

# Activity #10 normalization - COMP 3610

## Part 1 Normalization [8 Marks]

Q1. Given below is the report. Make the Normalized relations going through 1NF, 2NF and 3NF Table on pet

PET ID	PET NAME	PET TYPE	PET AGE	PET OWNER NAME	PET OWNER ADDRESS	PET OWNER PHONE	VISIT DATE	PROCEDURE
246	ROVER	DOG	12	SAM COOK	Kamloops	2509877890	JAN 13/2013	01 - RABIES VACCINATION
246	ROVER	DOG	12	SAM COOK	Kamloops	2509877890	MAR 27/2013	10 - EXAMINE and TREAT WOUND
246	ROVER	DOG	12	SAM COOK	Kamloops	2509877890	APR 21/2013	05 - HEART WORM TEST
298	SPOT	DOG	2	TERRY KIM	Kamloops	2509852456	JAN 21/2013	08 - TETANUS VACCINATION
298	SPOT	DOG	2	TERRY KIM	Kamloops	2509852456	MAR 10/2013	05 - HEART WORM TEST
341	MORRIS	CAT	4	SAM COOK	Kamloops	2345678910	JAN 23/2012	01 - RABIES VACCINATION
341	MORRIS	CAT	4	SAM COOK	Kamloops	2345678910	JAN 13/2013	01 - RABIES VACCINATION
519	TWEEDY	BIRD	2	TERRY KIM	Kelowna	5678996544	APR 21/2013	20 - ANNUAL CHECK UP
519	TWEEDY	BIRD	2	TERRY KIM	Kelowna	5678996544	APR 30/2013	12 - EYE WASH

2NF :

13	OWNER_ID	OWNER_NAME	PET OWNER ADDRESS
14	1	Sam Cook	Kamloops
15	2	Terry Kim	Kelowna
16			
17			
18	PETTYPEID	PETTYPE	
19	1	DOG	
20	2	CAT	
21	3	BIRD	
22			
23	PET_ID	PET_NAME	PET_AGE
24	246	Rover	12
25	298	Spot	2
26	341	Morris	4
27	519	Tweedy	2
28			
29	PROCEDURE_ID	PROCEDURE_NAME	
30	1	Rabies Vaccination	
31	5	Heart Worm Test	
32	8	Tetanus Vaccination	
33	10	Examine and Treat Wound	
34	12	Eye Wash	
35	20	Annual Check up	

### 3NF

36	3NF			
37	OWNER_ID	OWNER_NAME		
38		1 Sam Cook		
39		2 Terry Kim		
40				
41	OWNER_ID	PET OWNER ADDRESS		
42		1 Kamloops		
43		2 Kelowna		
44				
45	PETTYPEID	PETTYPE		
46		1 DOG		
47		2 CAT		
48		3 BIRD		
49				
50	PET_ID	PET_NAME	PET_TYPEID	PET_A GE
51	246	Rover	1	12
52	298	Spot	1	2
53	341	Morris	2	4
54	519	Tweedy	3	2
55				
56	PROCEDURE_ID	PROCEDURE_NAME		
57		1 Rabies Vaccination		
58		5 Heart Worm Test		
59		8 Tetanus Vaccination		
60		10 Examine and Treat Wound		
61		12 Eye Wash		
62		20 Annual Check up		
63				
64	PET_ID	OWNER_ID	VISIT_DATE	PROCE DURE_I D
65	246		1 Jan 13/2013	1
66	246		1 Mar 27/2013	10
67	246		1 Apr 02/2013	5
68	298		2 Jan 21/2013	8
69	298		2 Mar 10/2013	5
70	341		1 Jan 23/2012	1
71	341		1 Jan 13/2013	1
72	519		2 Apr 30/2013	20
73	519		2 Apr 30/2013	12

Q2: every non-primary key attribute in the table must be dependent on the entire primary key, and not just a part of it. In some sense, there should not be any partial dependencies in the table.

Q3: (a)

Q4: BCNF final form :

(name, street, city, zip)

(ItemID, itemName, name, cost, retail\_Price, color1, color2, notes, shelf\_Qty,  
perishable, returnable, description)