costPrice |  | Number |  | yes | >1 |
| manufacturerID | FK | Number |  | yes | Existing manufacturerID from Manufacturer table |

## Task 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| manufacturerID | PK | Number |  | yes |  |
| name |  | Text | 20 | yes |  |
| address |  | Text | 40 | yes |  |
| telephoneNumber |  | Text | 11 | yes | length=11 |

## Task 4

|  |  |  |
| --- | --- | --- |
| **Product** | is made by | **Manufacturer** |

# Exercise 6(3): Answers

## Task 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CD table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| cdCode | PK | Text | 4 | yes | length=4 |
| title |  | Text | 40 | yes |  |
| artist |  | Text | 40 | yes |  |
| label | FK | Text | 20 | yes | Existing label from Label table |
| numberOfTracks |  | Number |  | yes | >=10 and <=60 |
| cost(£) |  | Number |  | yes | >=6.99 and <=15.00 |
| genre |  | Text | 7 | yes | Restricted choice: choral, country, garage, indie, opera, pop, R&B, R&R, soul |
| **Label table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| label | PK | Text | 20 | yes |  |
| founded |  | Number |  | yes |  |
| parentCompany |  | Text | 30 | yes |  |
| countryOfOrigin |  | Text | 7 | yes | Restricted choice: Germany, Japan, UK, USA |
| website |  | Text | 50 | no |  |

## Task 2

|  |  |  |
| --- | --- | --- |
| **CD** | belongs to | **Label** |

## Task 4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Author table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| authorRef | PK | Number |  | yes |  |
| firstName |  | Text | 20 | yes |  |
| surname |  | Text | 20 | yes |  |
| nationality |  | Text | 20 | yes |  |
| dob |  | Date |  | no |  |
| website |  | Text | 80 | no |  |
| **Book table** | | | | | |
| **Field** | **Key** | **Type** | **Field Length** | **Reqd** | **Validation** |
| category |  | Text | 5 | yes | Restricted choice: adult, child |
| genre |  | Text | 13 | yes | Restricted choice: autobiography, fantasy, fiction, joke, mystery, thriller |
| title |  | Text | 100 | yes |  |
| authorRef | FK | Number |  | yes | Existing authorRef from Author table |
| publisher |  | Text | 20 | yes |  |
| ISBN | PK | Text | 10 | yes | length=10 |
| dateOfPublication |  | Date |  | yes |  |
| numberOfPages |  | Number |  | yes | >=32 and <=950 |

## Task 5

|  |  |  |
| --- | --- | --- |
| **Author** | writes | **Book** |

# Database Queries using SQL Exercise 7(1)

## Task 1

|  |  |  |
| --- | --- | --- |
| 1. | Fields(s) | firstName, surname, address, petName |
| Table(s) | Owner, Pet |
| Search criteria | petType ="cat" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 2. | Fields(s) | firstName, surname, contactTele, petCode |
| Table(s) | Owner, Pet |
| Search criteria | petType ="tortoise" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 3. | Fields(s) | firstName, surname, address, petName |
| Table(s) | Owner, Pet |
| Search criteria | vaccination = false |
| Sort order |  |
|  |  |  |
|  |  |  |
| 4. | Fields(s) | petName, petType, town |
| Table(s) | Owner, Pet |
| Search criteria | town ="Greenock" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 5. | Fields(s) | petName, vaccination, contactTele |
| Table(s) | Owner, Pet |
| Search criteria | town ="Gourock" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 6. | Fields(s) | firstName, surname, petName, petType |
| Table(s) | Owner, Pet |
| Search criteria |  |
| Sort order | surname ASC |
|  |  |  |
| 7. | Fields(s) | petName, address, town |
| Table(s) | Owner, Pet |
| Search criteria |  |
| Sort order | town ASC, petType ASC |
|  |  |  |
|  |  |  |
| 8. | Fields(s) | petName, petType, town, dateOfBirth |
| Table(s) | Owner, Pet |
| Search criteria | petType ="cat" |
| Sort order | dateOfBirth DESC |

## Task 2

|  |  |
| --- | --- |
|  | **SQL Query** |
| 1. | SELECT firstName, surname, address, petName  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND petType ="cat"; |
| Results: A screen shot of a computer  Description automatically generated |
| 2. | SELECT firstName, surname, contactTele, petCode  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND petType ="tortoise"; |
| Results: A screen shot of a computer  Description automatically generated |
| 3. | SELECT firstName, surname, address, petName  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND vaccination =false; |
| Results: A screen shot of a computer  Description automatically generated |
| 4. | SELECT petName, petType, town  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND town="Greenock"; |
|  | Results: A screen shot of a computer  Description automatically generated |
| 5. | SELECT petName, vaccination, contactTele  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND town="Gourock"; |
| Results: A screen shot of a computer  Description automatically generated |
| 6. | SELECT firstName, surname, petName, petType  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  ORDER BY surname ASC; |
| Results: A screen shot of a computer  Description automatically generated |
| 7. | SELECT petName, address, town  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  ORDER BY town ASC, petType ASC; |
| Results: A screen shot of a computer  Description automatically generated |
| 8. | SELECT petName, petType, town, dateOfBirth  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND petType="cat"  ORDER BY dateOfBirth DESC; |
| Results: |

# Database Queries using SQL Exercise 7(2)

## Task 1

|  |  |  |
| --- | --- | --- |
| 1. | Fields(s) | productName, costPrice, name |
| Table | Product, Manufacturer |
| Search criteria | name ="Craft Supplies" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 2. | Fields(s) | name, address, telephoneNumber, costPrice |
| Table | Product, Manufacturer |
| Search criteria | costPrice>100 |
| Sort order |  |
|  |  |  |
|  |  |  |
| 3. | Fields(s) | name, productName, onOrder |
| Table | Product, Manufacturer |
| Search criteria | onOrder = true |
| Sort order |  |
|  |  |  |
|  |  |  |
| 4. | Fields(s) | productName, name |
| Table | Product, Manufacturer |
| Search criteria | numberInStock >= 12 |
| Sort order |  |
|  |  |  |
|  |  |  |
| 5. | Fields(s) | productName, costPrice, name |
| Table | Product, Manufacturer |
| Search criteria | name ="Tool Makers" |
| Sort order | costPrice ASC |
|  |  |  |
|  |  |  |
| 6. | Fields(s) | name, address, onOrder, numberInStock |
| Table | Product, Manufacturer |
| Search criteria | onOrder = false |
| Sort order | numberInStock DESC |
|  |  |  |
| 7. | Fields(s) | productName, numberInStock, costPrice, name |
| Table | Product, Manufacturer |
| Search criteria |  |
| Sort order | name ASC, productName ASC |
|  |  |  |
|  |  |  |
| 8. | Fields(s) | name, address, telephoneNumber, productCode, numberInStock |
| Table | Product, Manufacturer |
| Search criteria | numberInStock > 2 |
| Sort order | name ASC, numberInStock DESC |

