

# Software Development task sheet

03

## SQL mini project

### Part 1 - Databases

A database is a collection of organised and structured data. It must be stored in such a way as to ensure it can be managed for efficient retrieval and modification of the data. They feature a collection of records or data entities (rows), each with a number of attributes or characteristics (columns).

### Normalisation

Before we can get this data into the system we need to apply normalisation. Normalisation of the data is necessary to prevent duplication and improve data integrity. This is vital to reduce storage usage, speed of access and processing and ensure the data can be easily managed and updated without duplication that could lead to updates not being applied to all instances and making the process more time consuming and tedious.

### Case Study

**Dragon Web Services** offer simple or more complex web sites for customers. Customers request a number of pages, if they prefer custom CSS or not and if they need a shopping cart.

They are assigned a developer based on the customer requirements.

Dragon Web Services - Initial Data

Client Surname	Forename	Address	Postcode	Email Address	Website name	Domain	Number of pages	custom CSS	shopping cart	Developer	Fee per day	Branch
Illingworth	Chris	52 Acoma Street	WA14 5DD	illingworthc@mymail.com	illingwortharts	.co.uk	10	Yes	Yes	Rick	180	Manchester
Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com	whatyouneednow	.uk	15	Yes	No	Kenny	175	Warrington
Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com	lendahand	.org.uk	9	No	No	Lisa	190	Manchester
Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com	sparrowcrafts	.co.uk	12	Yes	Yes	Becca	180	Leeds
Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com	roofmendersUK	.co.uk	6	Yes	No	Lisa	190	Manchester
Lau	Emma	67 Crumshaw Road	M17 9PR	EmzyEll@netmail.com	simplychinesefood	.food.uk	6	Yes	Yes	Kenny	175	Warrington
Meadows	Fiona	14 Tay Street	NM11 6DS	FiMeadow@mymail.com	newthinkingwellness	.org.uk	24	Yes	No	Kenny	175	Warrington
Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@boringmail.com	oldtimecoders	.co.uk	30	Yes	No	Aizaz	185	Leeds
Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@newmail.com	paintmyhouseUK	.com	5	Yes	No	Lisa	190	Manchester
Shaw	Max	218 Hollinwood Avenue	M17 5SD	.MaxValue@openmail.com	charismachoir	.org.uk	7	Yes	No	Aizaz	185	Leeds
Blythe	Kimberly	66 Lever Street	M5 7FA	Kimbo@bigwig.com	minipainterlady	.co.uk	12	Yes	Yes	Rick	180	Manchester
Margrave	Patrick	58 Elm Lane	SK14 9NY	TrickMar@mymail.com	magicforhire	.co.uk	5	No	No	Becca	180	Leeds

### Explanation

The database above has 3 main parts:

- Customers: Each with a name, address and email address.
- Websites: Each with a website name, domain, CSS requirement and shopping cart requirement.
- Developers: Each with a name, fee and branch.

The customers request a website and a developer is assigned to the task depending on the requirements. A customer has a relationship with the website they have requested and the website has a relationship with the developer assigned. In its current form we could have duplication of data (for example developer, fee and branch) and not every field is dependant

on some others (for example the developer's fee and branch has nothing to do with the customer or website). We could also have problems if a customer has more than one website. The only unique column in the database is the customer's email address (but only as they one have one website at this point). Finally, with this amount of duplication if for example the Rick's fee was to go up then multiple records would need to be changed.

## Normalisation of the Database

The first step is to look at first normal form (1NF):

Do the columns make a unique row every single time and what field can be used to uniquely identify each row?

With the initial data we have each customer has only one website, and each customer lives at a different address, but this may not be the case in the future so needs to be considered. There is a field that is going to stay unique and this is the email address. It's not the best form to use as a primary key though so let's add a customer ID:

ClientID	Client Surname	Forename	Address	Postcode	Email Address	Website name	Domain	Number of pages	custom CSS	shopping cart	Developer	Fee per day	Branch
C001	Illingworth	Chris	52 Acoma Street	WA14 5DD	Illingwortharts@mymail.com	illingwortharts	.co.uk	10	Yes	Rick	180	Manchester	
C002	Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com	whatyouneednow	.uk	15	Yes	No	Kenny	175	Warrington
C003	Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com	lendahand	.org.uk	9	No	No	Lisa	190	Manchester
C004	Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com	sparrowcrafts	.co.uk	12	Yes	Becca	180	Leeds	
C005	Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com	roofofmendersUK	.co.uk	6	Yes	No	Lisa	190	Manchester
C006	Lau	Emma	67 Crumshaw Road	M17 9PR	EmzyEl@outlookmail.com	simplychinesefood	.food.uk	6	Yes	Kenny	175	Warrington	
C007	Meadows	Fiona	14 Tay Street	NN11 6DS	FIMeadow@mymail.com	newthinkingwellness	.org.uk	24	Yes	No	Kenny	175	Warrington
C008	Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@oringmail.com	oldtimecoders	.co.uk	30	Yes	No	Alizaz	185	Leeds
C009	Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@newmail.com	paintmyhouseUK	.com	5	Yes	No	Lisa	190	Manchester
C010	Shaw	Max	218 Hollinwood Avenue	M17 5SD	MaxValue@openmail.com	charismachoir	.org.uk	7	Yes	No	Alizaz	185	Leeds
C011	Blythe	Kimberly	66 Lever Street	M5 7FA	Kimbo@bigwig.com	minipainterlady	.co.uk	12	Yes	Yes	Rick	180	Manchester
C012	Margrave	Patrick	58 Elm Lane	SK14 9NY	TrickMar@mymail.com	magicforhire	.co.uk	5	No	No	Becca	180	Leeds

Now we need to look at second normal form (2NF):

Fulfil 1NF and then ensure that each non-key attribute is functionally dependant on the primary key.

The developer, his or her fee and branch is not dependant on the clientID (primary key). A developer has many websites. It is also possible that a client could have many websites. This deals with the many to many issues and each attribute is dependant on it's primary key. A client needs a name, address and email. A website needs a client, a developer, name and features etc. A developer has a fee and a branch.



Finally we must apply 3NF – i.e. Must fulfil 2NF and have no transitive functional dependency.

If we look at the client database, all the data depends on the primary key (ClientID).

The website database also follows the rules of 3NF.

The developer database as it stands is fine with 3NF as the branch has no other purpose than being an attribute of the developers. We can now proceed to create the SQL databases.

## Part 2 – CRUD operations (Create, Read, Update, Delete)

The records were taken from the brief and entered into a spreadsheet. Once normalisation was complete and the 3 databases completed the spreadsheet files were converted to SQL using the website:

<https://products.aspose.app/cells/conversion/excel-to-sql>

The results of these conversions were pasted into Notepad++ to be tidied up and checked. The website put DOUBLE in place of the INT type so this was also corrected.

