

Animal Doctors

Database Design Exercise

Your task for this assignment is to design a database which can be used to support the activities of a veterinary practice called Animal Doctors.

Animal Doctors has a number of clinics distributed across the suburbs. For each clinic they record the clinic's id (which is used to identify the clinic), the clinic's name, its address and the clinic's contact phone number. The practice has a number of veterinary surgeons (vets) who work in these clinics, a vet is assigned to one clinic as their home (or base) clinic. To be able to function, a clinic must have at least one vet assigned to it as the vets base clinic.

Some of the Animal Doctor vets are specialists in areas such as oncology, cardiology, dermatology etc. These specialist vets, as well as having a home clinic (their base clinic) where they accept general visits, also rove around all clinics when their specialist skills are required. The details Animal Doctors record about a vet are their vet id (used to identify a vet), the vet's given name and family name, the vet's contact phone number and the date they were first employed by Animal Doctors. If the vet is a specialist vet then their area of specialisation is recorded (specialist vets only specialise in one particular area).

Pet owners, who are each assigned a unique owner id, have their given name and family name recorded by the practice. The practice also records the owner's contact phone number. Each owner may have one or more pets; for each pet the practice records a unique animal id, the animal's name, the year the animal was born and the type of animal they are, for example a cat. Each animal is only recorded as being owned by one owner.

When an animal needs veterinary attention (such as annual injections) or is ill, the owner brings their pet to one of the practice's clinics to be attended to by a vet - this is called a visit. The date and time of the visit, the clinic being visited and the attending vet are recorded (this attending vet may be one based at this particular clinic ie. this is their home clinic, or the visit may need the services of a roving specialist vet). In addition, the practice records the length of the visit and any notes that the vet needs to make about the condition of the pet.

Some visits require further follow up visits, the system needs to record, for these subsequent visits, which visit generated the follow up. A given visit may require multiple follow up visits to address an issue identified in the initial diagnosis. For example, the pet may have an infected wound from a fight. The first visit for this issue results in antibiotics being given and the wound being stitched. Follow up visits may be required for example to remove the stitches, check the wound healing, provide further antibiotic injections etc.

During a visit the attending vet may need to prescribe drugs for the animal. The practice identifies a drug by a unique drug id, and also records the drug's name and the drugs usage instructions (for example "1 ml/3Kg of body weight given once or twice a day"). When a drug is prescribed during a visit, the actual drug dose and frequency of administration are recorded.

The Animal Doctors management have indicated:

- they do not require the clinic addresses or any phone numbers to be broken down into component attributes
- they would like to be able to easily expand:
 - the vet specialisations, as they employ further vets with new specialisations, and
 - the types of animals, as they treat a new type which they have not previously seen
- the services which are provided during a visit are identified by a service code and have a standard service cost which must be recorded as part of the database. Every visit incurs at least one service charge. During a visit (treatment of a patient - the animal) the servicing vet may vary the service standard cost depending on their professional judgement,
- the drugs which are provided during a visit have a standard cost which must be recorded as part of the database, however like services this cost may be varied by the vet for a particular visit
- when a drug is used as part of the visit (eg. an injection that the vet gives the patient in the clinic) the frequency is not recorded (frequency is only used only for drugs given to the owner to be administered to their pet following the visit eg. a twice daily antibiotic tablet), and
- management would like a count maintained, as part of the stored database data, which indicates how many times a given specialist vet has serviced a visit in a clinic which is not their home clinic.

Animal Doctors Sample forms

1. Pet Ownership Details

Owner Details

ID 9874
Given Name Mary
Family Name WU

Preferred Vet

ID 1234
Name Dr Graham Sharp

Owner Address

Street 56 Narrow Lane
Town Clayton
Postcode 3168

ANIMALS Registered with Animal Doctors

ID	Gender	Name	Type	Birthdate	Deceased (Y/N)
379	Female	Princess	Chihuahua	21/02/2001	Y
567	Male	Forrest	Domestic Cat Long Haired	25/03/2020	N

2. Visit Invoice

Sample 1:

Invoice for Professional Services

Patient

ID 567
Name Forrest

Servicing Vet

ID 1245
Name Dr Xinxin Jiang

Account for services provided on 20/03/2021 at 10:30 AM

Service Code	Service Description	Cost
EXM10	Examination: Standard	\$35.00

Total Amount Due	\$35.00
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Payment for services provided is required immediately after service completed

Paid By: CASH ☐
EFT ☒

Sample 2:

Invoice for Professional Services

Patient

ID 567

Name Forrest

Servicing Vet

ID 1234

Name Dr Graham Sharp

Account for services provided on 24/03/2021 at 9:30 AM

Service Code	Service Description	Cost
EXM11	Examination: Detailed Assessment	\$65.00
LAB12	Laboratory: Urinalysis Dipstick, Specific Gravity	\$35.85
INJ01	Injection: Clinic administered injection	\$10.00

Drug ID	Drug Name	Qty Supplied	Cost
567	Convenia Injection	1	\$20.00
253	Bactrim Tablets	10	\$30.00

Total Amount Due	\$160.85
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Payment for services provided is required immediately after service completed

Paid By: CASH ☐
EFT ☒