## Task 2

|  |  |
| --- | --- |
|  | **SQL Query** |
| 1. | SELECT productName, costPrice, name  FROM Product, Manufacturer  WHERE Manufacturer.manufacturerID=Product.manufacturerID  AND name="Craft Supplies"; |
| Results: A screen shot of a computer  Description automatically generated |
| 2. | SELECT name, address, telephoneNumber, costPrice  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND costPrice>100; |
| Results: A screen shot of a computer  Description automatically generated |
| 3. | SELECT name, productName, onOrder  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND onOrder=true; |
| Results: A screen shot of a computer  Description automatically generated |
| 4. | SELECT productName, name  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND numberInStock>=12; |
|  | Results: A screen shot of a computer  Description automatically generated |
| 5. | SELECT productName, costPrice, name  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND name="Tool Makers"  ORDER BY costPrice ASC; |
| Results: A screen shot of a computer  Description automatically generated |
| 6. | SELECT name, address, onOrder, numberInStock  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND onOrder = false  ORDER BY numberInStock DESC; |
| Results: A screen shot of a computer  Description automatically generated |
| 7. | SELECT productName, numberInStock, costPrice, name  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND costPrice < 20  ORDER BY name ASC, costPrice DESC; |
| Results: A screen shot of a computer  Description automatically generated |
| 8. | SELECT name, address, telephoneNumber, productCode, numberInStock  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND numberInStock > 2  ORDER BY name ASC,numberInStock DESC; |
| Results: A screen shot of a computer  Description automatically generated |

# Database Queries using SQL Exercise 7(1)

## Task 1

|  |  |  |
| --- | --- | --- |
| 1. | Fields(s) | firstName, surname, address, petName |
| Table(s) | Owner, Pet |
| Search criteria | petType ="cat" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 2. | Fields(s) | firstName, surname, contactTele, petCode |
| Table(s) | Owner, Pet |
| Search criteria | petType ="tortoise" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 3. | Fields(s) | firstName, surname, address, petName |
| Table(s) | Owner, Pet |
| Search criteria | vaccination = false |
| Sort order |  |
|  |  |  |
|  |  |  |
| 4. | Fields(s) | petName, petType, town |
| Table(s) | Owner, Pet |
| Search criteria | town ="Greenock" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 5. | Fields(s) | petName, vaccination, contactTele |
| Table(s) | Owner, Pet |
| Search criteria | town ="Gourock" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 6. | Fields(s) | firstName, surname, petName, petType |
| Table(s) | Owner, Pet |
| Search criteria |  |
| Sort order | surname ASC |
|  |  |  |
| 7. | Fields(s) | petName, address, town |
| Table(s) | Owner, Pet |
| Search criteria |  |
| Sort order | town ASC, petType ASC |
|  |  |  |
|  |  |  |
| 8. | Fields(s) | petName, petType, town, dateOfBirth |
| Table(s) | Owner, Pet |
| Search criteria | petType ="cat" |
| Sort order | dateOfBirth DESC |

## Task 2

|  |  |
| --- | --- |
|  | **SQL Query** |
| 1. | SELECT firstName, surname, address, petName  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND petType ="cat"; |
| Results: A screen shot of a computer  Description automatically generated |
| 2. | SELECT firstName, surname, contactTele, petCode  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND petType ="tortoise"; |
| Results: A screen shot of a computer  Description automatically generated |
| 3. | SELECT firstName, surname, address, petName  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND vaccination =false; |
| Results: A screen shot of a computer  Description automatically generated |
| 4. | SELECT petName, petType, town  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND town="Greenock"; |
|  | Results: A screen shot of a computer  Description automatically generated |
| 5. | SELECT petName, vaccination, contactTele  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND town="Gourock"; |
| Results: A screen shot of a computer  Description automatically generated |
| 6. | SELECT firstName, surname, petName, petType  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  ORDER BY surname ASC; |
| Results: A screen shot of a computer  Description automatically generated |
| 7. | SELECT petName, address, town  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  ORDER BY town ASC, petType ASC; |
| Results: A screen shot of a computer  Description automatically generated |
| 8. | SELECT petName, petType, town, dateOfBirth  FROM Owner, Pet  WHERE Owner.ownerID=Pet.ownerID  AND petType="cat"  ORDER BY dateOfBirth DESC; |
| Results: |

# Database Queries using SQL Exercise 7(2)

## Task 1

|  |  |  |
| --- | --- | --- |
| 1. | Fields(s) | productName, costPrice, name |
| Table | Product, Manufacturer |
| Search criteria | name ="Craft Supplies" |
| Sort order |  |
|  |  |  |
|  |  |  |
| 2. | Fields(s) | name, address, telephoneNumber, costPrice |
| Table | Product, Manufacturer |
| Search criteria | costPrice>100 |
| Sort order |  |
|  |  |  |
|  |  |  |
| 3. | Fields(s) | name, productName, onOrder |
| Table | Product, Manufacturer |
| Search criteria | onOrder = true |
| Sort order |  |
|  |  |  |
|  |  |  |
| 4. | Fields(s) | productName, name |
| Table | Product, Manufacturer |
| Search criteria | numberInStock >= 12 |
| Sort order |  |
|  |  |  |
|  |  |  |
| 5. | Fields(s) | productName, costPrice, name |
| Table | Product, Manufacturer |
| Search criteria | name ="Tool Makers" |
| Sort order | costPrice ASC |
|  |  |  |
|  |  |  |
| 6. | Fields(s) | name, address, onOrder, numberInStock |
| Table | Product, Manufacturer |
| Search criteria | onOrder = false |
| Sort order | numberInStock DESC |
|  |  |  |
| 7. | Fields(s) | productName, numberInStock, costPrice, name |
| Table | Product, Manufacturer |
| Search criteria |  |
| Sort order | name ASC, productName ASC |
|  |  |  |
|  |  |  |
| 8. | Fields(s) | name, address, telephoneNumber, productCode, numberInStock |
| Table | Product, Manufacturer |
| Search criteria | numberInStock > 2 |
| Sort order | name ASC, numberInStock DESC |