This is part of the resulting file:

```
1 CREATE TABLE DragonWebsite(
2     WebsiteID VARCHAR(10),
3     DeveloperID VARCHAR(10),
4     ClientID VARCHAR(10),
5     Name VARCHAR(20),
6     Domain VARCHAR(10),
7     Pages INT(3),
8     CSSCust BOOLEAN,
9     Cart BOOLEAN;
10    INSERT INTO DragonWebsite (WebsiteID,DeveloperID,ClientID,Name,Domain,Pages,CSSCust,Cart) VALUES
11    ('W0001','D0001','C0001','illingwortharts','.co.uk',10,True,True),
12    ('W0002','D0002','C0002','whatyouneednow','.uk',15,True,False),
13    ('W0003','D0003','C0003','lendahand','.org.uk',9,False,False),
14    ('W0004','D0004','C0004','sparrowcrafts','.co.uk',12,True,True),
15    ('W0005','D0003','C0005','roofmendersUK','.co.uk',6,True,False),
16    ('W0006','D0002','C0006','simplychinesefood','.food.uk',6,True,True),
17    ('W0007','D0002','C0007','newthinkingwellness','.org.uk',24,True,False),
18    ('W0008','D0005','C0008','oldtimecoders','.co.uk',30,True,False),
19    ('W0009','D0003','C0009','paintmyhouseUK','.com',5,True,False),
20    ('W0010','D0005','C0010','charismachoir','.org.uk',7,True,False),
21    ('W0011','D0001','C0011','minipainterlady','.co.uk',12,True,True),
22    ('W0012','D0004','C0012','magicforhire','.co.uk',5,False,False);
23
24    CREATE TABLE Developers(
25        DeveloperID VARCHAR(10),
26        Developer VARCHAR(20),
27        FeePD INT(4),
28        Branch VARCHAR(15));
29    INSERT INTO Developers (DeveloperID,Developer,FeePD,Branch) VALUES
30    ('D0001','Rick',180,'Manchester'),
31    ('D0002','Kenny',175,'Warrington'),
32    ('D0003','Lisa',190,'Manchester'),
33    ('D0004','Becca',180,'Leeds'),
34    ('D0005','Aizaz',185,'Leeds');
35
36    CREATE TABLE DragonClients(
37        ClientID VARCHAR(10),
38        Surname VARCHAR(15),
39        Forename VARCHAR(15),
40        Address VARCHAR(50),
41        Postcode VARCHAR(10),
42        Email VARCHAR(30));
43    INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
```

This was then transferred into SQL Fiddle and Run.

## This is the result of the DragonWebsite SQL:

```

1 CREATE TABLE DragonWebsite(
2   WebsiteID VARCHAR(10),
3   ClientID VARCHAR(10),
4   DomainID VARCHAR(10),
5   Name VARCHAR(10),
6   Page INT,
7   Pages INT(2),
8   CSSCust BOOLEAN,
9   Cart BOOLEAN);
10 INSERT INTO DragonWebsite (WebsiteID,ClientID,Name,Domain,Pages,CSSCust,Cart) VALUES
11 ('W0001', 'C0001', 'illingsworth', 'co.uk', 15, True, True),
12 ('W0002', 'C0002', 'whatyouneednow', 'uk', 15, True, False),
13 ('W0003', 'C0003', 'lensland', 'org.uk', 15, True, True),
14 ('W0004', 'C0004', 'simplychickeenfood', 'co.uk', 15, True, False),
15 ('W0005', 'C0005', 'sofmemoriesUK', 'co.uk', 6, True, True),
16 ('W0006', 'C0006', 'simplychickenfood', 'food.uk', 6, True, True),
17 ('W0007', 'C0007', 'neatmeatless', 'org.uk', 24, True, False),
18 ('W0008', 'C0008', 'oldmeatless', 'co.uk', 30, True, False),
19 ('W0009', 'C0009', 'pammyshoeuk', 'com', 5, True, False),
20 ('W0010', 'C0010', 'charisachoir', 'org.uk', 7, True, False),
21 ('W0011', 'C0011', 'mimipampered', 'co.uk', 12, True, True),
22 ('W0012', 'C0012', 'magicalhairs', 'co.uk', 5, False, False);
23
24 CREATE TABLE Developers(
25   DeveloperID VARCHAR(10),
26   ClientID VARCHAR(10),
27   FeePO INT(4),
28   Branch VARCHAR(10));
29 INSERT INTO Developers (DeveloperID,ClientID,FeePO,Branch) VALUES
30 ('D0001', 'R0001', 'Manchester'),
31 ('D0002', 'R0002', 'Leeds'),
32 ('D0003', 'R0003', 'Leeds'),
33 ('D0004', 'R0004', 'Leeds');
34
35 CREATE TABLE DragonClients(
36   ClientID VARCHAR(10),
37   Surname VARCHAR(15));
38 
```

Run SQL ▶	Edit Fullscreen ▾	Browser ▾	[...]
WebsiteID	DeveloperID	ClientID	Name
W0001	D0001	C0001	illingsworth
W0002	D0002	C0002	whatyouneednow
W0003	D0003	C0003	lensland
W0004	D0004	C0004	simplychickeen
W0005	D0005	C0005	sofmemoriesUK
W0006	D0006	C0006	simplychickenfood
W0007	D0007	C0007	neatmeatless
W0008	D0008	C0008	oldmeatless
W0009	D0009	C0009	pammyshoeUK
W0010	D0010	C0010	charisachoir
W0011	D0011	C0011	mimipampered
W0012	D0012	C0012	magicalhairs

