Database Management Systems

(COP 5725)

Fall 2021

Instructor: Dr. Markus Schneider

TA: Kyuseo Park

Homework 1

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Pledge (Must be signed according to UF Honor Code)

On my honor, I have neither given nor received unauthorized aid in doing this assignment.

Qinxuan Shi

Signature

For scoring use only:

	Maximum	Received
Exercise 1	60	
Exercise 2	20	
Exercise 3	20	
Total	100	

1 Exercise 1

(1) SQL queries:

```
create TABLE ANIMAL_SHELTER(
  AID VARCHAR(4),
  ANIMAL_TYPE VARCHAR(10),
  INTAKE_YEAR NUMBER(4),
  INTAKE_CONDITION VARCHAR(10) check(
        INTAKE_CONDITION in ('Injured','Normal','Sick')
  ),
  NAME VARCHAR(10),
  FOUND_LOCATION VARCHAR(25),
  WEIGHT_UPON_INTAKE NUMERIC(4,1),
  SEX_UPON_INTAKE VARCHAR(25) check(
        SEX_UPON_INTAKE in (
          'Neutered Male','Intact Male','Spayed Female'
        )
  ),
  primary key (AID)
);
```

Output screen snapshots:

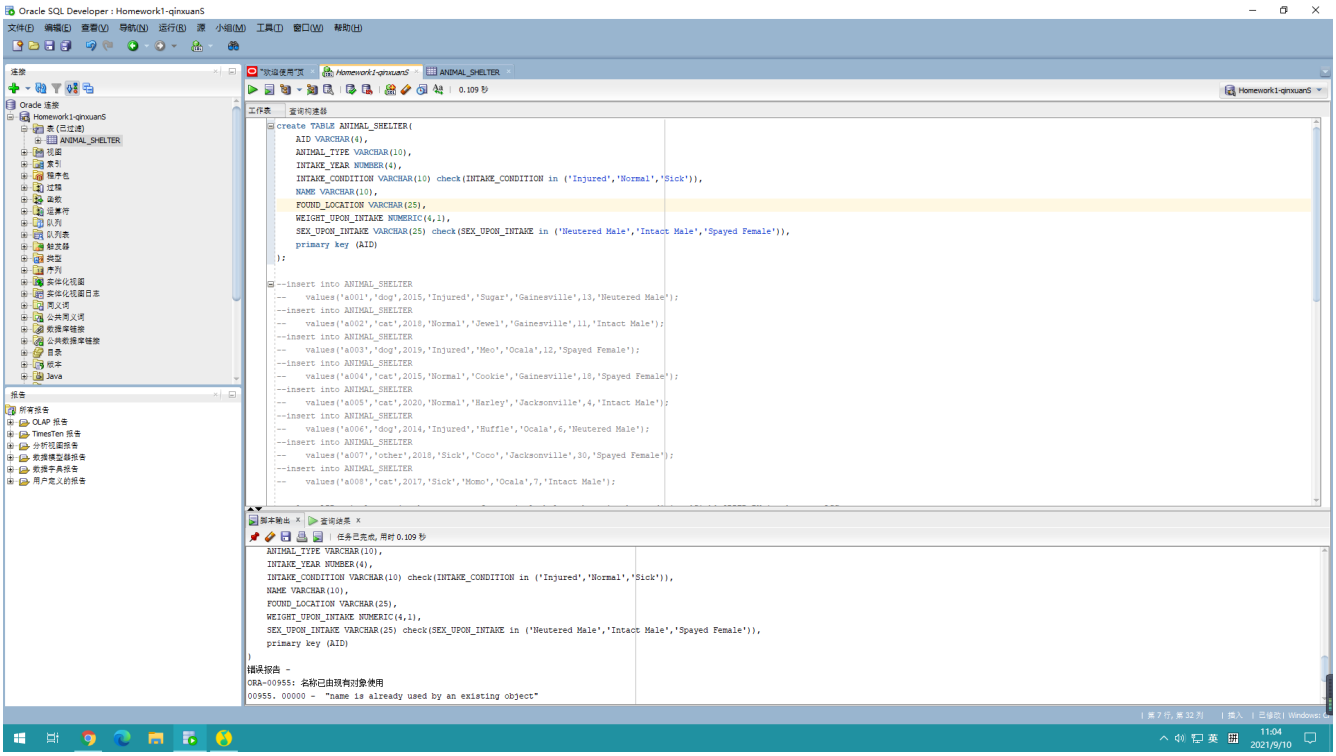


Figure 1: create table

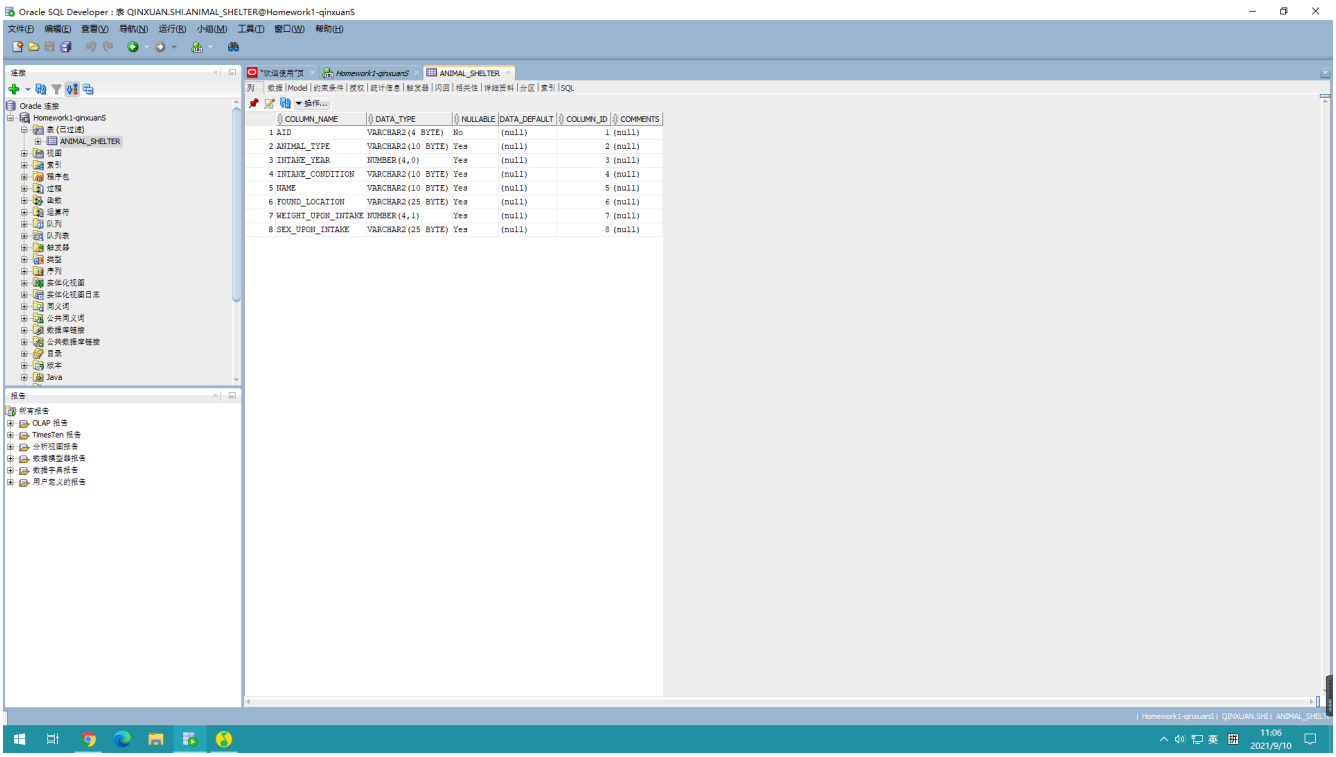


Figure 2: table view

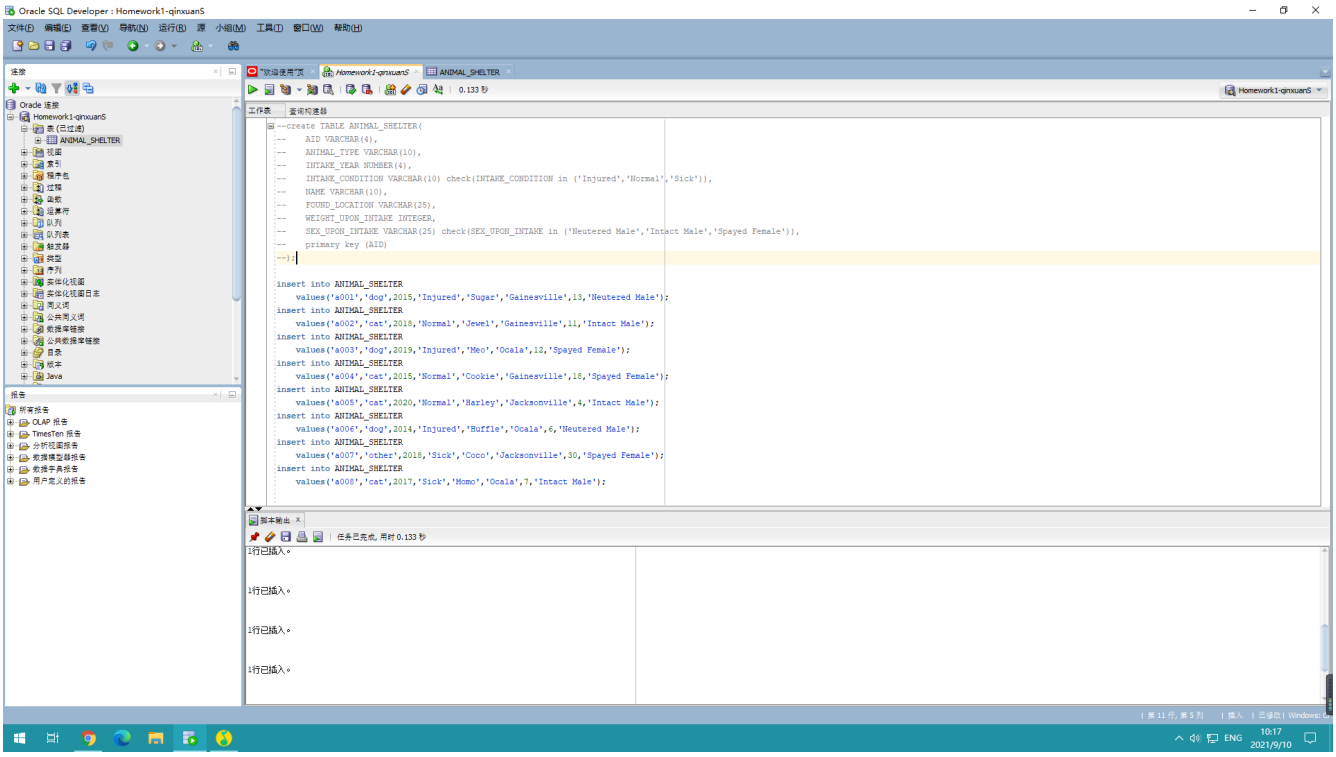
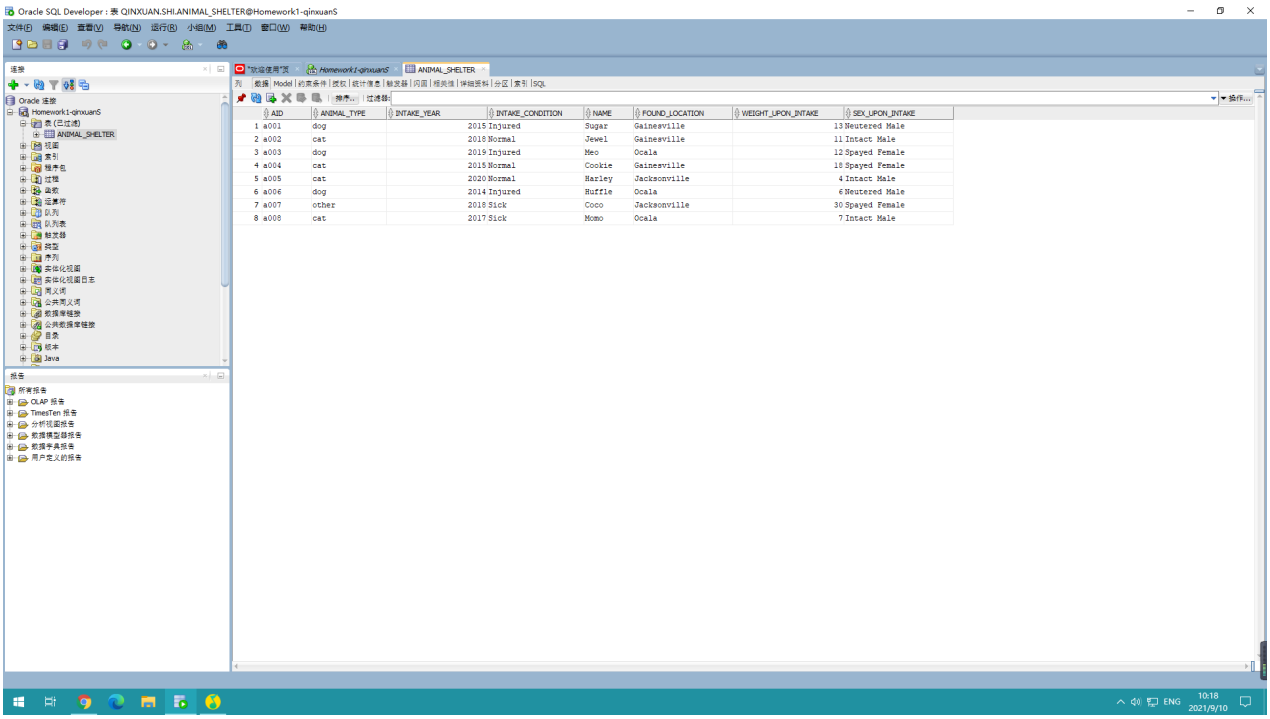