## Task 2

|  |  |
| --- | --- |
|  | **SQL Query** |
| 1. | SELECT productName, costPrice, name  FROM Product, Manufacturer  WHERE Manufacturer.manufacturerID=Product.manufacturerID  AND name="Craft Supplies"; |
| Results: A screen shot of a computer  Description automatically generated |
| 2. | SELECT name, address, telephoneNumber, costPrice  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND costPrice>100; |
| Results: A screen shot of a computer  Description automatically generated |
| 3. | SELECT name, productName, onOrder  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND onOrder=true; |
| Results: A screen shot of a computer  Description automatically generated |
| 4. | SELECT productName, name  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND numberInStock>=12; |
|  | Results: A screen shot of a computer  Description automatically generated |
| 5. | SELECT productName, costPrice, name  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND name="Tool Makers"  ORDER BY costPrice ASC; |
| Results: A screen shot of a computer  Description automatically generated |
| 6. | SELECT name, address, onOrder, numberInStock  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND onOrder = false  ORDER BY numberInStock DESC; |
| Results: A screen shot of a computer  Description automatically generated |
| 7. | SELECT productName, numberInStock, costPrice, name  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND costPrice < 20  ORDER BY name ASC, costPrice DESC; |
| Results: A screen shot of a computer  Description automatically generated |
| 8. | SELECT name, address, telephoneNumber, productCode, numberInStock  FROM Product, Manufacturer  WHERE Product.manufacturerID=Manufacturer.manufacturerID  AND numberInStock > 2  ORDER BY name ASC,numberInStock DESC; |
| Results: A screen shot of a computer  Description automatically generated |

# Database Queries using SQL Exercise 8

## Query 1

This query is used to a new record to the Customer table. The values used in the record are:

customerNo: 116

foreName: Nial

surname: Davies

street: 12 Clyde View

town: Gourock

package: premier

directDebit: true

paymentDueDate: 08/05/2017

## Query 2

This query is used to edit data stored in the Customer table. The record edited is record of the customer called Grant Donaldson and the directDebit field is changed to true.

## Query 3

This query is used to remove a record from the Customer table. The record that is removed is the one belonging to customerNo 111.

## Query 4

This query is used to edit data stored in the Customer table. The paymentDueDate is changed to 01/06/2017 in every record in the table.

## Query 5

This query is used to a new record to the Customer table. The values used in the record are:

foreName: Kelly

surname: Holmes

directDebit: false

package: standard

paymentDueDate: 16/05/2017

street:5 Lime Grove

town: Greenock

customerNo: 126

# Database Queries using SQL Exercise 9(1)

## Task 1

|  |  |  |
| --- | --- | --- |
| 1. | Type of query | INSERT |
| Table | Pet |
| New/updated value(s) | petCode="P4821", petName="Goldie", petType ="dog", dateOfBirth="26/10/2016", vaccination=true, ownerID=3821 |
| Criteria |  |
|  |  |  |
|  |  |  |
| 2. | Type of query | UPDATE |
| Table | Pet |
| New/updated value(s) | vaccination=true |
| Criteria | petCode="P1559" |
|  |  |  |
|  |  |  |
| 3. | Type of query | UPDATE |
| Table | Owner |
| New/updated value(s) | contactTele="07723456789" |
| Criteria | ownerID=2356 |
|  |  |  |
|  |  |  |
| 4. | Type of query | INSERT |
| Table | Owner |
| New/updated value(s) | ownerID=3905, firstName="Gary”, surname="Hughes", address="13 Juniper Place", town="Wemyss Bay", contactTele="07998765432" |
| Criteria |  |
|  |  |  |
|  |  |  |
|  | Type of query | INSERT |
| Table | Pet |
| New/updated value(s) | petCode="P2751", petName="Usain", petType="tortoise", dateOfBirth="28/10/2006", vaccination=true, ownerID=3905 |
| Criteria |  |
|  |  |  |
|  |  |  |
|  | Type of query | INSERT |
| Table | Owner |
| New/updated value(s) | ownerID=2664, firstName="Hannah”, surname="Black", address= "47 High Road", town="Greenock", contactTele="01475633633" |
| Criteria |  |
|  | Type of query | INSERT |
| Table | Pet |
| New/updated value(s) | petCode="P0438", petName="Arnie", petType="budgie", dateOfBirth="13/03/2017", vaccination=false, ownerID=2664 |
| Criteria |  |
|  |  |  |
|  |  |  |
| 5. | Type of query | DELETE |
| Table | Pet |
| New/updated value(s) |  |
| Criteria | petName="Slinky" AND petType="tortoise" |
|  |  |  |
|  |  |  |
| 6. | Type of query | UPDATE |
| Table | Owner |
| New/updated value(s) | address="64 Lochview Road", town="Gourock" |
| Criteria | firstName="Sally", surname="Chan" |
|  |  |  |
|  |  |  |
| 7. | Type of query | DELETE |
| Table | Owner |
| New/updated value(s) |  |
| Criteria | ownerID="3510" |
|  |  |  |
|  |  |  |
| 8. | Type of query | UPDATE |
| Table | Pet |
| New/updated value(s) | dateOfBirth="16/10/2004" |
| Criteria | petName="Gladys", petType="gerbil" |
|  |  |  |
|  |  |  |
| 9. | Type of query | INSERT |
| Table | Pet |
| New/updated value(s) | ownerID=3905, petName="Bruno", petType="cat", dateOfBirth="14/05/2017", petCode="P1678" |
| Criteria |  |
|  |  |  |
|  |  |  |
| 10. | Type of query | DELETE |
| Table | Pet |
| New/updated value(s) |  |
| Criteria | petName="Usain" |

## Task 2

|  |  |
| --- | --- |
|  | **SQL Query** |
| 1. | INSERT INTO Pet (petCode, petName, petType, dateOfBirth, vaccination, ownerID)  VALUES("P4821", "Goldie", "dog", "26/10/2016", true, 3821); |
| 2. | UPDATE Pet  SET vaccination = true  WHERE petCode="P1559"; |
| 3. | UPDATE Owner  SET contactTele="07723456789"  WHERE ownerID=2356; |
| 4. | INSERT INTO Owner (ownerID, firstName, surname, address, town, contactTele)  VALUES (3905, "Gary", "Hughes", "13 Juniper Place", "Wemyss Bay", "07998765432"); |
|  | INSERT INTO Pet (petCode, petName, petType, dateOfBirth, vaccination, ownerID)  VALUES ("P2751", "Usain", "tortoise", "28/10/2006", true, 3905); |
|  | INSERT INTO Owner (ownerID, firstName, surname, address, town, contactTele)  VALUES (2664, "Hannah", "Black", "47 High Road", "Greenock", "01475633633"); |
|  | INSERT INTO Pet (petCode, petName, petType, dateOfBirth, vaccination, ownerID)  VALUES ("P0438", "Arnie", "budgie", "13/03/2017", false, 2664); |
| 5. | DELETE FROM Pet  WHERE petName="Slinky" AND petType="tortoise"; |
| 6. | UPDATE Owner  SET address="64 Lochview Road", town="Gourock"  WHERE firstName="Sally" AND surname="Chan"; |
| 7. | DELETE FROM Owner  WHERE ownerID=3510; |
| 8. | UPDATE Pet  SET dateOfBirth="16/10/2004"  WHERE petName="Gladys" AND petType="gerbil"; |
| 9. | INSERT INTO Pet (ownerID, petName, petType, dateOfBirth, petCode)  VALUES (3905, "Bruno", "cat", "14/05/2017", "P1678"); |
| 10. | DELETE FROM Pet  WHERE petName="Usain"; |

