Hi Dr. Serra,

I think I got some incorrect score for my midterm 1.

Below are the comments for my midterm 1. I am quite do not agree with the points lose in Part A and Part C.

Comments of my midterm 1:

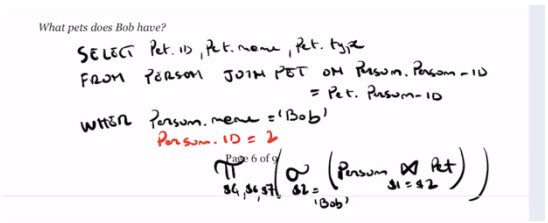
Part A Comments: 1: good, 2: didn't mention performed_by/Performed_on/Owns, 3: should only have listed the PKs once (i.e., leave out contains), 4: Contains relationship does not need FK, Points Taken Away: 3, Part B Comments: CM (3): comment should be an entity, RM (0): consistent with CM, Points Taken Away: 0, Part C Comments: 1: good, 2: good, 3: good, 4: good, 5: don't have person name or ID with each count, Points Taken Away for Queries: 1, Part C RA Comments: all wrong, Points Taken Away for RA: 20, Average Score for Part C: 9.5, Part D Comments: 1: good, 2: good, 3: good, 4: True, 5: good, 6: good, 7: good, 8: good, 9: good, 10: good, 11: False, 12: good, 13: False, 14: good, 15: good, Points Taken Away: 3, Part E Comments: 1: good, 2: good, 3: good, 4: good, 5: good, 6: good, 7: good, 8: good, 9: good, 10: good, Points Taken Away: 0

Argument:

Part C:

The solution	My answer
Write SQL queries for each of the following (**Graduate students only** – write the queries also in relational algebra whenever possible): *Who was born in in 1980 or later?* SELECT * FROM PERSON WHERE Birthday >= 01/01/1980 $\sigma_{\$3 \geq 01/01/1980}$ (Person)	• Who was born in 1980 or later ? SELECT person-id FROM Person WHERE YEAR(birthday) >= '1980' $\Pi_{\$1}\left(\sigma_{\$3 \geq '1981\text{-}01\text{-}01'} \text{person}\right)$
Because we want to know who was born in 1980, I add the $\Pi_{\$1}$ in the RA to choose the first column.	
What are the names of all the cats? SELECT Name FROM PET WHERE type = 'cat' $\Pi_{\$3}\left(\sigma_{\$4='cat'}(\text{Pet})\right)$	• What are the names of all the cats ? SELECT name FROM Pet WHERE type = 'cat' $\Pi_{\$3}\left(\sigma_{\$4='cat'}(\text{Pet})\right)$

My answer is totally same with the solution.

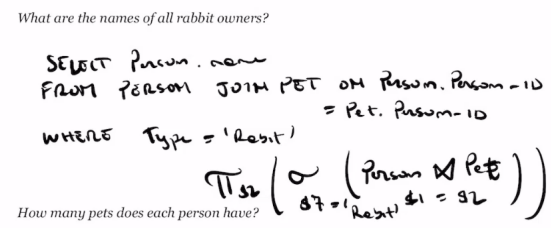


- what pets does Bob have ?

```
SELECT  Pet-id
FROM    Pet
JOIN    Person
  ON    Pet.person_id = Person.person-id
WHERE   name = 'Bob'
```

$\Pi_{\$1}\left(\sigma_{\$5='Bob'}\left(Pet \bowtie_{\$2=\$1} Person\right)\right)$

Because I join person to pet, the column order in RA is different from the solution (but it should not be the reason to lose score); and I think the pet.ID can represent the pet as it is the primary key in Pet, so I only select Pet.ID.