Figure 3: insert data



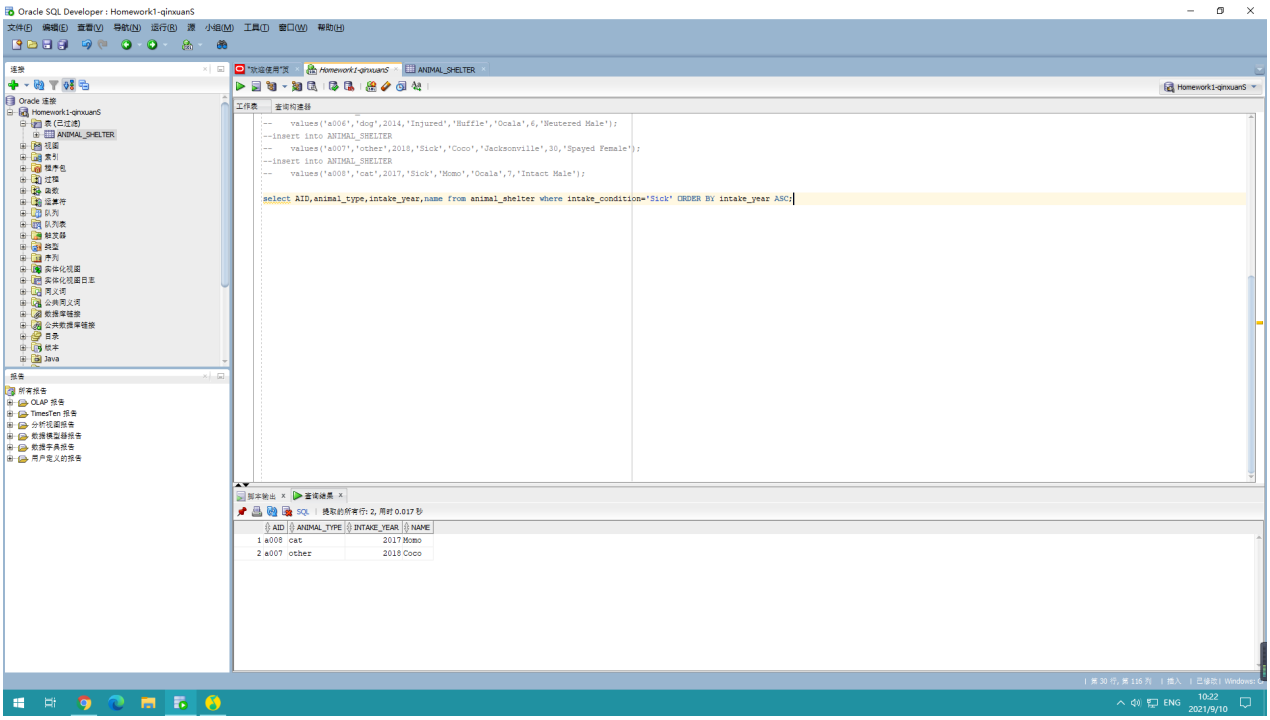
	AID	ANIMAL_TYPE	INTAKE_YEAR	INTAKE_CONDITION	NAME	FOUND_LOCATION	WEIGHT_UPON_INTAKE	SEX_UPON_INTAKE
1	a001	dog	2015	Injured	Sugar	Gainesville	13	Neutered Male
2	a002	cat	2018	Normal	Jewel	Gainesville	11	Intact Male
3	a003	dog	2019	Injured	Meo	Ocala	12	Spayed Female
4	a004	cat	2015	Normal	Cookie	Gainesville	18	Spayed Female
5	a005	cat	2020	Normal	Harley	Jacksonville	4	Intact Male
6	a006	dog	2014	Injured	Huffle	Ocala	6	Neutered Male
7	a007	other	2018	Sick	Coco	Jacksonville	30	Spayed Female
8	a008	cat	2017	Sick	Momo	Ocala	7	Intact Male

