3.7 Write a SQL CREATE TABLE statement to create the PET_OWNER table, with OwnerID as a surrogate key. Justify your choices of column properties.

Assumptions:

1. OwnerID is a surrogate key (starts at 1 and increments by 1)

For SQL Server:

```
CREATE TABLE PET_OWNER(
   OwnerID          Int            NOT NULL IDENTITY(1, 1),
   OwnerLastName    Char(25)       NOT NULL,
   OwnerFirstName      Char(25)          NOT NULL,
   OwnerPhone       Char(12)       NULL,
   OwnerEmail       VarChar(100)   NULL,
   CONSTRAINT       OWNER_PK       PRIMARY KEY(OwnerID)
   );
```

```
INSERT INTO PET_OWNER
   VALUES('Downs', 'Marsha', '555-537-8765', 'Marsha.Downs@somewhere.com');
INSERT INTO PET_OWNER
   VALUES('James', 'Richard', '555-537-7654', 'Richard.James@somewhere.com');
INSERT INTO PET_OWNER
   VALUES('Frier', 'Liz', '555-537-6543', 'Liz.Frier@somewhere.com');
INSERT INTO PET_OWNER (OwnerLastName, OwnerFirstName, OwnerEmail)
   VALUES('Trent', 'Miles', 'Miles.Trent@somewhere.com');
```

3.9 Create a referential integrity constraint on OwnerID in PET. Assume that deletions should not cascade.

```
CREATE TABLE PET(
```

For SQL Server:

```
CREATE TABLE PET(
   PetID          Int            NOT NULL IDENTITY(1,1),
   PetName        Char (50)      NOT NULL,
   PetType        Char (25)      NOT NULL,
   PetBreed       VarChar(100)   NULL,
   PetDOB         Date           NULL,
   OwnerID        Int            NOT NULL,
   CONSTRAINT     PET_PK         PRIMARY KEY(PetID),
   CONSTRAINT        OWNER_FK       FOREIGN KEY(OwnerID)
                        REFERENCES PET_OWNER(OwnerID)
                              ON DELETE NO ACTION
   );
```

3.11 Write the required SQL statements to create the PET_2 table.

PET_2 (PetName, PetType, PetBreed, PetDOB, OwnerID)

For Access, SQL Server Oracle Database and MySQL:

```
CREATE TABLE PET_2(
   PetName        Char(50)       NOT NULL,
   PetType        Char(25)       NOT NULL,
```

```
PetBreed        VarChar(100)   NULL,
PetDOB          Date           NULL,
OwnerID         Int            NOT NULL
CONSTRAINT      PET_2_PK       PRIMARY KEY(PetName)
);
```

This table will NOT be used for data; see question 3.12 below.

3.12 *Is PET or PET_2 a better design? Explain your rationale.*

PET is the better design because of the PetID field. Using the dog's name as the primary key is not a good idea; there are many dogs named "Spot."

3.13 *Write the SQL statements necessary to remove the PET_OWNER table from the database. Assume that the referential integrity constraint is to be removed.* **Do not run these commands in an actual database!**

```
ALTER TABLE PET
   DROP CONSTRAINT OWNER_FK;
DROP TABLE PET_OWNER;
```

3.14 *Write the SQL statements necessary to remove the PET_OWNER table from the database. Assume that the PET table is to be removed.* **Do not run these commands in an actual database!**

```
DROP TABLE PET;
DROP TABLE PET_OWNER;
```

(and only in that order.)

3.15 *Write a SQL statement to display all columns of all rows of PET. Do not use the asterisk (*) notation.*

```
SELECT   PetID, PetName, PetType, PetBreed, PetDOB, OwnerID
FROM     PET;
```

	PetID	PetName	PetBreed	PetDOB	OwnerID
1	1	King	Std. Poodle	2011-02-27 ...	1
2	2	Teddy	Cashmier	2012-02-01 ...	2
3	3	Fido	Std. Poodle	2010-07-17 ...	1
4	4	AJ	Collie Mix	2011-05-05 ...	3
5	5	Cedro	Unknown	2009-06-06 ...	2
6	6	Woolley	Unknown	NULL	2
7	7	Buster	BorderCollie	2008-12-11 ...	4

3.16 *Write a SQL statement to display all columns of all rows of PET. Use the asterisk (*) notation.*

```
SELECT      *
FROM      PET;
```

	PetID	PetName	PetType	PetBreed	PetDOB	OwnerID
1	1	King	Dog	Std. Poodle	2011-02-27 ...	1
2	2	Teddy	Cat	Cashmier	2012-02-01 ...	2
3	3	Fido	Dog	Std. Poodle	2010-07-17 ...	1
4	4	AJ	Dog	Collie Mix	2011-05-05 ...	3
5	5	Cedro	Cat	Unknown	2009-06-06 ...	2
6	6	Woolley	Cat	Unknown	NULL	2
7	7	Buster	Dog	BorderCollie	2008-12-11 ...	4

3.17 *Write a SQL statement to display the breed and type of all pets.*

```
SELECT   PetBreed, PetType
FROM      PET;
```

	PetBreed	PetType
1	Std. Poodle	Dog
2	Cashmier	Cat
3	Std. Poodle	Dog
4	Collie Mix	Dog
5	Unknown	Cat
6	Unknown	Cat
7	BorderCollie	Dog

3.18 *Write a SQL statement to display the breed, type, and DOB of all pets having the type Dog.*

```
SELECT      PetBreed, PetType, PetDOB
FROM        PET
WHERE       PetType = 'Dog';
```

	PetBreed	PetType	PetDOB
1	Std. Poodle	Dog	2011-02-27 ...
2	Std. Poodle	Dog	2010-07-17 ...
3	Collie Mix	Dog	2011-05-05 ...
4	BorderCollie	Dog	2008-12-11 ...

3.19 *Write an SQL statement to display the PetBreed column of PET.*

```
SELECT   PetBreed
FROM     PET;
```

	PetBreed
1	Std. Poodle
2	Cashmier
3	Std. Poodle
4	Collie Mix
5	Unknown
6	Unknown
7	BorderCollie

3.20 *Write a SQL statement to display the PetBreed column of PET. Do not show duplicates.*

```
SELECT   DISTINCT PetBreed
FROM     PET;
```

	PetBreed
1	BorderCollie
2	Cashmier
3	Collie Mix
4	Std. Poodle
5	Unknown

3.21 *Write a SQL statement to display the breed, type, and DOB for all pets having the type Dog and the breed Std. Poodle.*

```
SELECT   PetBreed, PetType, PetDOB
FROM     PET
WHERE    PetType = 'Dog' AND PetBreed = 'Std. Poodle';
```

	PetBreed	PetType	PetDOB
1	Std. Poodle	Dog	2011-02-27 ...
2	Std. Poodle	Dog	2010-07-17 ...