## Next, the Developers SQL:

```

1 CREATE TABLE DragonWebsite(
2   WebsiteID VARCHAR(10),
3   DeveloperID VARCHAR(10),
4   ClientID VARCHAR(10),
5   Name VARCHAR(10),
6   Page INT,
7   Pages INT(2),
8   CSSCust BOOLEAN,
9   Cart BOOLEAN);
10 INSERT INTO DragonWebsite (WebsiteID,DeveloperID,ClientID,Name,Domain,Pages,CSSCust,Cart) VALUES
11 ('W0001', 'D0001', 'illingsworth', 'co.uk', 15, True, True),
12 ('W0002', 'D0002', 'whatyouneednow', 'uk', 15, True, False),
13 ('W0003', 'D0003', 'lensland', 'org.uk', 15, True, True),
14 ('W0004', 'D0004', 'simplychickeenfood', 'co.uk', 15, True, False),
15 ('W0005', 'D0005', 'sofmemoriesUK', 'co.uk', 6, True, True),
16 ('W0006', 'D0006', 'simplychickenfood', 'food.uk', 6, True, True),
17 ('W0007', 'D0007', 'neatmeatless', 'org.uk', 24, True, False),
18 ('W0008', 'D0008', 'oldmeatless', 'co.uk', 30, True, False),
19 ('W0009', 'D0009', 'pammyshoeuk', 'com', 5, True, False),
20 ('W0010', 'D0010', 'charisachoir', 'org.uk', 7, True, False),
21 ('W0011', 'D0011', 'mimipampered', 'co.uk', 12, True, True),
22 ('W0012', 'D0012', 'magicalhairs', 'co.uk', 5, False, False);
23
24 CREATE TABLE Developers(
25   DeveloperID VARCHAR(10),
26   ClientID VARCHAR(10),
27   FeePO INT(4),
28   Branch VARCHAR(10));
29 INSERT INTO Developers (DeveloperID,ClientID,FeePO,Branch) VALUES
30 ('D0001', 'R0001', 'Manchester'),
31 ('D0002', 'R0002', 'Leeds'),
32 ('D0003', 'R0003', 'Leeds'),
33 ('D0004', 'R0004', 'Leeds');
34
35 CREATE TABLE DragonClients(
36   ClientID VARCHAR(10),
37   Surname VARCHAR(15));
38 
```

Run SQL ▶	Edit Fullscreen ▾	Browser ▾	[...]
DeveloperID	Developer	FeePO	Branch
D0001	Rick	180	Manchester
D0002	Kenny	175	Warrington
D0003	Lisa	190	Manchester
D0004	Becca	180	Leeds
D0005	Alice	180	Leeds

## And finally the DragonClients SQL:

```

1 CREATE TABLE DragonWebsite(
2   WebsiteID VARCHAR(10),
3   DeveloperID VARCHAR(10),
4   ClientID VARCHAR(10),
5   Name VARCHAR(10),
6   Page INT,
7   Pages INT(2),
8   CSSCust BOOLEAN,
9   Cart BOOLEAN);
10 INSERT INTO DragonWebsite (WebsiteID,DeveloperID,ClientID,Name,Domain,Pages,CSSCust,Cart) VALUES
11 ('W0001', 'D0001', 'illingsworth', 'co.uk', 15, True, True),
12 ('W0002', 'D0002', 'whatyouneednow', 'uk', 15, True, False),
13 ('W0003', 'D0003', 'lensland', 'org.uk', 15, True, True),
14 ('W0004', 'D0004', 'simplychickeen', 'co.uk', 15, True, False),
15 ('W0005', 'D0005', 'sofmemories', 'co.uk', 6, True, True),
16 ('W0006', 'D0006', 'simplychickenfood', 'food.uk', 6, True, True),
17 ('W0007', 'D0007', 'neatmeatless', 'org.uk', 24, True, False),
18 ('W0008', 'D0008', 'oldmeatless', 'co.uk', 30, True, False),
19 ('W0009', 'D0009', 'pammyshoe', 'com', 5, True, False),
20 ('W0010', 'D0010', 'charisachoir', 'org.uk', 7, True, False),
21 ('W0011', 'D0011', 'mimipampered', 'co.uk', 12, True, True),
22 ('W0012', 'D0012', 'magicalhairs', 'co.uk', 5, False, False);
23
24 CREATE TABLE Developers(
25   DeveloperID VARCHAR(10),
26   ClientID VARCHAR(10),
27   FeePO INT(4),
28   Branch VARCHAR(10));
29 INSERT INTO Developers (DeveloperID,ClientID,FeePO,Branch) VALUES
30 ('D0001', 'R0001', 'Manchester'),
31 ('D0002', 'R0002', 'Leeds'),
32 ('D0003', 'R0003', 'Leeds'),
33 ('D0004', 'R0004', 'Leeds');
34
35 CREATE TABLE DragonClients(
36   ClientID VARCHAR(10),
37   Surname VARCHAR(15));
38 
```

Run SQL ▶	Edit Fullscreen ▾	Browser ▾	[...]
ClientID	Surname	Forename	Address
C0001	Illingsworth	Chris	52 Acoma Street
C0002	Reynolds	Martin	Mill House
C0003	Hand	Jenny	37 Beggars Lane
C0004	Sparrow	Ivana	72 Cambridge Street
C0005	Akhtar	Noor	91 Blairs Road
C0006	Lau	Emma	67 Crumshaw Road
C0007	Meadows	Fiona	14 Tay Street
C0008	Alli	Sardar	182 Valley Parade
C0009	Godfrey	James	17A Mercy Street
C0010	Shaw	Max	218 Holmwood Avenue
C0011	Blythe	Kimberly	66 Lever Street
C0012	Margrave	Patrick	58 Elm Lane

## Update and amend the SQL.

- Amend the record for Ivana Sparrow. Her required domain should be .com, not .co.uk  
Before:

```

34 ( 'C0005' , 'Noor' , '182 Blaire Road' , 'H17 9WS' , 'NoorFTW@newmail.com' );
35
36 CREATE TABLE DragonClients(
37     ClientID VARCHAR(10),
38     Surname VARCHAR(15),
39     Forename VARCHAR(15),
40     Address VARCHAR(50),
41     Postcode VARCHAR(10),
42     Email VARCHAR(30);
43 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
44 ('C0001','Illingworth','Chris','52 Acoma Street','WA14 5DD','Illiingworth@myemail.com'),
45 ('C0002','Reynolds','Martin','Mill House','BG15 4RT','Martin@myemail.com'),
46 ('C0003','Hand','Jenny','37 Beggars Lane','Y01 5TY','Jen@blueskythinking.com'),
47 ('C0004','Sparrow','Ivana','72 Cambridge Street','OL7 0EQ','IvanTheTerrible@bigwig.com'),
48 ('C0005','Akhtar','Noor','91 Blaire Road','H17 9WS','NoorFTW@newmail.com'),
        
```

Build Schema ▾ Edit Fullscreen ↗ Browser ↘ [;]

ClientID	Forename	Surname	Name	Domain
C0001	Chris	Illingworth	illiingwortharts	.co.uk
C0002	Martin	Reynolds	whatyouneednow	.uk
C0003	Jenny	Hand	lendahand	.org.uk
C0004	Ivana	Sparrow	sparrowcrafts	.co.uk
C0005	Noor	Akhtar	roofmendersUK	.co.uk
C0006	Emma	Lau	simplychinesefood	.food.uk
C0007	Fiona	Meadows	newthinkingwellness	.org.uk

```

1:SELECT DragonClients.ClientID, DragonClients.Forename, DragonClients.Surname, DragonWebsite.I
2:OM DragonClients
3:FT JOIN DragonWebsite
4: DragonClients.ClientID = DragonWebsite.ClientID
        
```