Figure 4: data view

(2) SQL queries:

```
select AID, animal_type, intake_year, name from animal_shelter
    where intake_condition='Sick' ORDER BY intake_year ASC;
```

Output screen snapshots:



	AID	ANIMAL_TYPE	INTAKE_YEAR	NAME
1	a008	cat	2017	Momo
2	a007	other	2018	Coco

Figure 5: 1.2

(3) SQL queries:

```
select count(*) from animal_shelter
```

```
where animal_type='dog' and found_location='Ocala' and intake_year>=2015;
```

Output screen snapshots:

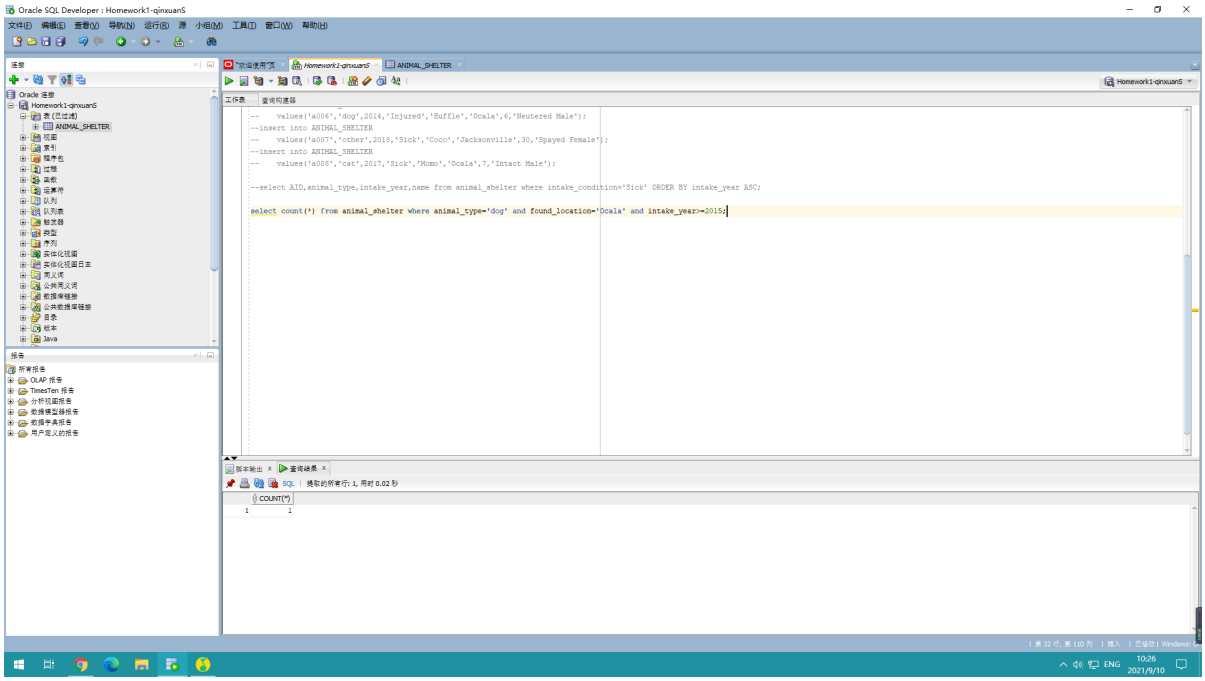


Figure 6: 1.3

(4) SQL queries:

```
select name,animal_type from animal_shelter
  where intake_condition='Injured' and found_location='Gainesville'
  and intake_year>=2014 and intake_year<=2016;
```

Output screen snapshots:

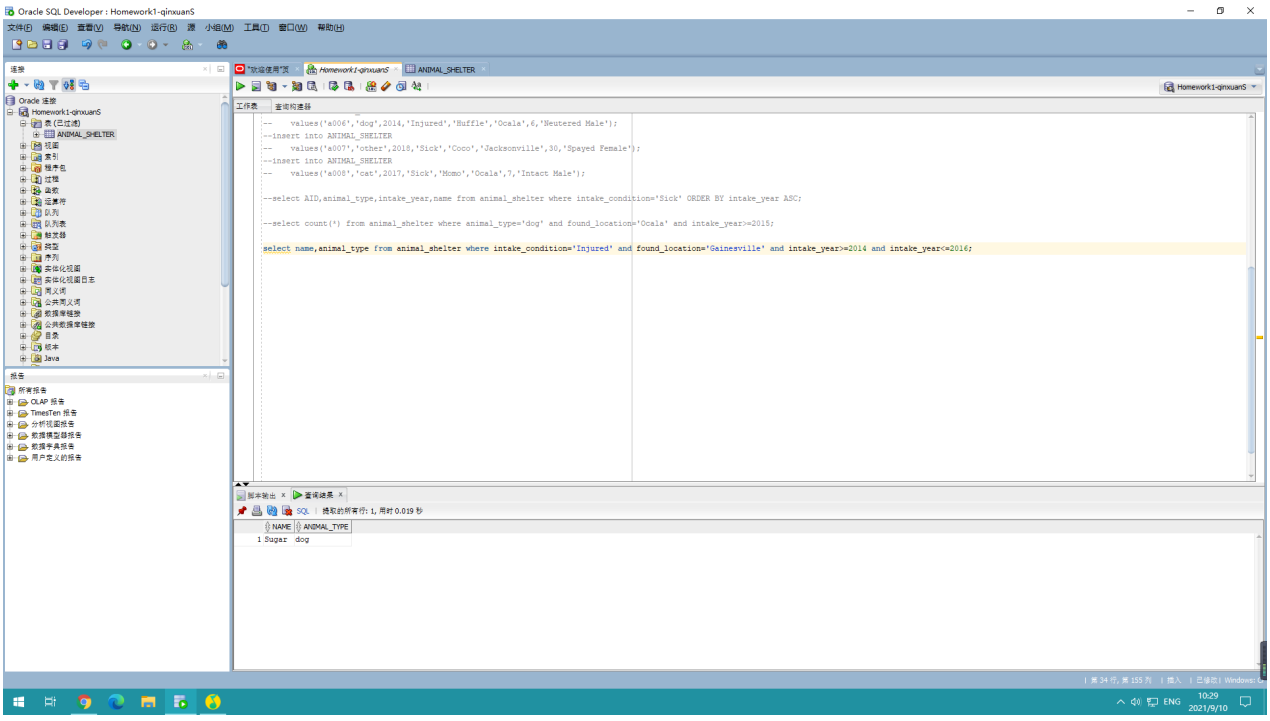


Figure 7: 1.4

(5) SQL queries:

```
select name,animal_type,intake_condition from animal_shelter
  where AID not in (select AID from animal_shelter where intake_condition='Normal')
  and (intake_year=2014 or intake_year=2017) and sex_upon_intake='Intact Male';
```

Output screen snapshots:

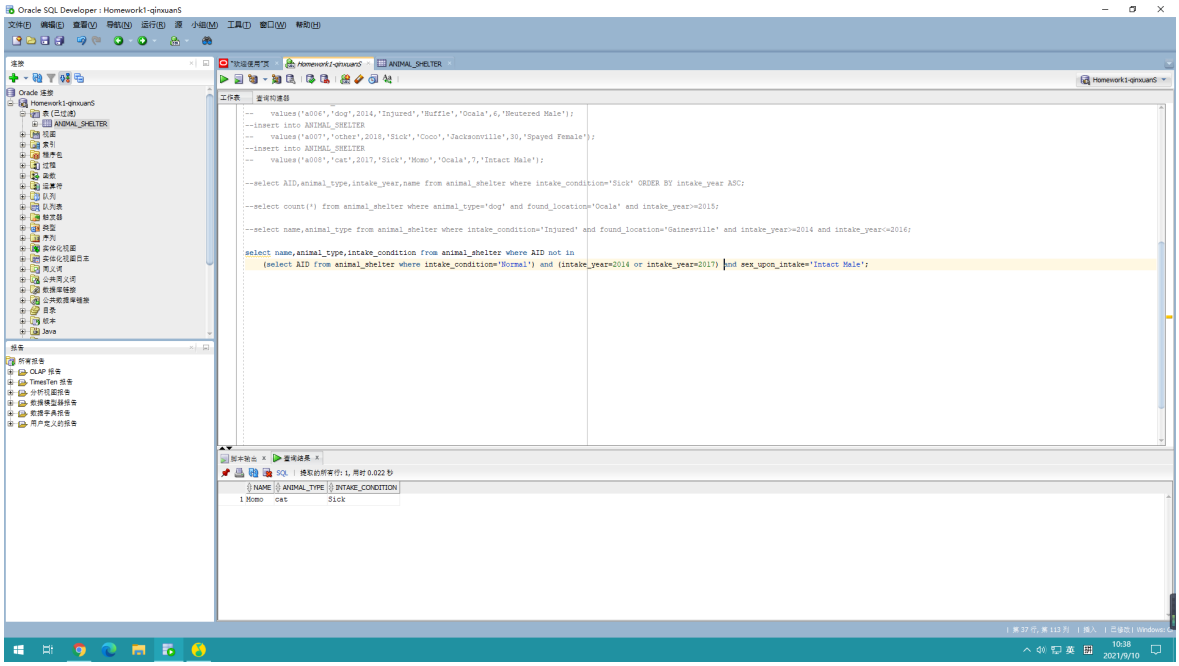


Figure 8: 1.5

(6) SQL queries:

```
select name,animal_type,intake_year from animal_shelter where
(name like '%le%' or name like '%ar%') and (intake_year=2014 or intake_year=2020);
```

Output screen snapshots:

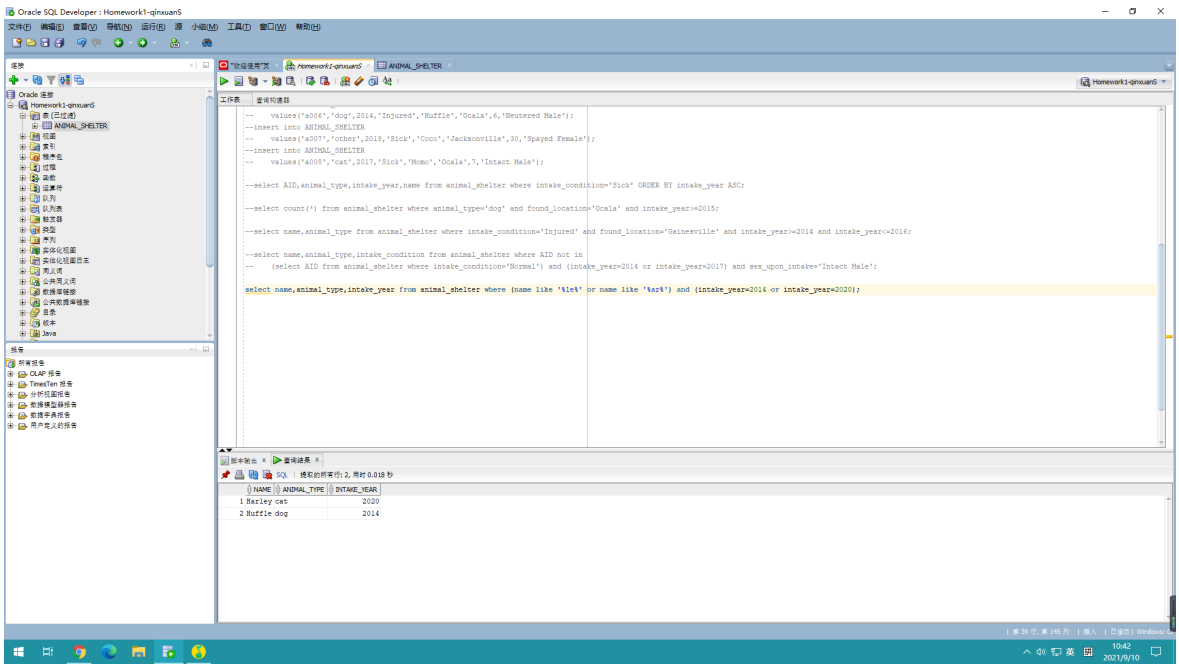


Figure 9: 1.6

(7) SQL queries:

```
select name, animal_type, intake_year, weight_upon_intake
from animal_shelter
ORDER BY animal_type ASC, intake_year DESC, weight_upon_intake DESC;
```

Output screen snapshots:

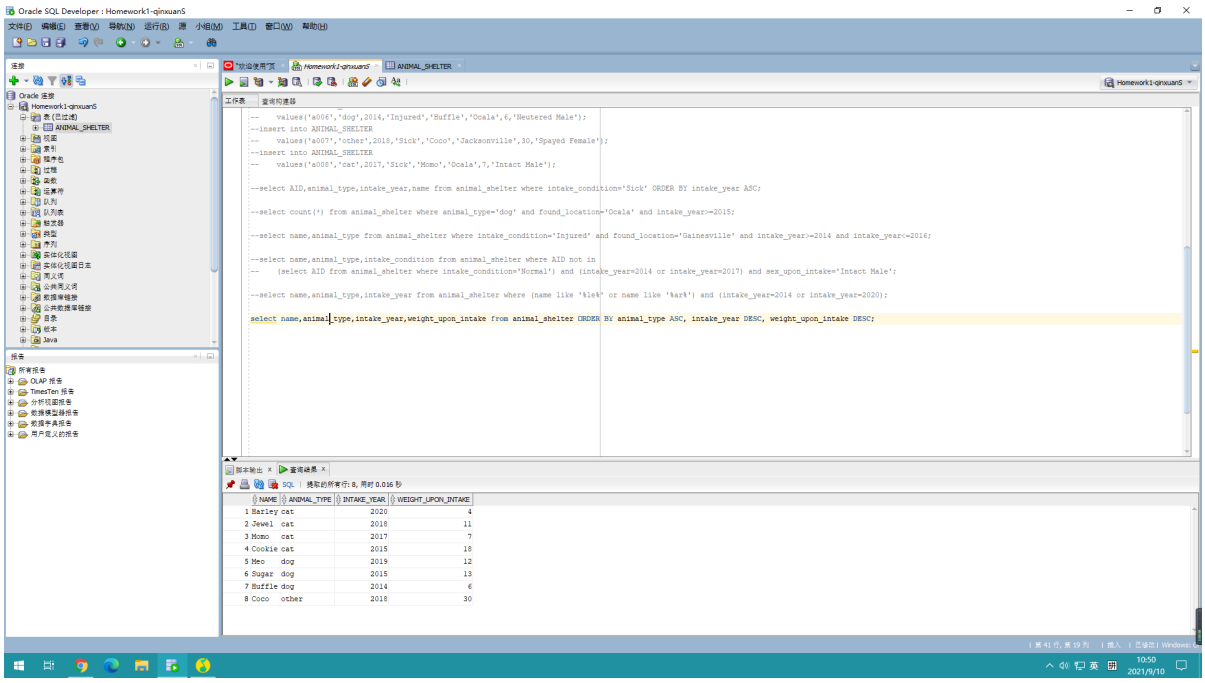


Figure 10: 1.7

(8) SQL queries:

```
select AVG(weight_upon_intake) as Avg_weight from animal_shelter;
```

Output screen snapshots:

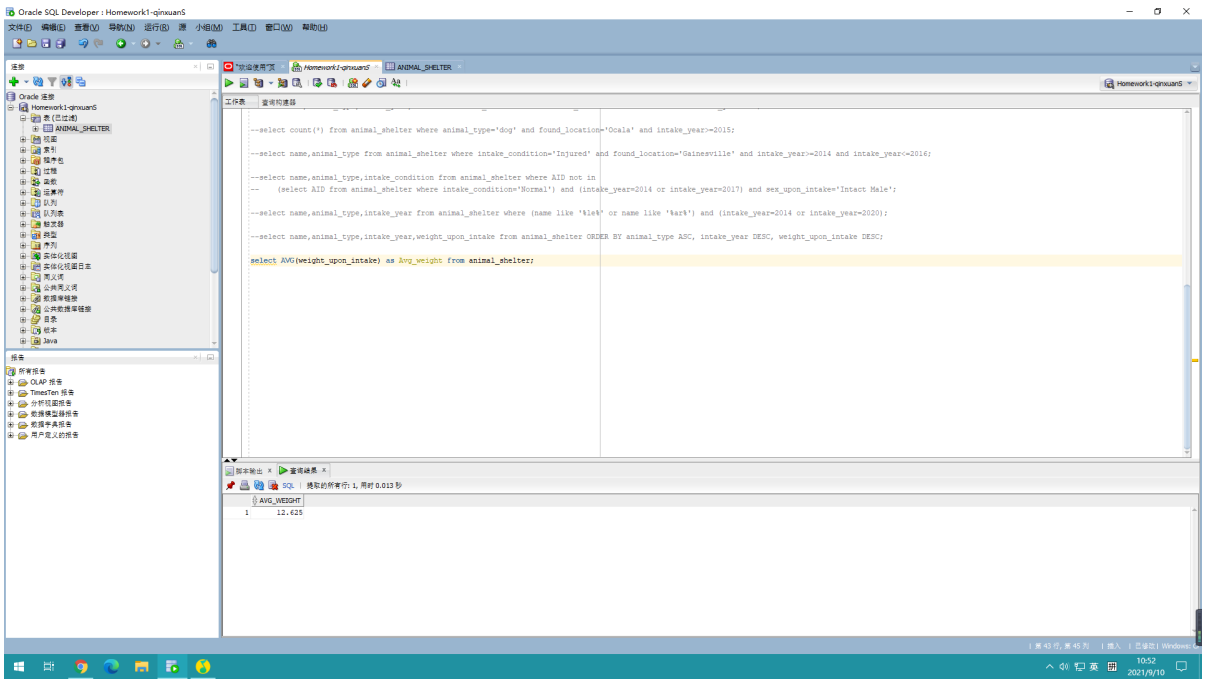


Figure 11: 1.8

(9) SQL queries:

```
UPDATE animal_shelter SET weight_upon_intake=weight_upon_intake*1.2
  where weight_upon_intake>15;
select * from animal_shelter;
```

Output screen snapshots:

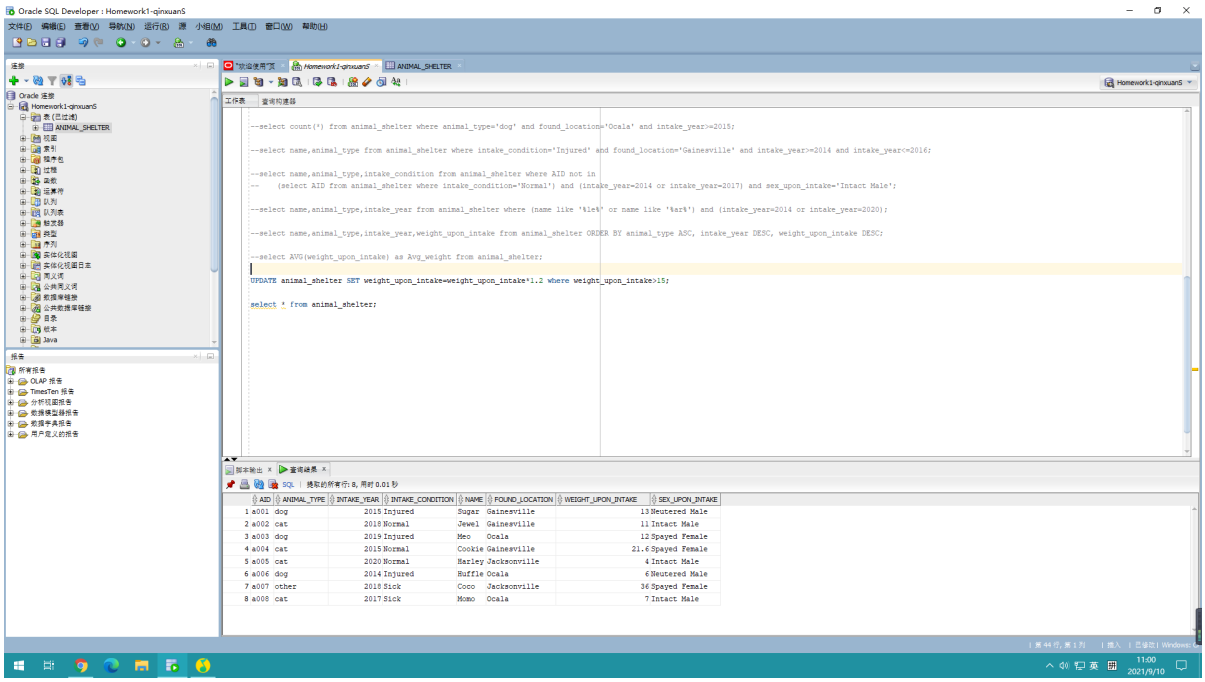


Figure 12: 1.9

2 Exercise 2

Entity-Relationship diagram for department management system.

