**Ch2-NormVet2**

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Pet**  **Name** | **Pet**  **Type** | **PetBreed** | **PetDOB** | **Owner**  **Last**  **Name** | **Owner**  **First**  **Name** | **Owner**  **Phone** | **Owner**  **Email** | **Service** | **Date** | **Charge** |
| King | Dog | Std. Poodle | 27-Feb-11 | Downs | Marsha | 201-  823-5467 | marsha  @sw.com | Ear Infection | 17-Aug-12 | $65.00 |
| Teddy | Cat | Cashmier | 01-Feb-12 | James | Richard | 201-  735-9812 | richard  @sw.com | Nail Clip | 5-Sep-12 | $27.50 |
| 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 | One year shots | 5-May-12 | $42.50 |
| Cedro | Cat | Unknown | 6-Jun-09 | James | Richard | 201-  735-9812 | richard  @sw.com | Nail Clip | 5-Sep-12 | $27.50 |
| Woolley | Cat | Unknown | ??? | James | Richard | 201-  735-9812 | richard  @sw.com | Skin Infection | 3-Oct-12 | $35.00 |
| Buster | Dog | Border Collie | 11-Dec-08 | Trent | Miles | 201-  634-2345 | miles  @sw.com | Laceration Repair | 5-Oct-12 | $127.00 |

Apply the normalization process to the Veterinary Office List--Version Two 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: ( PetID, Date )

Step 2: The function dependencies are:

( PetID, Date ) 🡪 PetName, PetType, PetBreed, PetDOB, OwnerLastName, OwnerFirstName, OwnerPhone, OwnerEmail, Service, Charge

OwnerEmail 🡪 OwnerLastName, OwnerFirstName, OwnerPhone

Service 🡪 Charge

PetID 🡪 PetName, PetType, PetBreed, PetDOB

Step 3: Are there any determinants that are not candidate keys? Yes.

OwnerEmail, Service, PetID are determinants, but not candidate keys.

Step 3a, b:

OWNER ( OwnerLastName, OwnerFirstName, OwnerEmail, OwnerPhone )

SERVICE ( Service, Charge )

PET ( PetID, PetDOB, PetName, PetType, PetBreed )

Step 3c:

CUSTOMER ( PetID, Date, *OwnerEmail, Service* )

PET ( PetID, PetType, PetBreed, PetDOB, Service, Charge, *OwnerLastName, OwnerFirstName* )

OWNER ( OwnerEmail, OwnerLastName, OwnerFirstName, OwnerPhone )

SERVICE ( Service, Charge )

Step 3d: OwnerEmail in Customer must exist in OwnerEmail in Customer.

Service in CUSTOMER must exist in Service in SERVICE.

PetID in CUSTOMER must exist in PetID in Pet.

Assumption: Only one service per day.