

Database Management Systems

(COP 5725)

Fall 2021

Instructor: Dr. Markus Schneider

TA: Kyuseo Park

Homework 1

Name:	Qinxuan Shi
UFID:	8351-8162
Email Address:	qinxuan.shi@ufl.edu

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:

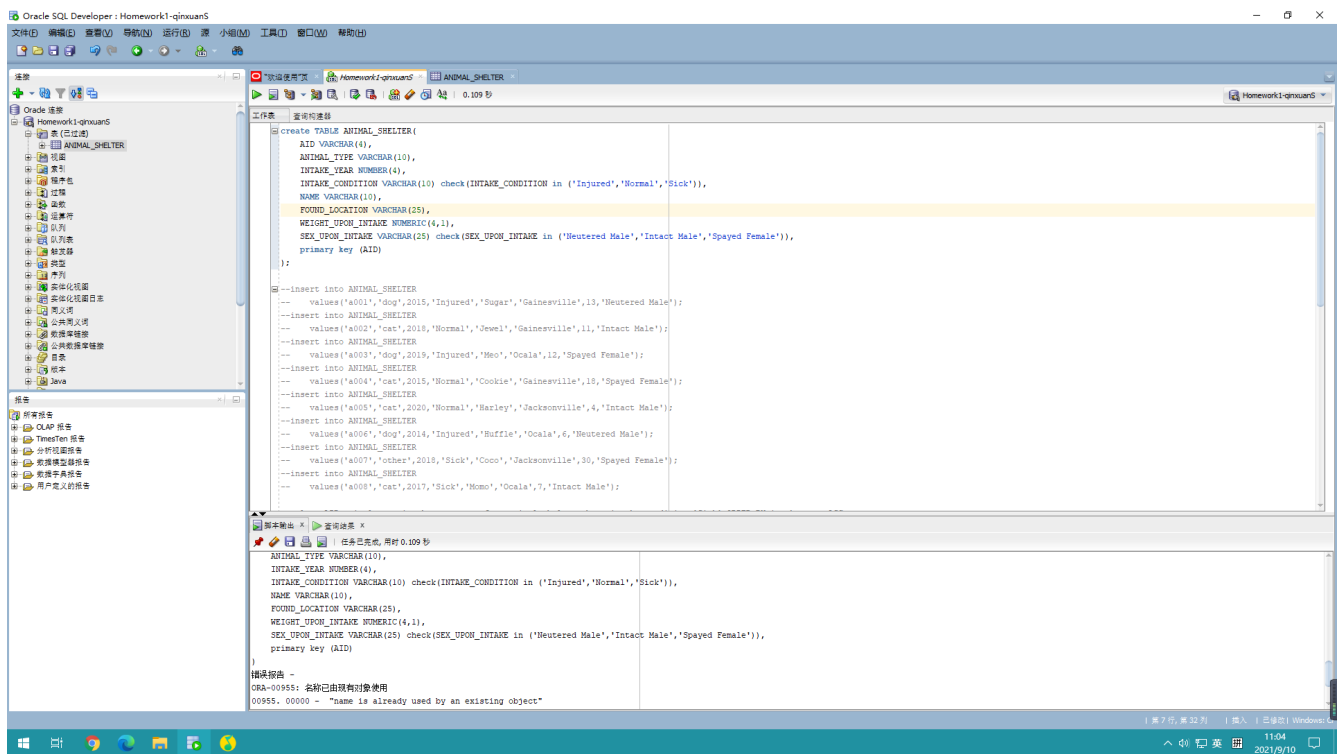
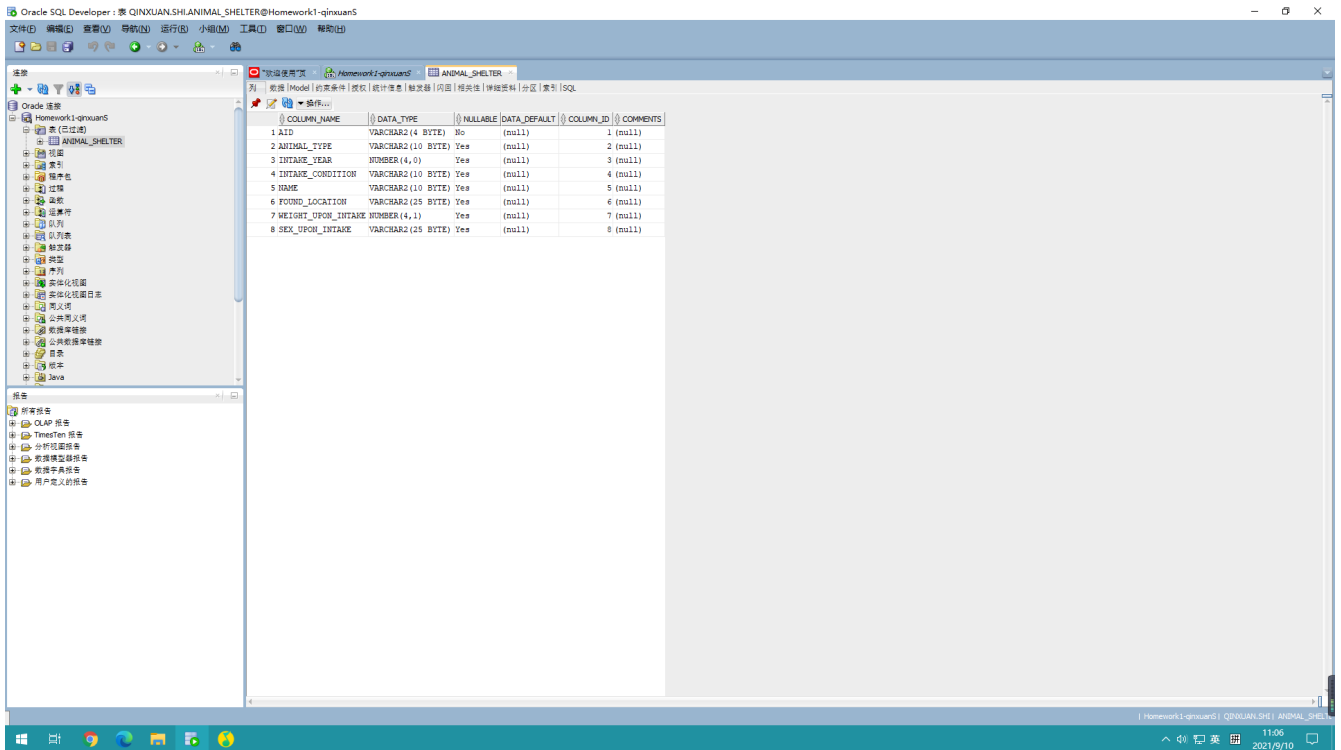
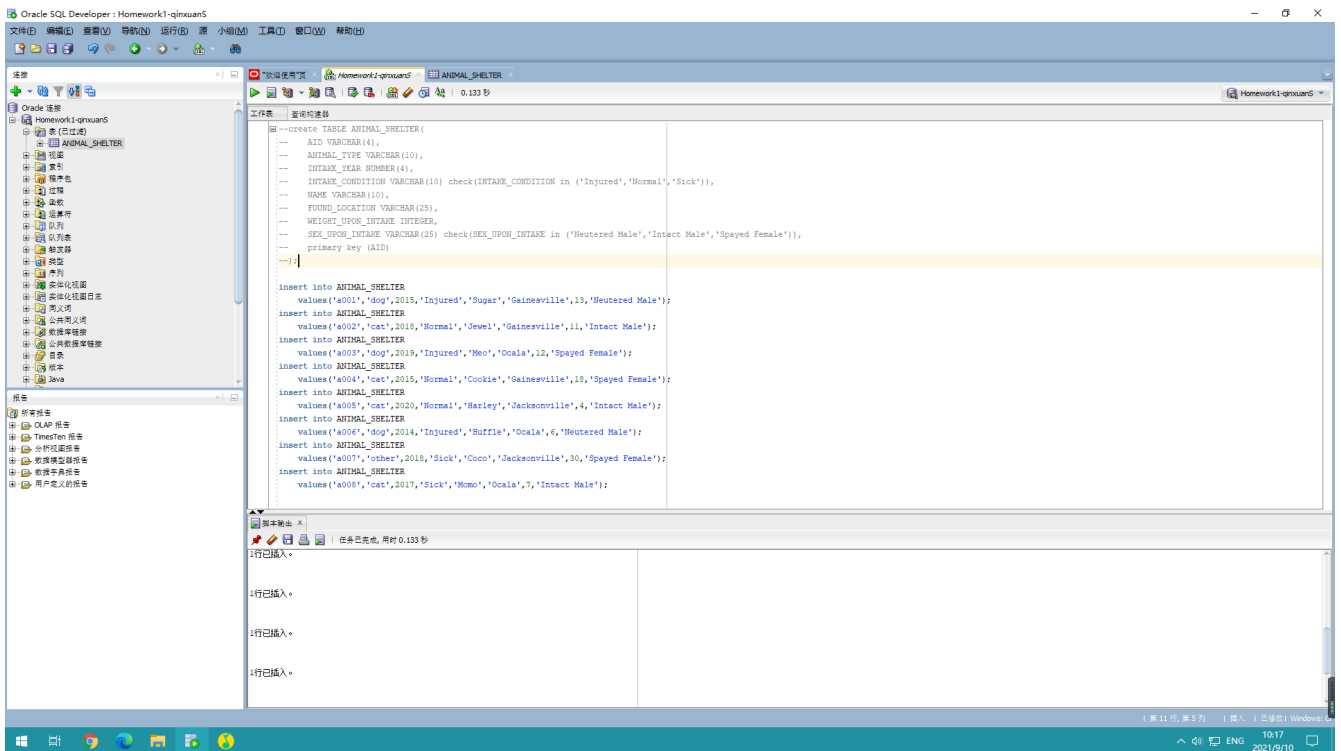