Run SQL ▶ Edit Fullscreen ↗ [;]

After:

```

43 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
44 ('C0001','Illiingworth','Chris','52 Acoma Street','WA14 5DD','Illiingworth@myemail.com'),
45 ('C0002','Reynolds','Martin','Mill House','BG15 4RT','Martin@myemail.com'),
46 ('C0003','Hand','Jenny','37 Beggars Lane','Y01 5TY','Jen@blueskythinking.com'),
47 ('C0004','Sparrow','Ivana','72 Cambridge Street','OL7 0EQ','IvanTheTerrible@bigwig.com'),
48 ('C0005','Akhtar','Noor','91 Blaire Road','H17 9WS','NoorFTW@newmail.com'),
49 ('C0006','Lau','Emma','67 Crumshaw Road','M17 9PR','EmyzEll@netmail.com'),
50 ('C0007','Meadows','Fiona','14 Tay Street','NN11 6DS','FiMeadow@myemail.com'),
51 ('C0008','Ali','Safdar','182 Valley Parade','BR7 8GH','SafdarAliboringmail.com'),
52 ('C0009','Godfrey','James','17A Mercy Street','PG11 3ER','JimmyGee@newmail.com'),
53 ('C0010','Shaw','Max','218 Hollinwood Avenue','M12 5SD','MaxValue@openmail.com'),
54 ('C0011','Blythe','Kimberly','66 Lever Street','M5 7FA','Kimbo@bigwig.com'),
55 ('C0012','Margrave','Patrick','58 Elm Lane','SK14 9NY','TrickMar@myemail.com');
56
57 UPDATE DragonWebsite SET Domain = '.com' WHERE ClientID = 'C0004';
        
```

Build Schema ▾ Edit Fullscreen ↗ Browser ↘ [;]

ClientID	Forename	Surname	Name	Domain
C0001	Chris	Illingworth	illiingwortharts	.co.uk
C0002	Martin	Reynolds	whatyouneednow	.uk
C0003	Jenny	Hand	lendahand	.org.uk
C0004	Ivana	Sparrow	sparrowcrafts	.com
C0005	Noor	Akhtar	roofmendersUK	.co.uk
C0006	Emma	Lau	simplychinesefood	.food.uk
C0007	Fiona	Meadows	newthinkingwellness	.org.uk

```

1:SELECT DragonClients.ClientID, DragonClients.Forename, DragonClients.Surname, DragonWebsite.I
2:OM DragonClients
3:FT JOIN DragonWebsite
4: DragonClients.ClientID = DragonWebsite.ClientID
        
```

Run SQL ▶ Edit Fullscreen ↗ [;]

- Amed the record for Max Shaw, his email address is wrong and should say: [max.value@openmail.co.uk](mailto:max.value@openmail.co.uk)

Before

```

43 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
44 ('C0001','Illiingworth','Chris','52 Acoma Street','WA14 5DD','Illiingworth@myemail.com'),
45 ('C0002','Reynolds','Martin','Mill House','BG15 4RT','Martin@myemail.com'),
46 ('C0003','Hand','Jenny','37 Beggars Lane','Y01 5TY','Jen@blueskythinking.com'),
47 ('C0004','Sparrow','Ivana','72 Cambridge Street','OL7 0EQ','IvanTheTerrible@bigwig.com'),
48 ('C0005','Akhtar','Noor','91 Blaire Road','H17 9WS','NoorFTW@newmail.com'),
49 ('C0006','Lau','Emma','67 Crumshaw Road','M17 9PR','EmyzEll@netmail.com'),
50 ('C0007','Meadows','Fiona','14 Tay Street','NN11 6DS','FiMeadow@myemail.com'),
51 ('C0008','Ali','Safdar','182 Valley Parade','BR7 8GH','SafdarAliboringmail.com'),
52 ('C0009','Godfrey','James','17A Mercy Street','PG11 3ER','JimmyGee@newmail.com'),
53 ('C0010','Shaw','Max','218 Hollinwood Avenue','M12 5SD','MaxValue@openmail.com'),
54 ('C0011','Blythe','Kimberly','66 Lever Street','M5 7FA','Kimbo@bigwig.com'),
55 ('C0012','Margrave','Patrick','58 Elm Lane','SK14 9NY','TrickMar@myemail.com');
56
57
        
```

Build Schema ▾ Edit Fullscreen ↗ Browser ↘ [;]

ClientID	Forename	Surname	Email
C0010	Max	Shaw	MaxValue@openmail.com

```

1:SELECT ClientID, Forename, Surname, Email
2:FROM DragonClients
3:WHERE Surname = "Shaw";
4:
        
```

Run SQL ▶ Edit Fullscreen ↗ [;]

## After

```

43 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
44 ('C0001','Illingworth','Chris','52 Acoma Street','WA14 5DD','illingworthc@mymail.com'),
45 ('C0002','Reynolds','Martin','Mill House','BG15 4RT','MartinR@mymail.com'),
46 ('C0003','Hand','Jenny','37 Beggars Lane','YO1 5TY','Jen@blueskythinking.com'),
47 ('C0004','Sparrow','Ivana','72 Cambridge Street','OL7 0EQ','IvanTheTerrible@bigwig.com'),
48 ('C0005','Akhtar','Noor','91 Blaire Road','HH7 9WS','NoorFTW@newmail.com'),
49 ('C0006','Lau','Emma','67 Crumshaw Road','M17 9PR','EmzyEll@netmail.com'),
50 ('C0007','Meadows','Fiona','14 Tay Street','NM11 6DS','FiMeadow@mymail.com'),
51 ('C0008','Ali','Safdar','182 Valley Parade','BR7 8GH','SafdarAli@boringmail.com'),
52 ('C0009','Godfrey','James','17A Mercy Street','PG11 3ER','JimmyGee@newmail.com'),
53 ('C0010','Shaw','Max','218 Hollinwood Avenue','M17 5SD','MaxValue@openmail.com'),
54 ('C0011','Blythe','Kimberly','66 Lever Street','M5 7FA','Kimbo@bigwig.com'),
55 ('C0012','Margrave','Patrick','58 Elm Lane','SK14 9NY','TrickMar@mymail.com');
56
57 UPDATE DragonClients SET Email = 'MaxValue@openmail.co.uk' WHERE ClientID = 'C0010';

```

[Build Schema](#) [Edit Fullscreen](#) [Browser](#) [\[;\]](#) [Run SQL](#) [Edit Fullscreen](#) [\[;\]](#)

ClientID	Forename	Surname	Email
C0010	Max	Shaw	MaxValue@openmail.co.uk

3. Add a new record as follows: Johnson, Winston. 123 Collier Walk, Hattersley, SK14 9ZZ, WinstonTheGreat@bobmail.co.uk. Website: marleyfansuk.org.uk comprising 10 pages with custom css but no shopping cart. Kenny will be developing this site.