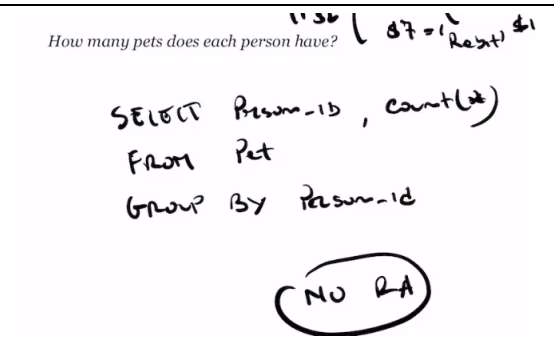


- what are the names of all rabbit owners ?

```
SELECT  name
FROM    Person
JOIN    Pet
  ON    Person.person-id = Pet.person-id
WHERE   type = 'rabbit'
```

$\Pi_{\$2}\left(\sigma_{\$6='rabbit'}\left(Person \bowtie_{\$1=\$2} Pet\right)\right)$

It is the same.



- How many pets does each person have ?

```
SELECT  COUNT(pet-id)
FROM    Pet
JOIN    Person
  ON    Pet.person-id = Person.person-id
GROUP BY Person.person-id
```

$\Pi_{\$1}\left(Pet \bowtie_{\$2=\$1} Person\right)$

You didn't give the solution of RA here. But according to the solution of hw2, my answer should be right.

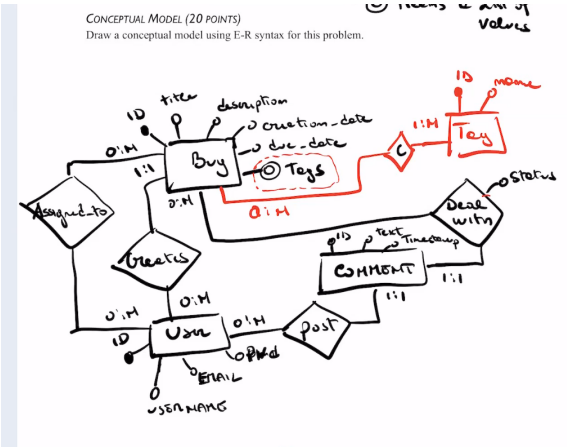
Part A:

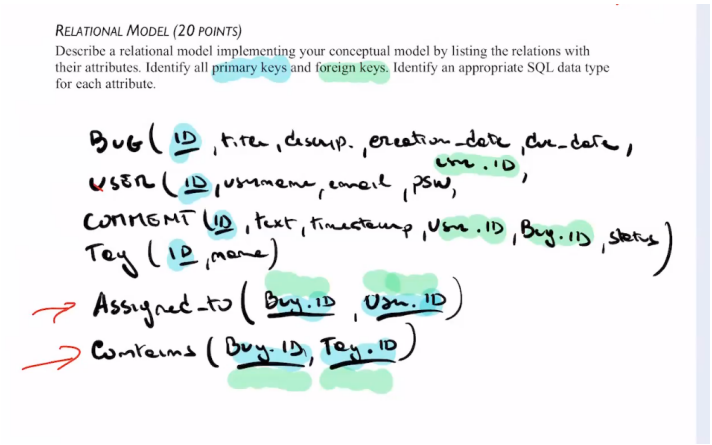
For the relational types, I think 'performed by','performed on', and 'owns' cannot be considered as independent relations. For example, the relation: 'owns', it can be an element in the entity 'bicycle'. We needn't to set the 'owns' as a single relation. So as the 'performed by' and 'performed on'.

Therefore, I think in this question, think the 'performed by','performed on', and 'owns' are relations or don't think they are relations are all right.

Evident:

In the PartB, you only set the Assigned_to(Bug.ID, Usr.ID) and Contains(Bug.ID, Tag.ID) as the relations but didn't consider the 'Post', 'deal with' as relations because they can be the elements in other relations.





Thus, I want to take the 3 points back in Part A and 20 points back in Part C. Totally 23 points need to get back.

Thanks,
TJ Zhang
11/13/2022