## Updated Owner Table

A screen shot of a computer

Description automatically generated

## Updated Pet Table

A screen shot of a computer

Description automatically generated

# Database Queries using SQL Exercise 9(2)

## Task 1

|  |  |  |
| --- | --- | --- |
| 1. | Type of query | INSERT |
| Table | Product |
| New/updated value(s) | productName="Spirit Level", productCode="SPL3", numberInStock =14, onOrder=false, costPrice=17.99, manufacturerID=531 |
| Criteria |  |
|  |  |  |
|  |  |  |
| 2. | Type of query | UPDATE |
| Table | Product |
| New/updated value(s) | numberInStock=1, onOrder=true |
| Criteria | productCode="MA16" |
|  |  |  |
|  |  |  |
| 3. | Type of query | UPDATE |
| Table | Manufacturer |
| New/updated value(s) | Address="Unit 6 Avon Industrial Estate Bath", telephoneNumber="01789334456" |
| Criteria | name="Tool Makers" |
|  |  |  |
|  |  |  |
| 4. | Type of query | DELETE |
| Table | Product |
| New/updated value(s) |  |
| Criteria | productName="saw" AND productCode="SW22" |
|  |  |  |
|  |  |  |
| 5. | Type of query | INSERT |
| Table | Manufacturer |
| New/updated value(s) | manufacturerID=327, name="CVA Group", address="35 Lomond Way Paisley", telephoneNumber="01414141414" |
| Criteria |  |
|  |  |  |
|  |  |  |
|  | Type of query | INSERT |
| Table | Manufacturer |
| New/updated value(s) | manufacturerID=408, name="Cabinet Makers", address="158 Hawthorn Way Carlisle", telephoneNumber="03217329124" |
| Criteria |  |

|  |  |  |
| --- | --- | --- |
|  | Type of query | INSERT |
| Table | Product |
| New/updated value(s) | productName="Circular Saw", productCode="CSW2", numberInStock=3, onOrder=false, costPrice=99.00, manufacturerID=327 |
| Criteria |  |
|  |  |  |
|  | Type of query | INSERT |
| Table | Product |
| New/updated value(s) | productName="6 Piece Chisel Set", productCode="CSP6", numberInStock=8, onOrder=true, costPrice=43.51, manufacturerID=327 |
| Criteria |  |
|  |  |  |
| 6. | Type of query | DELETE |
| Table | Product |
| New/updated value(s) |  |
| Criteria | manufacturerID=441 |
|  |  |  |
| 7. | Type of query | UPDATE |
| Table | Product |
| New/updated value(s) | numberInStock=numberInStock+2 |
| Criteria |  |
|  |  |  |
| 8. | Type of query | INSERT |
| Table | Product |
| New/updated value(s) | manufacturerID=327, productName="Tin Snips Left-handed", costPrice=9.67, productCode="TSL1", numberInStock=5, onOrder=false |
| Criteria |  |
|  |  |  |
| 9. | Type of query | DELETE |
| Table | Manufacturer |
| New/updated value(s) |  |
| Criteria | manufacturerName="Craft Supplies" |
|  |  |  |
| 10. | Type of query | UPDATE |
| Table | Product |
| New/updated value(s) | costPrice=costPrice-5 |
| Criteria | manufacturerID=627 |

## Task 2

|  |  |
| --- | --- |
|  | **SQL Query** |
| 1. | INSERT INTO Product (productName, productCode, numberInStock, onOrder, costPrice, manufacturerID)  VALUES("Spirit Level", "SPL3", 14, false, 17.99, 531); |
| 2. | UPDATE Product  SET numberInStock = 1,onOrder = true  WHERE productCode="MA16"; |
| 3. | UPDATE Manufacturer  SET address="Unit 6 Avon Industrial Estate Bath", telephoneNumber="01789334456"  WHERE name="Tool Makers"; |
| 4. | DELETE FROM Product  WHERE productName="saw" AND productCode="SW22"; |
| 5. | INSERT INTO Manufacturer (manufacturerID, name, address, telephoneNumber)  VALUES (327, "CVA Group", "35 Lomond Way Paisley","01414141414"); |
|  | INSERT INTO Manufacturer (manufacturerID, name, address, telephoneNumber)  VALUES (408, "Cabinet Makers", "158 Hawthorn Road Carlisle","03217329124"); |
|  | INSERT INTO Product (productName, productCode, numberInStock, onOrder, costPrice, manufacturerID)  VALUES ("Circular Saw", "CSW2", 3, false, 99.00, 327); |
|  | INSERT INTO Product (productName, productCode, numberInStock, onOrder, costPrice, manufacturerID)  VALUES ("6 piece Chisel Set", "CSP6", 8, true, 43.51, 327); |
| 6. | DELETE FROM Product  WHERE manufacturerID=441; |
| 7. | UPDATE Product  SET numberInStock=numberInStock+2; |
| 8. | INSERT INTO Product (manufacturerID, productName, costPrice, productCode, numberInStock, onOrder)  VALUES (327, "Tin Snips Left-handed", 9.67, "TSL1", 5, false); |
| 9. | DELETE FROM Manufacturer  WHERE name="Craft Supplies"; |
| 10. | UPDATE Product  SET costPrice=costPrice-5  WHERE manufacturerID=627; |

## Updated Manufacturer Table

A screen shot of a computer

Description automatically generated

## Updated Product Table

A screen shot of a computer

Description automatically generated

# Database Queries using SQL: Exercise 9-1

## Part 1 – Design

ClydeVet veterinary practice uses a relational database store details pets and their owners in two separate tables called Owner and Pet. The structure of the tables is shown below.

A screen shot of a computer

Description automatically generated A screenshot of a computer

Description automatically generated

Design INSERT, DELETE and UPDATE queries to perform each of the following tasks.