Before:

```

1 SELECT DragonClients.*, DragonWebsite.*, Developers.Developer
2 FROM DragonClients
3 INNER JOIN DragonWebsite
4 ON DragonClients.ClientID = DragonWebsite.ClientID
5 INNER JOIN Developers
6 ON DragonWebsite.DeveloperID = Developers.DeveloperID;
7

```

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer
C0001	Illingworth	Chris	52 Acoma Street	WA14 5DD	illingworthc@mymail.com	W0001	D0001	C0001	illingwortharts	.co.uk	10	true	true	Rick
C0002	Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com	W0002	D0002	C0002	whatyouneednow	.uk	15	true	false	Kenny
C0003	Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com	W0003	D0003	C0003	Iendahand	.org.uk	9	false	false	Lisa
C0004	Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com	W0004	D0004	C0004	sparrowcrafts	.co.uk	12	true	true	Becca
C0005	Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com	W0005	D0003	C0005	roofmendersUK	.co.uk	6	true	false	Lisa
C0006	Lau	Emma	67 Crumshaw Road	M17 9PR	EmzyEll@netmail.com	W0006	D0002	C0006	simplychinesefood	.food.uk	6	true	true	Kenny
C0007	Meadows	Fiona	14 Tay Street	NM11 6DS	FiMeadow@mymail.com	W0007	D0002	C0007	newthinkingwellness	.org.uk	24	true	false	Kenny
C0008	Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@boringmail.com	W0008	D0005	C0008	oldtimecoders	.co.uk	30	true	false	Aizaz
C0009	Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@newmail.com	W0009	D0003	C0009	paintmyhouseUK	.com	5	true	false	Lisa
C0010	Shaw	Max	218 Hollinwood Avenue	M17 5SD	MaxValue@openmail.com	W0010	D0005	C0010	charismachoir	.org.uk	7	true	false	Alzaz
C0011	Blythe	Kimberly	66 Lever Street	M5 7FA	Kimbo@bigwig.com	W0011	D0001	C0011	minipainterlady	.co.uk	12	true	true	Rick
C0012	Margrave	Patrick	58 Elm Lane	SK14 9NY	TrickMar@mymail.com	W0012	D0004	C0012	magicforhire	.co.uk	5	false	false	Becca

## After

```

57 INSERT INTO DragonClients
58 VALUES ('C0013', 'Johnson', 'Wilson', '123 Collier Walk, Hattersley', 'SK14 9ZZ', 'Winston'
59 INSERT INTO DragonWebsite
60 VALUES ('W0013', 'D0002', 'C0013', 'marleyfansuk', 'org.uk', 10, True, False);
61

```

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer
C0001	Illingworth	Chris	52 Acoma Street	WA14 5DD	Illingworthc@mymail.com	W0001	D0001	C0001	illingswortharts	.co.uk	10	true	true	Rick
C0002	Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com	W0002	D0002	C0002	whatyouneednow	.uk	15	true	false	Kenny
C0003	Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com	W0003	D0003	C0003	lendahand	.org.uk	9	false	false	Lisa
C0004	Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com	W0004	D0004	C0004	sparrowcrafts	.co.uk	12	true	true	Becca
C0005	Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com	W0005	D0003	C0005	roofmendersUK	.co.uk	6	true	false	Lisa
C0006	Lau	Emma	67 Crumshaw Road	M17 9PR	EmzyEll@netmail.com	W0006	D0002	C0006	simplychinesefood	.food.uk	6	true	true	Kenny
C0007	Meadows	Fiona	14 Tay Street	NM11 6DS	FiMeadow@mymail.com	W0007	D0002	C0007	newthinkingwellness	.org.uk	24	true	false	Kenny
C0008	Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@boringmail.com	W0008	D0005	C0008	oldtimecoders	.co.uk	30	true	false	Aizaz
C0009	Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@newmail.com	W0009	D0003	C0009	paintmyhouseUK	.com	5	true	false	Lisa
C0010	Shaw	Max	218 Hollinwood Avenue	M17 5SD	.MaxValue@openmail.com	W0010	D0005	C0010	charismachoir	.org.uk	7	true	false	Aizaz
C0011	Blythe	Kimberly	66 Lever Street	M5 7FA	Kimbo@bigwig.com	W0011	D0001	C0011	minipainterlady	.co.uk	12	true	true	Rick
C0012	Margrave	Patrick	58 Elm Lane	SK14 9NY	TrickMar@mymail.com	W0012	D0004	C0012	magicforhire	.co.uk	5	false	false	Becca
C0013	Johnson	Wilson	123 Collier Walk, Hattersley	SK14 9ZZ	WinstonTheGreat@bobmail.co.uk	W0013	D0002	C0013	marleyfansuk	.org.uk	10	true	false	Kenny

## 4. Delete the records for Chris Illingworth

### Before:

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer
45	('C0002', 'Reynolds', 'Martin', 'Mill House', 'BG15 4RT', 'MartinR@mymail.com'),													
46	('C0003', 'Hand', 'Jenny', '37 Beggars Lane', 'YO1 5TY', 'Jen@blueskythinking.com'),													
47	('C0004', 'Sparrow', 'Ivana', '72 Cambridge Street', 'OL7 0EQ', 'IvanTheTerrible@bigwig.com'),													
48	('C0005', 'Akhtar', 'Noor', '91 Blaire Road', 'HH7 9WS', 'NoorFTW@newmail.com'),													
49	('C0006', 'Lau', 'Emma', '67 Crumshaw Road', 'M17 9PR', 'EmzyEll@netmail.com'),													
50	('C0007', 'Meadows', 'Fiona', '14 Tay Street', 'NM11 6DS', 'FiMeadow@mymail.com'),													
51	('C0008', 'Ali', 'Safdar', '182 Valley Parade', 'BR7 8GH', 'SafdarAli@boringmail.com'),													
52	('C0009', 'Godfrey', 'James', '17A Mercy Street', 'PG11 3ER', 'JimmyGee@newmail.com'),													
53	('C0010', 'Shaw', 'Max', '218 Hollinwood Avenue', 'M17 5SD', '.MaxValue@openmail.com'),													
54	('C0011', 'Blythe', 'Kimberly', '66 Lever Street', 'M5 7FA', 'Kimbo@bigwig.com'),													
55	('C0012', 'Margrave', 'Patrick', '58 Elm Lane', 'SK14 9NY', 'TrickMar@mymail.com');													
56														
57	DELETE FROM DragonClients WHERE ClientID = 'C0001';													
58	DELETE FROM DragonWebsite WHERE ClientID = 'C0001';													
59														

