**Ch2-NormVet1**

**Homework:** Chapter 2 Normalization of Veterinary Office List Version 1 - Due \_\_\_ \_\_\_ \_\_ Before Class

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PetName** | **PetType** | **PetBreed** | **PetDOB** | **Owner**  **Last**  **Name** | **Owner**  **First**  **Name** | **OwnerPhone** | **OwnerEmail** |
| King | Dog | Std. Poodle | 27-Feb-11 | Downs | Marsha | 201-823-5467 | marsha@sw.com |
| Teddy | Cat | Cashmier | 01-Feb-12 | James | Richard | 201-735-9812 | richard@sw.com |
| Fido | Dog | Std. Poodle | 17-Jul-10 | Downs | Marsha | 201-823-5467 | marsha@sw.com |
| AJ | Dog | Collie Mix | 05-May-11 | Frier | Liz | 201-823-6578 | liz@sw.com |
| Cedro | Cat | Unknown | 06-Jun-09 | James | Richard | 201-735-9812 | richard@sw.com |
| Woolley | Cat | Unknown | ??? | James | Richard | 201-735-9812 | richard@sw.com |
| Buster | Dog | Border Collie | 11-Dec-08 | Trent | Miles |  | miles@sw.com |

Apply the normalization process to the Veterinary Office List--Version One relation shown above to develop a set of normalized relations. Show the results of each step of the normalization process. Don’t forget the referential integrity constraint(s).

Step 1: The candidate keys are: PetName

Step 2: The function dependencies are:

PetName 🡪 PetType, PetBreed, PetDOB, OwnerLastName, OwnerFirstName, OwnerPhone, OwnerEmail

( OwnerLastName, OwnerFirstName ) 🡪 OwnerEmail, OwnerPhone

Step 3: Are there any determinants that are not candidate keys? Yes, ( OwnerLastName, OwnerFirstName ) is a determinant, but not a candidate key.

Step 3a, b: OWNER ( OwnerEmail, OwnerLastName, OwnerFirstName, OwnerPhone )

Step 3c: PET ( PetName, PetType, PetBreed, PetDOB, *OwnerLastName, OwnerFirstName* )

Step 3d: ( OwnerLastName, OwnerFirstName ) in PET must exist in ( OwnerLastName, OwnerFirstName ) in OWNER.