1. Add the following details of Goldie the dog to the Pet table.

|  |
| --- |
| Pet Code: P4821  Name: Goldie  Type: dog  Date of Birth: 26/10/2016  Received vaccination?: True  Owner ID: 3821 |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Pet |
| New / updated value(s) | “P4821”, “Goldie”, “dog”, “26/10/2016”, True, 3821 |
| Criteria |  |

1. The pet with Pet Code P1559 has just received its vaccination. Edit the correct record of the database.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Pet |
| New / updated value(s) | Vaccination = True |
| Criteria | petCode = “P1559” |

1. The owner with Owner ID 2356 has changed her contact number to 07723456789. Edit the correct record of the database.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Owner |
| New / updated value(s) | contactTele = ”07723456789” |
| Criteria | ownerID = 2356 |

1. Add the following details of a new owner and their pet to the database.

|  |
| --- |
| Owner ID: 3905  First Name: Gary  Surname: Hughes  Address: 13 Juniper Place  Town: Wemyss Bay  Contact Telephone: 07998765432 |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Owner |
| New / updated value(s) | 3905, “Gary”, “Hughes”, “13 Juniper Place”, “Wemyss Bay”, “07998765432” |
| Criteria |  |

|  |
| --- |
| Pet Code: P2751  Pet Name: Usain  Pet Type: tortoise  Date of Birth: 28/10/2006  Received vaccination?: True |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Pet |
| New / updated value(s) | “P2751”, “Usain”, “tortoise”, “28/10/2006”, True, 3905 |
| Criteria |  |

1. Add the following details of a new owner and their pet to the database.

|  |
| --- |
| Owner ID: 2664  First Name: Hannah  Surname: Black  Address: 47 High Road  Town: Greenock  Contact Telephone: 01475633633 |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Owner |
| New / updated value(s) | 2664, “Hannah”, “Black”, “47 High Road”, “Greenock”, “01475633633” |
| Criteria |  |

|  |
| --- |
| Pet Code: P0438  Pet Name: Arnie  Pet Type: budgie  Date of Birth: 13/03/2017  Received vaccination?: False |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Pet |
| New / updated value(s) | “P0438”, “Arnie”, “budgie”, “13/03/2017”, False, 2664 |
| Criteria |  |

1. Remove details of Slinky the tortoise from the database.

|  |  |
| --- | --- |
| Type of query | Delete |
| Table | Pet |
| New / updated value(s) |  |
| Criteria | petName = “Slinky” |

1. The owner called Sally Chan has moved house. Her new address is 64 Lochview Road, Gourock. Edit the correct record of the database.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Owner |
| New / updated value(s) | address = “Lochview Road”, town = “Gourock” |
| Criteria | firstName = “Sally” AND surname = “Chan” |

1. Remove the details of the owner with Owner ID 3510 from the database.

|  |  |
| --- | --- |
| Type of query | Delete |
| Table | Owner |
| New / updated value(s) |  |
| Criteria | ownerID = 3510 |

1. The date of birth of Gladys the gerbil has been stored incorrectly; it should be 16/4/2020. Edit the correct record of the database.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Pet |
| New / updated value(s) | dateOfBirth = “16/04/2020” |
| Criteria | petName = “Gladys” AND petType = “gerbil” |

1. Owner 3905 has a new pet cat called Bruno with date of birth 14/05/2020 and pet code P1678 (Bruno hasn’t had any vaccinations yet). Add Bruno’s details to the database.

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Pet |
| New / updated value(s) | “P1678”, “Bruno”, “cat”, “14/05/2020”, False, 3905 |
| Criteria |  |

1. Remove the details of the pet called Usain from the database.

|  |  |
| --- | --- |
| Type of query | Delete |
| Table | Pet |
| New / updated value(s) |  |
| Criteria | petName = “Usain” |

## Part 2 – Implementation

Open the populated database called Pets DB and complete the queries below.

Use your query designs from Part 1 to help create the SQL statement for each task.

1. Add the details of Goldie the dog to the Pet table.

|  |
| --- |
| Pet Code: P4821  Name: Goldie  Type: dog  Date of Birth: 26/10/2016  Received vaccination?: True  Owner ID: 3821 |

|  |
| --- |
| INSERT INTO Pet  VALUES ("P4821", "Goldie", "dog", "26/10/2016", True, 3821); |

1. The pet with Pet Code P1559 has just received its vaccination. Edit the correct record of the database.

|  |
| --- |
| UPDATE Pet  SET vaccination = True  WHERE petCode = "P1559"; |

1. The owner with Owner ID 2356 has changed her contact number to 07723456789. Edit the correct record of the database.

|  |
| --- |
| UPDATE Owner  SET contactTele = "07723456789"  WHERE ownerID = 2356; |

1. Add the following details of a new owner and their pet to the database.

|  |  |  |
| --- | --- | --- |
| Owner ID: 3905  First Name: Gary  Surname: Hughes  Address: 13 Juniper Place  Town: Wemyss Bay  Contact Telephone: 07998765432 |  | Pet Code: P2751  Pet Name: Usain  Pet Type: tortoise  Date of Birth: 28/10/2006  Received vaccination?: True |

|  |
| --- |
| INSERT INTO Owner  VALUES (3905, "Gary", "Hughes", "13 Juniper Place", "Wemyss Bay", "07998765432"); |

|  |
| --- |
| INSERT INTO Pet  VALUES ("P2751", "Usain", "tortoise", "28/10/2006", True, 3905); |

1. Add the following details of a new owner and their pet to the database.

|  |  |  |
| --- | --- | --- |
| Owner ID: 2664  First Name: Hannah  Surname: Black  Address: 47 High Road  Town: Greenock  Contact Telephone: 01475633633 |  | Pet Code: P0438  Pet Name: Arnie  Pet Type: Budgie  Date of Birth: 13/03/2017  Received vaccination?: False |

|  |
| --- |
| INSERT INTO Owner  VALUES (2664, "Hannah", "Black", "47 High Road", "Greenock", "01475633633"); |

|  |
| --- |
| INSERT INTO Pet  VALUES ("P0438", "Arnie", "budgie", "13/03/2017", False, 2664); |

1. Remove details of Slinky the tortoise from the database.

|  |
| --- |
| DELETE FROM Pet  WHERE petName = "Slinky"; |

1. The owner called Sally Chan has moved house. Her new address is 64 Lochview Road, Gourock. Edit the correct record of the database.

|  |
| --- |
| UPDATE Owner  SET address = "Lochview Road", town = "Gourock"  WHERE firstName = "Sally" AND surname = "Chan"; |

1. Remove the details of the owner with Owner ID 3510 from the database.

|  |
| --- |
| DELETE FROM Owner  WHERE ownerID = 3510; |

1. The date of birth of Gladys the gerbil has been stored incorrectly; it should be 16/04/2020. Edit the correct record of the database.

|  |
| --- |
| UPDATE Pet  SET dateOfBirth = "16/04/2020"  WHERE petName = "Gladys" AND petType = "gerbil"; |

1. Owner 3905 has a new pet cat called Bruno with date of birth 14/05/2017 and pet code P1678 (Bruno hasn’t had any vaccinations yet). Add Bruno’s details to the database.

|  |
| --- |
| INSERT INTO Pet  VALUES ("P1678", "Bruno", "cat", "14/05/2020", False, 3905); |

1. Remove the details of the pet called Usain from the database.

|  |
| --- |
| DELETE FROM Pet  WHERE petName = "Usain"; |

# Database Queries using SQL: Exercise 9-2

## Task 1 – Design

A hardware store uses a relational database to store details of the products for sale and the manufacturer of each product in two separate tables called Product and Manufacturer. The structure of the tables is shown below.