### After

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer
C0002	Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com	W0002	D0002	C0002	whatyouneednow	.uk	15	true	false	Kenny
C0003	Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com	W0003	D0003	C0003	lendahand	.org.uk	9	false	false	Lisa
C0004	Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com	W0004	D0004	C0004	sparrowcrafts	.co.uk	12	true	true	Becca
C0005	Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com	W0005	D0003	C0005	roofmendersUK	.co.uk	6	true	false	Lisa
C0006	Lau	Emma	67 Crumshaw Road	M17 9PR	EmzyEll@netmail.com	W0006	D0002	C0006	simplychinesefood	.food.uk	6	true	true	Kenny
C0007	Meadows	Fiona	14 Tay Street	NM11 6DS	FiMeadow@mymail.com	W0007	D0002	C0007	newthinkingwellness	.org.uk	24	true	false	Kenny
C0008	Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@boringmail.com	W0008	D0005	C0008	oldtimecoders	.co.uk	30	true	false	Aizaz
C0009	Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@newmail.com	W0009	D0003	C0009	paintmyhouseUK	.com	5	true	false	Lisa
C0010	Shaw	Max	218 Hollinwood Avenue	M17 5SD	..MaxValue@openmail.com	W0010	D0005	C0010	charismachoir	.org.uk	7	true	false	Aizaz
C0011	Blythe	Kimberly	66 Lever Street	M5 7FA	Kimbo@bigwig.com	W0011	D0001	C0011	minipainterlady	.co.uk	12	true	true	Rick
C0012	Margrave	Patrick	58 Elm Lane	SK14 9NY	TrickMar@mymail.com	W0012	D0004	C0012	magicforhire	.co.uk	5	false	false	Becca

## Part 3 – Querying the database

All the amendments from Part 2 have been applied.

1. Create and show the query and output data for the following queries.

a. Show all data for clients whose surname begins with 'A'

```

51 ('C0008','Ali','Safdar','182 Valley Parade','BR7 8GH','SafdarAli@boringmail.com'),
52 ('C0009','Godfrey','James','17A Mercy Street','PG11 3ER','JimmyGee@newmail.com'),
53 ('C0010','Shaw','Max','218 Hollinwood Avenue','M17 5SD','MaxValue@openmail.com'),
54 ('C0011','Bylthe','Kimberly','66 Lever Street','M5 7FA','Kimbo@bigwig.com'),
55 ('C0012','Margrave','Patrick','58 Elm Lane','SK14 9ZZ','TrickKarr@gmail.com');
56
57 UPDATE DragonClients SET Email = 'MaxValue@openmail.co.uk' WHERE ClientID = 'C0010';
58 UPDATE DragonWebsite SET Domain = '.com' WHERE ClientID = 'C0004';
59 INSERT INTO Dragonclients
60 VALUES ('C0013','Johnson','Wilson','123 Collier Walk, Hattersley','SK14 9ZZ','Winston
61 INSERT INTO DragonWebsite
62 VALUES ('W0013','D0002','C0013','marleyfansuk','org.uk', 10, True, False);
63
64 DELETE FROM Dragonclients WHERE ClientID = "C0001";
65 DELETE FROM Dragonwebsite WHERE ClientID = "C0001";

```

[Build Schema](#) [Edit Fullscreen](#) [Browser](#) [\[;\]](#)

[Run SQL](#) [Edit Fullscreen](#) [\[;\]](#)

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer
C0005	Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com	W0005	D0003	C0005	roofmendersUK	.co.uk	6	true	false	Lisa
C0008	Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@boringmail.com	W0008	D0005	C0008	oldtimecoders	.co.uk	30	true	false	Aizaz

```

1. SELECT DragonClients.*, DragonWebsite.*, Developers.Developer
2. FROM DragonClients
3. INNER JOIN DragonWebsite
4. ON DragonClients.ClientID = DragonWebsite.ClientID
5. INNER JOIN Developers
6. ON DragonWebsite.DeveloperID = Developers.DeveloperID
7. WHERE DragonClients.Surname LIKE 'A%'
8.

```

[Run SQL](#) [Edit Fullscreen](#) [\[;\]](#)

b. Show all data for clients wanting custom CSS

```

40 Address VARCHAR(50),
41 Postcode VARCHAR(10),
42 Email VARCHAR(50));
43 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
44 ('C0001','Jillington','Chris','52 Acme Street','M11 5SD','JillingtonThe@newmail.com'),
45 ('C0002','Reynolds','Martin','911 House','M03 4RT','MartinReynolds@newmail.com'),
46 ('C0003','Hand','Jenny','37 Beggar Lane','Y01 5TV','Jen@LuckyFining.com'),
47 ('C0004','Sparrow','Ivana','72 Cambridge Street','O1 9EQ','IvanahHerring@bigwig.com'),
48 ('C0005','Lau','Emma','67 Crumshaw Road','M17 9PR','Em@elli@newmail.com'),
49 ('C0006','Meadows','Flora','14 Tay Street','M11 6DS','FlowerMeadow@newmail.com'),
50 ('C0007','Akhtar','Noor','91 Blaire Road','HH7 9WS','NoorFTW@newmail.com'),
51 ('C0008','Margrave','Patrick','58 Elm Lane','SK14 9WW','TrickKarr@gmail.com'),
52 ('C0009','Godfrey','James','218 Hollinwood Avenue','M17 5SD','Hollinwood@email.com'),
53 ('C0010','Shaw','Max','218 Hollinwood Avenue','M17 5SD','MaxValue@openmail.com'),
54 ('C0011','Bylthe','Kimberly','66 Lever Street','M5 7FA','Kimbo@bigwig.com'),
55 ('C0012','Margrave','Patrick','58 Elm Lane','SK14 9WW','TrickKarr@gmail.com');
56
57 UPDATE DragonClients SET Email = 'MaxValue@openmail.co.uk' WHERE ClientID = 'C0010';
58 UPDATE Dragonwebsite SET Domain = '.com' WHERE ClientID = 'C0004';
59 INSERT INTO Dragonclients
60 VALUES ('C0013','Johnson','Wilson','123 Collier Walk, Hattersley','SK14 9ZZ','WinstonTheGreat@bobmail.co.uk');
61 INSERT INTO DragonWebsite
62 VALUES ('W0013','D0002','C0013','marleyfansuk','org.uk', 10, True, False);
63
64 DELETE FROM Dragonclients WHERE ClientID = "C0001";
65 DELETE FROM Dragonwebsite WHERE ClientID = "C0001";
66

```

[Build Schema](#) [Edit Fullscreen](#) [Browser](#) [\[;\]](#)

```

1. SELECT DragonClients.*, DragonWebsite.*, Developers.Developer
2. FROM DragonClients
3. INNER JOIN DragonWebsite
4. ON DragonClients.ClientID = DragonWebsite.ClientID
5. INNER JOIN Developers
6. ON DragonWebsite.DeveloperID = Developers.DeveloperID
7. WHERE DragonWebsite.CSSCust = True;
8.