Figure 1: create table



Column Name	Data Type	Nullable	Data Default	Column ID	Comments
1 AID	VARCHAR2(4 BYTE)	No	(null)	1	(null)
2 ANIMAL_TYPE	VARCHAR2(10 BYTE)	Yes	(null)	2	(null)
3 INTAKE_YEAR	NUMBER(4,0)	Yes	(null)	3	(null)
4 INTAKE_CONDITION	VARCHAR2(10 BYTE)	Yes	(null)	4	(null)
5 NAME	VARCHAR2(10 BYTE)	Yes	(null)	5	(null)
6 FOUND_LOCATION	VARCHAR2(25 BYTE)	Yes	(null)	6	(null)
7 WEIGHT_UPON_INTAKE	NUMBER(4,1)	Yes	(null)	7	(null)
8 SEX_UPON_INTAKE	VARCHAR2(25 BYTE)	Yes	(null)	8	(null)

Figure 2: table view



```

--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 INTEGER,
-- SEX_UPON_INTAKE VARCHAR(25) check(SEX_UPON_INTAKE in ('Neutered Male','Intact Male','Spayed Female')),
-- primary key (AID)
--);

insert into ANIMAL_SHELTER
values('a001','dog',2015,'Injured','Sugar','Gainesville',13,'Neutered Male');
insert into ANIMAL_SHELTER
values('a002','cat',2019,'Normal','Jewel','Gainesville',11,'Intact Male');
insert into ANIMAL_SHELTER
values('a003','dog',2019,'Injured','Meo','Ocala',12,'Spayed Female');
insert into ANIMAL_SHELTER
values('a004','cat',2015,'Normal','Cookie','Gainesville',18,'Spayed Female');
insert into ANIMAL_SHELTER
values('a005','cat',2020,'Normal','Harley','Jacksonville',4,'Intact Male');
insert into ANIMAL_SHELTER
values('a006','dog',2014,'Injured','Buffle','Ocala',6,'Neutered Male');
insert into ANIMAL_SHELTER
values('a007','other',2018,'Sick','Coco','Jacksonville',30,'Spayed Female');
insert into ANIMAL_SHELTER
values('a008','cat',2017,'Sick','Momo','Ocala',7,'Intact Male');