A screenshot of a computer

Description automatically generated A screenshot of a computer

Description automatically generated

Design INSERT, DELETE and UPDATE queries to perform each of the following tasks

1. Add details of this new product to the database.

**New Product**

Product Name: Spirit Level

Product Code: SPL3

Number In Stock: 14

On Order?: False

Cost Price(£): 17.99

Manufacturer ID: 531

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Product |
| New/updated value(s) | “Spirit Level”, “SPL3”, 14, False, 17.99, 531 |
| Criteria |  |

1. The stock level of the product with Product Code MA16 has fallen to 1 and the product is now on order. Edit the correct record of the database.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Product |
| New/updated value(s) | numberInStock = 1, onOrder = True |
| Criteria | ProductCode = “MA16” |

1. The manufacturer called Tool Makers has moved. Its new address is: Unit 6, Avon Industrial Estate, Bath and its new phone number is: 01789334456. Edit the correct record of the database.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Manufacturer |
| New/updated value(s) | address = “Unit 6, Avon Industrial Estate, Bath”, telephoneNumber = “01789334456” |
| Criteria | name = “Tool Makers” |

1. Remove the saw with Product Code SW22 form the database.

|  |  |
| --- | --- |
| Type of query | Delete |
| Table | Product |
| New/updated value(s) |  |
| Criteria | productCode = “SW22” |

1. Add the following manufacturer and product details to the database.

|  |  |  |
| --- | --- | --- |
| Manufacturer ID: 327  Manufacturer Name: CVA Group  Address: 35 Lomond Way Paisley  Telephone Number: 01414141414 |  | Product Name: Circular Saw  Product Code: CSW2  Number In Stock: 3  On Order?: False  Cost Price(£): 99.00  Manufacturer ID: 327 |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Manufacturer |
| New/updated value(s) | 327, “CVA Group”, “35 Lomond Way Paisley”, “01414141414” |
| Criteria |  |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Product |
| New/updated value(s) | “Circular Saw”, “CSW2”, 3, False, 99.00, 327 |
| Criteria |  |

1. Add the following manufacturer and product details to the database.

|  |  |  |
| --- | --- | --- |
| Manufacturer ID: 408  Manufacturer Name: Cabinet Makers  Address: 158 Hawthorn Road Carlisle  Telephone Number: 03217329124 |  | Product Name: 6 piece Chisel Set  Product Code: CSP6  Number In Stock: 8  On Order?: True  Cost Price(£): 43.51  Manufacturer ID: 408 |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Manufacturer |
| New/updated value(s) | 408, “Cabinet Makers”, “158 Hawthorn Road Carlisle”, “03217329124” |
| Criteria |  |

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Product |
| New/updated value(s) | “6 piece Chisel Set”, “CSP6”, 8, True, 43.51, 408 |
| Criteria |  |

1. Remove all products manufactured by the manufacturer with ID 441 from the database.

|  |  |
| --- | --- |
| Type of query | Delete |
| Table | Product |
| New/updated value(s) |  |
| Criteria | manufacturerID = 441 |

1. Manufacturer 327 has a new product called Tin Snips Left-handed and costs £9.67. The code of this new product is TSL1, there are 5 in stock and none on order. Add details of this new product to the database.

|  |  |
| --- | --- |
| Type of query | Insert |
| Table | Product |
| New/updated value(s) | “Tin Snips Left-handed”, “TSL1”, 5, False, 9.67, 327 |
| Criteria |  |

1. Remove the details of the manufacturer called Craft Supplies from the database.

|  |  |
| --- | --- |
| Type of query | Delete |
| Table | Manufacturer |
| New/updated value(s) |  |
| Criteria | name = “Craft Supplies” |

1. Increase the number in stock of all products by 2.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Product |
| New/updated value(s) | numberInStock = numberInStock + 2 |
| Criteria |  |

1. Reduce by £5 the cost of all products that are manufactured by the manufacturer with ID 627.

|  |  |
| --- | --- |
| Type of query | Update |
| Table | Product |
| New/updated value(s) | costPrice = costPrice – 5 |
| Criteria | manufacturerID = 627 |

## Task 2 – Implementation

Open the populated database called Products DB and complete the queries below.

Use your query designs from Task 1 to help create the SQL statement for each task.

1. Add details of this new product to the database.

**New Product**

Product Name: Spirit Level

Product Code: SPL3

Number In Stock: 14

On Order?: False

Cost Price(£): 17.99

Manufacturer ID: 531

|  |
| --- |
| INSERT INTO Product  VALUES ("Spirit Level", "SPL3", 14, False, 17.99, 531); |

1. The stock level of the product with Product Code MA16 has fallen to 1 and the product is now on order. Edit the correct record of the database.

|  |
| --- |
| UPDATE Product  SET numberInStock = 1, onOrder = True  WHERE ProductCode = "MA16"; |

1. The manufacturer called Tool Makers has moved. Its new address is: Unit 6, Avon Industrial Estate, Bath and its new phone number is: 01789334456. Edit the correct record of the database.

|  |
| --- |
| UPDATE Manufacturer  SET address = "Unit 6, Avon Industrial Estate, Bath", telephoneNumber = "01789334456"  WHERE name = "Tool Makers"; |

1. Remove the saw with Product Code SW22 form the database.

|  |
| --- |
| DELETE FROM Product  WHERE productCode = "SW22"; |

1. Add the following manufacturer and product details to the database.

|  |  |  |
| --- | --- | --- |
| Manufacturer ID: 327  Manufacturer Name: CVA Group  Address: 35 Lomond Way Paisley  Telephone Number: 01414141414 |  | Product Name: Circular Saw  Product Code: CSW2  Number In Stock: 3  On Order?: false  Cost Price(£): 99.00  Manufacturer ID: 327 |

|  |
| --- |
| INSERT INTO Manufacturer  VALUES (327, "CVA Group", "35 Lomond Way Paisley", "01414141414"); |

|  |
| --- |
| INSERT INTO Product  VALUES ("Circular Saw", "CSW2", 3, False, 99.00, 327); |

1. Add the following manufacturer and product details to the database.

|  |  |  |
| --- | --- | --- |
| Manufacturer ID: 408  Manufacturer Name: Cabinet Makers  Address: 158 Hawthorn Road Carlisle  Telephone Number: 03217329124 |  | Product Name: 6 piece Chisel Set  Product Code: CSP6  Number In Stock: 8  On Order?: true  Cost Price(£): 43.51  Manufacturer ID: 408 |

|  |
| --- |
| INSERT INTO Manufacturer  VALUES (408, "Cabinet Makers", "158 Hawthorn Road Carlisle2", "03217329124"); |

|  |
| --- |
| INSERT INTO Product  VALUES ("6 piece Chisel Set", "CSP6", 8, True, 43.51, 408); |