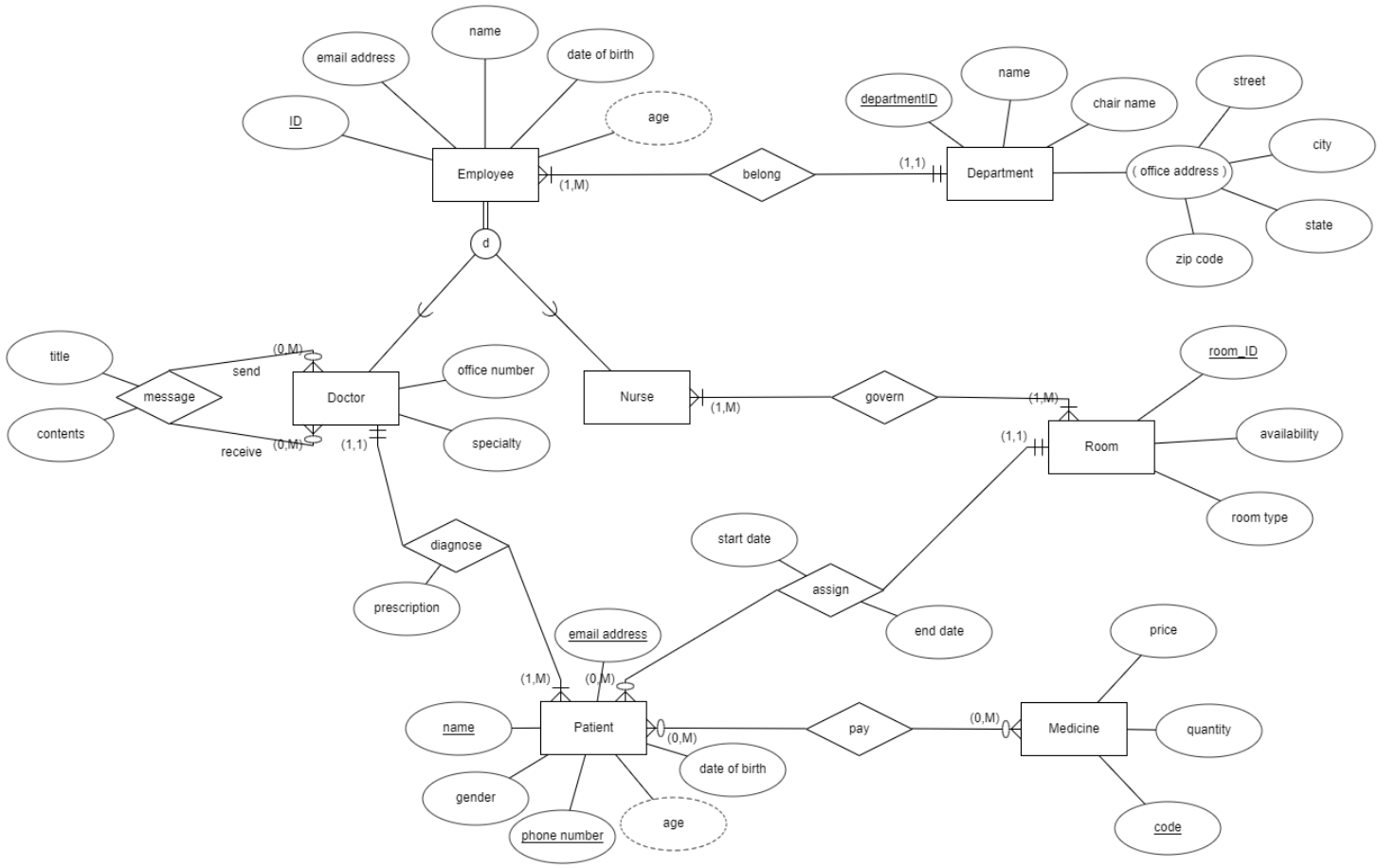


Figure 13: Exercise2

3 Exercise 3

Entity-Relationship diagram for online course management system.

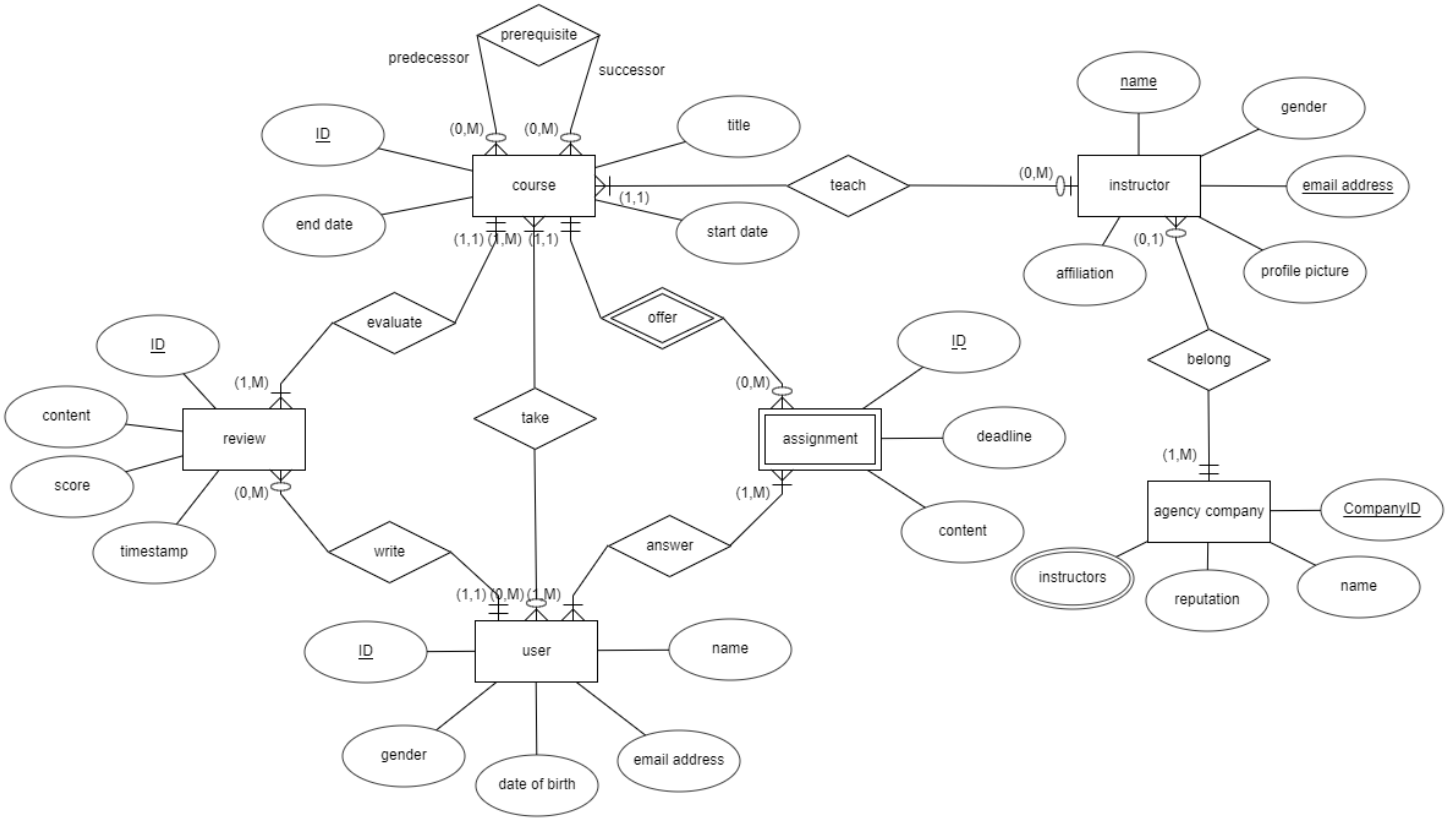


Figure 14: Exercise3