```

[Run SQL](#) [Edit Fullscreen](#) [\[;\]](#)

c. Show all data for clients who want shopping carts

```

40 Address VARCHAR(50),
41 Postcode VARCHAR(10),
42 Email VARCHAR(50));
43 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
44 ('C0001','Jillington','Chris','52 Acme Street','M11 5SD','JillingtonThe@newmail.com'),
45 ('C0002','Reynolds','Martin','911 House','M03 4RT','MartinReynolds@newmail.com'),
46 ('C0003','Hand','Jenny','37 Beggar Lane','Y01 5TV','Jen@LuckyFining.com'),
47 ('C0004','Sparrow','Ivana','72 Cambridge Street','O1 9EQ','IvanahHerring@bigwig.com'),
48 ('C0005','Lau','Emma','67 Crumshaw Road','M17 9PR','Em@elli@newmail.com'),
49 ('C0006','Meadows','Flora','14 Tay Street','M11 6DS','FlowerMeadow@newmail.com'),
50 ('C0007','Akhtar','Noor','91 Blaire Road','HH7 9WS','NoorFTW@newmail.com'),
51 ('C0008','Margrave','Patrick','58 Elm Lane','SK14 9WW','TrickKarr@gmail.com'),
52 ('C0009','Godfrey','James','218 Hollinwood Avenue','M17 5SD','Hollinwood@email.com'),
53 ('C0010','Shaw','Max','218 Hollinwood Avenue','M17 5SD','MaxValue@openmail.com'),
54 ('C0011','Bylthe','Kimberly','66 Lever Street','M5 7FA','Kimbo@bigwig.com'),
55 ('C0012','Margrave','Patrick','58 Elm Lane','SK14 9WW','TrickKarr@gmail.com');
56
57 UPDATE DragonClients SET Email = 'MaxValue@openmail.co.uk' WHERE ClientID = 'C0010';
58 UPDATE Dragonwebsite SET Domain = '.com' WHERE ClientID = 'C0004';
59 INSERT INTO Dragonclients
60 VALUES ('C0013','Johnson','Wilson','123 Collier Walk, Hattersley','SK14 9ZZ','WinstonTheGreat@bobmail.co.uk');
61 INSERT INTO DragonWebsite
62 VALUES ('W0013','D0002','C0013','marleyfansuk','org.uk', 10, True, False);
63
64 DELETE FROM Dragonclients WHERE ClientID = "C0001";
65 DELETE FROM Dragonwebsite WHERE ClientID = "C0001";
66

```

[Build Schema](#) [Edit Fullscreen](#) [Browser](#) [\[;\]](#)

```

1. SELECT DragonClients.*, DragonWebsite.*, Developers.Developer
2. FROM DragonClients
3. INNER JOIN DragonWebsite
4. ON DragonClients.ClientID = DragonWebsite.ClientID
5. INNER JOIN Developers
6. ON DragonWebsite.DeveloperID = Developers.DeveloperID
7. WHERE DragonWebsite.Cart = True;
8.

```

[Run SQL](#) [Edit Fullscreen](#) [\[;\]](#)

[ClientID](#) [Surname](#) [Forename](#) [Address](#) [Postcode](#) [Email](#) [WebsiteID](#) [DeveloperID](#) [ClientID](#) [Name](#) [Domain](#) [Pages](#) [CSSCust](#) [Cart](#) [Developer](#)

[C0004](#) [Sparrow](#) [Ivana](#) [72 Cambridge Street](#) [OL7 0EO](#) [ivanTheTemple@bigwig.com](#) [W0004](#) [D0004](#) [C0004](#) [sparrowcrafts](#) [.com](#) [12](#) [true](#) [true](#) [Becca](#)

[C0005](#) [Lau](#) [Emma](#) [67 Crumshaw Road](#) [M17 9PR](#) [Em@elli@newmail.com](#) [W0005](#) [D0002](#) [C0006](#) [simplychinesefood](#) [.food.uk](#) [6](#) [true](#) [true](#) [Lisa](#)

[C0011](#) [Bylthe](#) [Kimberly](#) [66 Lever Street](#) [M5 7FA](#) [Kimbo@bigwig.com](#) [W0011](#) [D0001](#) [C0011](#) [minipainter lady](#) [.co.uk](#) [12](#) [true](#) [true](#) [Rick](#)

[C0013](#) [Johnson](#) [Wilson](#) [123 Collier Walk, Hattersley](#) [SK14 9ZZ](#) [WinstonTheGreat@bobmail.co.uk](#) [W0013](#) [D0002](#) [C0013](#) [marleyfansuk](#) [.org.uk](#) [10](#) [true](#) [false](#) [Kenny](#)

- d. Show the surname, forename, website name and domain for every website that will have a .co.uk domain.

```

48 Address VARCHAR(80),
49 Postcode VARCHAR(10),
50 Email VARCHAR(50);
51
52 INSERT INTO DragonClients (ClientID,Surname,Forename,Address,Postcode,Email) VALUES
53 ('C00001','Tillingworth','Chris','52 Acorn Street','WA3 8BD','Tillingworthchmyemail.com'),
54 ('C00002','Hawthorne','Sarah','123 Elm Street','WA3 8BT','SarahHawthorne@email.com'),
55 ('C00003','Hand','Jenny','37 Beggars Lane','YO3 5TR','JenDeleksThinking.com'),
56 ('C00004','Sparrow','Ivana','72 Castlegate Street','YO7 8EE','IvanatheTern101@gmail.com'),
57 ('C00005','Frost','Peter','14 Elm Street','YO1 5AB','PeterFrosty@outlook.com'),
58 ('C00006','Lau','Ema','67 Crumlin Road','M15 9PR','EmaFluffymail.com'),
59 ('C00007','Headous','Fiona','14 Ty Street','M11 0DS','F1headous@email.com'),
60 ('C00008','Shaw','Max','123 Elmwood Avenue','M15 5DD','MaxTheGoon@email.com'),
61 ('C00009','Godfrey','James','178 Mercy Street','PE11 8ER','JamesGodfreak@email.com'),
62 ('C00010','Shaw','Max','123 Elmwood Avenue','M15 5DD','MaxTheGoon@email.com'),
63 ('C00011','Margrave','Patrick','58 Elm Lane','SA14 9NN','Tricksharker@gmail.com');
64
65 UPDATE DragonClients SET Email = 'MaxTheGoon@email.com' WHERE ClientID = 'C00010';
66 UPDATE DragonWebsite SET Domain = '.com' WHERE ClientID = 'C00001';
67 INSERT INTO DragonClients
68 VALUES ('C00012','Wilson','123 Collier Walk, Martersley','SK14 9ZZ','WinstonTheGreat@outlook.co.uk');
69 INSERT INTO DragonWebsite
70 VALUES ('C00012','D0002','C00012','maxleyfanuk','org.uk',10,True,False);
71
72 DELETE FROM DragonClients WHERE ClientID='C00011';
73 DELETE FROM DragonWebsite WHERE ClientID='C00011';
74