1. Remove all products manufactured by the manufacturer with ID 441 from the database.

|  |
| --- |
| DELETE FROM Product  WHERE manufacturerID = 441; |

1. Manufacturer 327 has a new product called Tin Snips Left-handed and costs £9.67. The code of this new product is TSL1, there are 5 in stock and none on order. Add details of this new product to the database.

|  |
| --- |
| INSERT INTO Product  VALUES ("Tin Snips Left-handed", "TSL1", 5, False, 9.67, 327); |

1. Remove the details of the manufacturer called Craft Supplies from the database.

|  |
| --- |
| DELETE FROM Manufacturer  WHERE name = "Craft Supplies"; |

1. Increase the number in stock of all products by 2.

|  |
| --- |
| UPDATE Product  SET numberInStock = numberInStock + 2; |

1. Reduce by £5 the cost of all products that are manufactured by the manufacturer with ID 627.

|  |
| --- |
| UPDATE Product  SET costPrice = costPrice - 5.00  WHERE manufacturerID = 627; |

# Database Queries using SQL Exercise 10(1)

## Task 1

|  |  |  |  |
| --- | --- | --- | --- |
| **CD Code** | **Title** | **Label** | **Number Of Tracks** |
| 82FK | The Power of Love | Syco Music | 11 |
| 91TU | Right Place Right Time | Epic Records | 12 |
| 942Y | Take Me Home | Syco Music | 13 |
| 8G9K | iDos! | Warner Bros | 13 |
| 5J8Y | + | Atlantic Records | 13 |

## Task 2

|  |  |  |  |
| --- | --- | --- | --- |
| **Artist** | **Label** | **Genre** |  |
| The Rolling Stones | Polydor Records | R&R |  |

## Task 3

|  |  |  |  |
| --- | --- | --- | --- |
| **Label** | **Founded** | **Country Of Origin** | **Website** |
| Atlantic Records | 1947 | USA | www.atlanticrecords.com |
| Epic Records | 1953 | USA | www.epicrecords.com |

## Task 4

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Genre** | **Cost** |  |
| The Best of | Pop | 9.99 |  |
| Our Version of Events | R&B | 8.99 |  |

## Task 5

|  |  |  |  |
| --- | --- | --- | --- |
|  | **CD Code** | **Label** | **Number of Tracks** |
| Details of CD listed first | 9KYX | Syco Music | 20 |
| Details of CD listed last | 82FK | Syco Music | 11 |

## Task 6

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Artist** | **Label** | **Number of Tracks** |
| The Power of Love | Sam Bailey | Syco Music | 11 |
| Take Me Home | One Direction | Syco Music | 13 |
| Stronger Together | Military Wives | Decca Records | 14 |

## Task 7

The query that Kerry used is not fit for purpose because the answer table displays details of 5 CDs including Stronger Together which has 14 tracks.

However, the output from of the query is accurate because the answer table includes all of the four required details (CD code, title, label and number of tracks) meaning that nothing is missing from the output.

## Task 8

The query that Kerry used is fit for purpose because it displays details of the only CD produced by a German record label.

However, the output from the query is accurate because only the specified fields are included and nothing is missing.

## Task 9

The query that Kerry used is fit for purpose because it has returned the details of the two CDs produced by US record labels which were founded before 1965.

However, the output from the query is not accurate because the answer table only includes three of the required details (label, year founded and country of origin) and details of the website are missing.

## Task 10

The query that Kerry used is fit for purpose because it has returned the details of the two CDs produced by US record labels which cost less than £10.

In addition, the output from the query is accurate because the answer table includes all three of the details required (title, genre and cost) meaning that nothing is missing from the output.

## Task11

The query that Kerry used is not fit for purpose because the details have been displayed in ascending order and the CD with the smallest number of tracks was listed first instead of last.

However, the output from the query is correct because all of the required details (CD code, label and number of tracks) have been displayed and no details have been omitted.

## Task 12

The query that Kerry used is fit for purpose because the answer table shows details of the only three CDs produced by UK labels that have 15 or fewer tracks.

In addition, the output from the query is accurate because all four of the required details (title, artist, label and number of tracks) are included in the answer table and nothing is missing.

# Database Queries using SQL Exercise 10(2)

## Task 1

|  |  |  |  |
| --- | --- | --- | --- |
| **ISBN** | **Category** | **Genre** | **Publisher** |
| 0575400951 | Adult | Fiction | Indigo |
| 0751552860 | Adult | Fiction | Little Brown Company |
| 0751539368 | Adult | Fiction | Sphere |

## Task 2

|  |  |  |  |
| --- | --- | --- | --- |
|  | **First Name** | **Surname** | **Nationality** |
| Details of first Author listed | Eric | Carle | American |
| Details of last Author listed | Patricia | Cornwell | American |

## Task 3

|  |  |  |  |
| --- | --- | --- | --- |
| **First Name** | **Website** | **ISBN** | **Date Of Publication** |
| Joanne | www.jkrowling.com | 0747538492 | 02/07/1998 |
| Joanne | www.jkrowling.com | 0751552860 | 27/09/2012 |

## Task 4

|  |
| --- |
| The record in the Author table that has firstName Mick and surname Inkpen (authorRef 3713) will be updated to show the correct website details. |

## Task 5

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Surname** | **Genre** | **Number of Pages** |
| Details of first Book listed | Rowling | Fiction | 503 |
| Details of last Book listed | Hornby | Fiction | 278 |

## Task 6

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Category** | **Number of Pages** | **Surname** |
| London Olympics 2012 | Child | 32 | Hunter |
| The Very Hungry Caterpillar | Child | 26 | Carle |
| Threadbear | Child | 32 | Inkpen |

## Task 7

The query that Sean used is fit for purpose because the answer table displays details the 3 records with details of fiction books written for adults.

However, the output from of the query is not accurate because the answer table includes the author surname which was not required but doesn’t show the book publisher.

## Task 8

The query that Sean used is fit for purpose because it displays the only 2 records that have details of American authors and the details are arranged in alphabetical order of author surname.

In addition, the output from the query is accurate because the answer table includes all three of the details required (first name, surname and nationality) meaning that nothing is missing from the output.

## Task 9

The query that Sean used is not fit for purpose as two extra records are shown.

However, the output from the query is accurate because all the fields are included so nothing is missing.

## Task 10

The query that Sean used is not fit for purpose because the wrong record has been updated and the record for Nick Hunter now stores the website details for Mick Inkpen.

However, the output from the query is accurate because the content of the website field has been updated with the correct website URL.

## Task11

The query that Sean used is not fit for purpose as the wrong query has been used.

The output from the query is not accurate because firstName was included and was not required.

