Peter's Pets

Peter, along with his assistants, runs a pet shop. He sells a range of pets, from his display in the shop.
He keeps small animals (cats and small dogs), rodents (hamsters, guinea pigs and white mice) and also keeps a range of reptiles (lizards and snakes) and sells them to members of the public.

The following is a relational schema which represents the information Peter's Pets needs to store.

Species (speciesCode, speciesName, speciesPrice)
Animal (animalID, animalName, speciesCode, dateShopPurchased)
Customer (custID, custName, custPhone, custEmail)
AnimalSale (animalID, custId, saleDate)

In order to manage all the information on animal sales in Peter's Pets 4 tables are held in a database containing information on animals, species, customers and sales of animals.

- The species table holds details on all species Peters Pet's handles (e.g. dog, cat, hamster etc). Each species has a unique id (speciesCode), a name (speciesName) (which should be unique) and a price (speciesPrice).
- The animal table holds details on each animal. Each animal has a unique id (animalID), a name for the duration of its stay in the shop (animalName) which is not unique (these are not unique). Also recorded is the date on which the animal was purchased for the shop (dateShopPurchased). Each animal belongs to one species (speciesCode) (e.g. dog, cat, hamster etc).
- The customer table holds details on each customer who purchases an animal: a unique ID (custID), a name (custName), a phone number (custPhone) and email (custEmail).
- A customer can buy many animals and some customers regularly return to buy new pets. Details of the pets bought by each customer are recorded in the AnimalSales table. Details stored are the ID of the customer who bought the animal (custID), the ID of the animal of the animal purchased (animalID) and the date on which the animal was purchased (saleDate).
- All identifiers should be numeric capable of holding up to 6 digits; all names should be alphanumeric capable of holding up to 30 characters; phone number and email should be alphanumeric capable of holding up to 20 characters; all date columns should be of type date; price should capable of holding values up to €999.99.

Your Task

- Using ErWin create a logical/physical ERD for Peter's Pets as outlined above.
  - Primary keys and foreign keys should be identified.
  - Datatypes should be correct. Varchar2 should be used for alphanumeric data and Number for numeric data.
  - Notes should be added where an *identifying relationship* is chosen.
- Build the SQL to create the tables required:

- You may use Erwin to generate this but you must change the names of foreign key constraints so that all such keys include a shorthand version of the names of the tables involved followed by _fk e.g. discipline_sport_fk is the name of the foreign key constraint on the discipline table that references the sport table.
- You should include statements to drop the tables and create the tables.

- Suppose Peter's Pets provides you with the following details on Species, Animals and Customers:

AnimalName	Species	Price	DateShopPurchased	BoughtByCustomer	Date of Sale
Tiny	Dog	9.99	01 Jan 2010	D. Smith, 01 237230, dsmith@yahoo.co.uk	01 Jun 2012
Prince	Dog	9.99	01 Jan 2010	B. Byrne, 071 237820, bb@gmail.com	11 Jun 2012
Bonnie	Dog	9.99	01 Mar 2014		
CJ	Cat	10.20	01 Mar 2014	B. Byrne, 071 237820, bb@gmail.com	12 Mar 2014
Sid	Cat	10.20	01 Jun 2014	X. Dobbs, 093 2020202, xdobbs@mail.com	04 Sep 2014
Danger	Mouse	5.00	05 Sep 2014		
Sid	Snake	20.00	01 Mar 2014	B. Byrne, 071 237820, bb@gmail.com	04 Sep 2014

- Create the SQL to populate the tables with the data.

- Write the SQL to achieve the following:
  - List details of all animals in stock purchased in 2014, sorted in order of animal name with animal names in uppercase.
  - Count the number of animals sold by Peter's Pets.
    - Format the output so that it reads "The number of animals ever sold by Peters Pets is " followed by the number.
  - Count the number of sales to each customer in 2012.
  - Find the average price of an animal sold by Peters Pets.
  - Alter the customer table to add a column address of type varchar2(30).
  - Alter the customer table to add a constraint so that the email address must be unique.
- Please submit the following via the submission box in Webcourses (available in module Practice Lab Test Week 7):
  - ErWin model (named student#.erwin e.g. D1111111.erwin)
  - SQL to create and populate database named (student#create.sql e.g D111111create.sql)
  - SQL to manipulate and alter data named (student#manipulate.sql e.g. D111111manipuldate.sql)