```

- e. Show all website details that are being developed by Lisa or Rick

```

16 ('C00005','D0001','C0001','lisa@lisaonhire.co.uk','Feedback',6,True,True),
17 ('C00005','D0001','C0001','lisa@lisaonhire.co.uk','Feedback',6,True,False),
18 ('C00005','D0005','lisa@lisaonhire.co.uk','Feedback',30,True,True),
19 ('C00005','D0005','lisa@lisaonhire.co.uk','Feedback',30,True,False),
20 ('C00005','D0005','lisa@lisaonhire.co.uk','Feedback',30,True,True),
21 ('C00005','D0005','lisa@lisaonhire.co.uk','Feedback',30,True,False),
22 ('C00005','D0012','magidonline@magidonline.co.uk','Feedback',12,True,True),
23 ('C00005','D0012','magidonline@magidonline.co.uk','Feedback',12,True,False),
24
25 CREATE TABLE Developers(
26 DeveloperID VARCHAR(10),
27 DeveloperName VARCHAR(20),
28 Feed INT(1),
29 Branch VARCHAR(10));
30
31 INSERT INTO Developers (DeveloperID,DeveloperName,Feed,Branch) VALUES
32 ('C00001','Alice','123,chester'),
33 ('C00002','Kerry','123,Warrington'),
34 ('C00003','Steve','123,Manchester'),
35 ('C00004','Becky','123,Liverpool'),
36 ('C00005','Alistair','123,Leeds');
37
38 CREATE TABLE DragonClients(
39 ClientID VARCHAR(10),
40 Surname VARCHAR(10),
41 Forename VARCHAR(10),
42 Address VARCHAR(80),
43 Postcode VARCHAR(10),
44 Email VARCHAR(50));
45

```

- f. Show client surname, website name and domain, for every website being worked on in the Leeds office

```

1 CREATE TABLE DragonWebsite(
2 WebsiteID VARCHAR(10),
3 DeveloperID VARCHAR(10),
4 ClientID VARCHAR(10),
5 Name VARCHAR(10),
6 Domain VARCHAR(10),
7 Pages INT(3),
8 CSSCost BOOLEAN,
9 Cart BOOLEAN,
10
11 INSERT INTO DragonWebsite (WebsiteID,DeveloperID,ClientID,Name,Domain,Pages,CSSCost,Cart) VALUES
12 ('W0001','D0001','C0001','lisa@lisaonhire.co.uk','.com',9,True,True),
13 ('W0002','D0002','C0002','rootmendersUK','.co.uk',6,True,False),
14 ('W0003','D0003','C0003','lendhand','.org.uk',9,False,False),
15 ('W0004','D0004','C0004','sparrowcrafts','.co.uk',12,True,True),
16 ('W0005','D0005','C0005','rootmendersUK','.co.uk',6,True,False),
17 ('W0006','D0006','C0006','oldtimecoders','.co.uk',12,True,True),
18 ('W0007','D0007','C0007','neethinkingshiness','.org.uk',24,True,False),
19 ('W0008','D0008','C0008','minpainterady','.co.uk',36,True,False),
20 ('W0009','D0009','C0009','painmyhouseUK','.com',5,True,False),
21 ('W0010','D0010','C0010','charismachoir','.org.uk',12,True,True),
22 ('W0011','D0001','C0001','minpainterady','.co.uk',12,True,True),
23 ('W0012','D0004','C0012','magidonline','.co.uk',5,False,False);
24
25 CREATE TABLE Developers(
26 DeveloperID VARCHAR(10),
27 DeveloperName VARCHAR(20),
28 Feed INT(4),
29

```

g. Produce a client list with all details of work being done by the Manchester branch.

```

1 SELECT DragonClients.*, DragonWebsite.*, Developers.Developer, Developers.Branch
2 FROM DragonClients
3 INNER JOIN DragonWebsite
4 ON DragonClients.ClientID = DragonWebsite.ClientID
5 INNER JOIN Developers
6 ON DragonWebsite.DeveloperID = Developers.DeveloperID
7 WHERE Developers.Branch = "Manchester";
8

```

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer	Branch
C0003	Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com	W0003	D0003	C0003	Iandahand	.org.uk	9	false	false	Lisa	Manchester
C0005	Ahmar	Noor	91 Blaire Road	H4H 9WS	NoorFTW@gmail.com	W0005	D0003	C0005	rootrendersUK	.co.uk	6	true	false	Lisa	Manchester
C0009	Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@gmail.com	W0009	D0003	C0009	paintmyhouseUK	.com	5	true	false	Lisa	Manchester
C0011	Blithe	Kimberly	66 Lever Street	M5 7FA	Kimbo@bigwig.com	W0011	D0001	C0011	minispainterlady	.co.uk	12	true	true	Rick	Manchester

h. Produce a client list with all details of work being done by the Warrington branch.

```

1 SELECT DragonClients.*, DragonWebsite.*, Developers.Developer, Developers.Branch
2 FROM DragonClients
3 INNER JOIN DragonWebsite
4 ON DragonClients.ClientID = DragonWebsite.ClientID
5 INNER JOIN Developers
6 ON DragonWebsite.DeveloperID = Developers.DeveloperID
7 WHERE Developers.Branch = "Warrington";
8

```

ClientID	Surname	Forename	Address	Postcode	Email	WebsiteID	DeveloperID	ClientID	Name	Domain	Pages	CSSCust	Cart	Developer	Branch
C0002	Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com	W0002	D0002	C0002	whatyouneednow	.uk	15	true	false	Kenny	Warrington
C0006	Lau	Emma	67 Crumshaw Road	M17 9PR	EmzEl@gmail.com	W0006	D0002	C0006	simplychinesefood	.food.uk	6	true	true	Kenny	Warrington
C0007	Meadows	Fiona	14 Tay Street	NM11 6DS	FMeadow@mymail.com	W0007	D0002	C0007	newthinkingwellness	.org.uk	24	true	false	Kenny	Warrington
C0013	Johnson	Wilson	123 Collier Walk, Hattersley	SK14 9ZZ	WinstonTheGreat@bobmail.co.uk	W0013	D0002	C0013	marleyfansuk	.org.uk	10	true	false	Kenny	Warrington