## Task 12

The query that Sean used is not fit for purpose. Although the answer table only shows includes records with details of children’s books, in each case, the number of pages is over 50: he query asked for details of books that had less than 50 pages.

Also, the output from the query is not accurate because the answer table only shows three of the required fields (title, category and number of pages). The author surname is missing.

# Relational Databases: Exercise 10-1

## Part 1 – Testing

An online music store uses a relational database called MusicStore to store details of CDs and their music labels.

The CD table is used to store details of the CDs while the Label table is used to store details of music labels. Data stored in each of the tables is shown below.

CD table

A screen shot of a computer

Description automatically generated

Label table

A screen shot of a computer

Description automatically generated

1. Kerry has been asked to list the CD code, title, label and number of tracks of all the CDs that have fewer than 14 tracks. She writes a SQL query to display the details needed.

Use the table below to predict the output from the query.

|  |  |  |  |
| --- | --- | --- | --- |
| **CD Code** | **Title** | **Label** | **Number Of Tracks** |
| 82FK | The Power of Love | Syco Music | 11 |
| 91TU | Right Place Right Time | Epic Records | 12 |
| 942Y | Take Me Home | Syco Music | 13 |
| 8G9K | iDos! | Warner Bros | 13 |
| 5J8Y | + | Atlantic Records | 13 |

1. Kerry is now asked to display the artist name, label and genre of any CDs produced by a German record label. Use the table below to predict the output from the query.

|  |  |  |
| --- | --- | --- |
| **Artist** | **Label** | **Genre** |
| The Rolling Stones | Polydor Records | R&R |

1. Kerry is asked to display the label name, year founded, country of origin and website of any record label that originated in the USA before 1965. Use the table below to predict the output from the query.

|  |  |  |  |
| --- | --- | --- | --- |
| **Label** | **Founded** | **Country Of Origin** | **Website** |
| Atlantic Records | 1947 | USA | www.atlanticrecords.com |
| Epic Records | 1953 | USA | www.epicrecords.com |

1. Kerry is asked to display the title, genre and cost of any CDs that were produced by record labels that originated in the USA and cost less than £10. Use the table below to predict the output from the query.

|  |  |  |
| --- | --- | --- |
| **Title** | **Genre** | **Cost** |
| The Best of | Pop | 9.99 |
| Our Version of Events | R&B | 8.99 |

1. Kerry is asked to display the CD code, label and number of tracks of any CD produced by Syco Music. These details should be listed so that the CD with the most tracks appears first. Use the table below to predict the output from the query.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **CD Code** | **Label** | **Number of Tracks** |
| Details of CD listed first | 9KYX | Syco Music | 20 |
| Details of CD listed last | 82FK | Syco Music | 11 |

1. Kerry is asked to display the title, artist, label and number of tracks of and CDs that were produced by UK record labels that have 15 or fewer tracks. Use the table below to predict the results of the query.

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Artist** | **Label** | **Number of Tracks** |
| The Power of Love | Sam Bailey | Syco Music | 11 |
| Take Me Home | One Direction | Syco Music | 13 |
| Stronger Together | Military Wives | Decca Records | 14 |

## Part 2 – Evaluation

1. In Q1, Kerry was asked to list the CD code, title, label and number of tracks of all the CDs that have fewer than 14 tracks.

Here is the answer table produced by Kerry’s query for Q1.

A screenshot of a computer

Description automatically generated

Look back at your predicted output for this query and compare your prediction with Kerry’s solution.

Evaluate this solution in terms of:

* its fitness for purpose
* the accuracy of the output

|  |
| --- |
| The query that Kerry used is not fit for purpose because the answer table displays details of 5 CDs including Stronger Together which has 14 tracks.  However, the output from of the query is accurate because the answer table includes all of the four required details (CD code, title, label and number of tracks) meaning that nothing is missing from the output. |

1. In Q2, Kerry was asked to display the artist name, label and genre of any CDs produced by a German record label.

Here is the answer table produced by Kerry’s query for Q2.

A screen shot of a computer

Description automatically generated

Look back at your predicted output for this query and compare your prediction with Kerry’s solution.

Evaluate this solution in terms of:

* its fitness for purpose
* the accuracy of the output

|  |
| --- |
| The query that Kerry used is fit for purpose because it displays details of the only CD produced by a German record label.  The output from the query is accurate because only the specified fields are included and nothing is missing. |

1. In Q3, Kerry was asked to display the label name, year founded, country of origin and website of any record label that originated in the USA before 1965.

Here is the answer table produced by Kerry’s query for Q3.

A screen shot of a computer

Description automatically generated

Look back at your predicted output for this query and compare your prediction with Kerry’s solution.

Evaluate this solution in terms of:

* its fitness for purpose
* the accuracy of the output

|  |
| --- |
| The query that Kerry used is fit for purpose because it has returned the details of the two CDs produced by US record labels which were founded before 1965.  In addition, the output from the query is not accurate because the answer table only includes three of the required details (label, year founded and country of origin) and details of the website are missing. |

1. In Q4, Kerry was asked to display the title, genre and cost of any CDs that were produced by record labels that originated in the USA and cost less than £10.

Here is the answer table produced by Kerry’s query for Q4.

A screen shot of a computer

Description automatically generated

Evaluate this solution in terms of:

* its fitness for purpose
* the accuracy of the output

|  |
| --- |
| The query that Kerry used is fit for purpose because it has returned the details of the two CDs produced by US record labels which cost less than £10.  In addition, the output from the query is accurate because the answer table includes all three of the details required (title, genre and cost) meaning that nothing is missing from the output. |

1. In Q5, Kerry was asked to display the CD code, label and number of tracks of any CD produced by Syco Music. These details should be listed so that the CD with the most tracks appears first.

Here is the answer table produced by Kerry’s query for Q5.

A screen shot of a computer

Description automatically generated

Evaluate this solution in terms of:

* its fitness for purpose
* the accuracy of the output

|  |
| --- |
| The query that Kerry used is not fit for purpose because the details have been displayed in ascending order and the CD with the smallest number of tracks was listed first instead of last.  In addition, the output from the query is correct because all of the required details (CD code, label and number of tracks) have been displayed and no details have been omitted. |

1. In Q6, Kerry was asked to display the title, artist, label and number of tracks of and CDs that were produced by UK record labels that have 15 or fewer tracks.

Here is the answer table produced by Kerry’s query for Q6.

A screen shot of a computer

Description automatically generated

Evaluate this solution in terms of:

* its fitness for purpose
* the accuracy of the output

|  |
| --- |
| The query that Kerry used is fit for purpose because the answer table shows details of the only three CDs produced by UK labels that have 15 or fewer tracks.  In addition, the output from the query is accurate because all four of the required details (title, artist, label and number of tracks) are included in the answer table and nothing is missing. |