```

1行已插入。

1行已插入。

1行已插入。

1行已插入。

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	2016	Normal	Jewel	Gainesville		11 Intact Male
3 a003	dog	2019	Injured	Neo	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	Huffie	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:

```
-- values('a006','dog',2014,'Injured','Huffie','Ocala',6,'Neutered Male');
--insert into ANIMAL_SHELTER
-- values('a007','other',2018,'Sick','Coco','Jacksonville',30,'Spayed Female');
--insert into ANIMAL_SHELTER
-- values('a008','cat',2017,'Sick','Momo','Ocala',7,'Intact Male');

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

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:

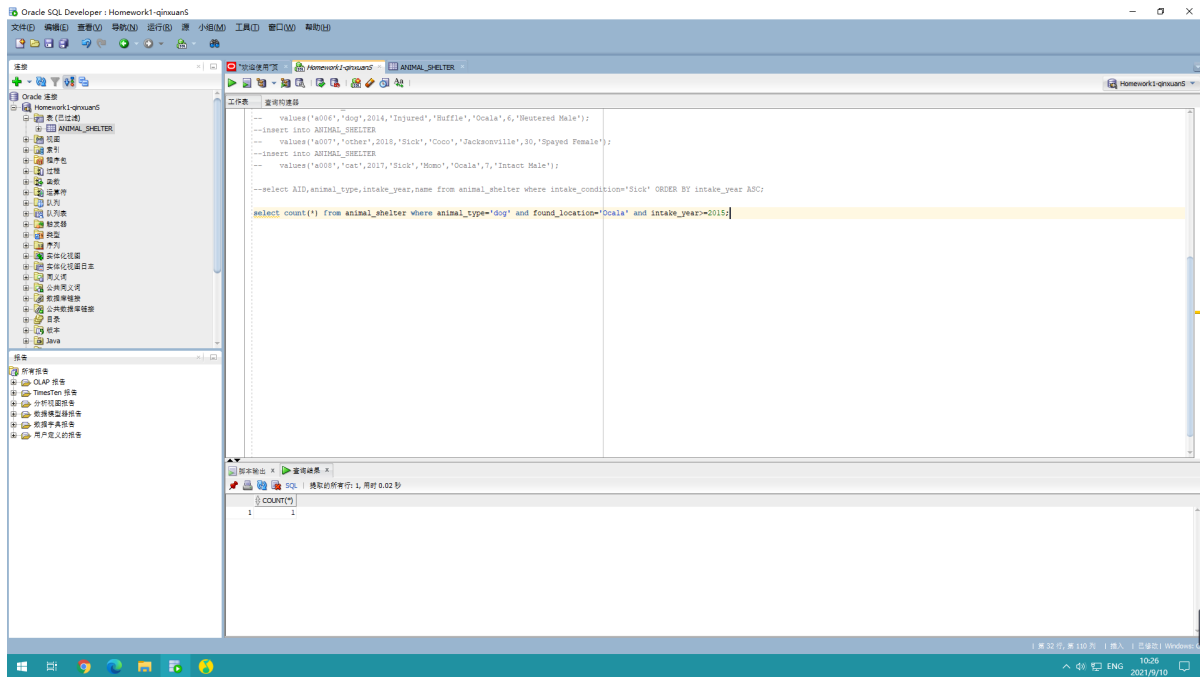


Figure 6: 1.3

(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:

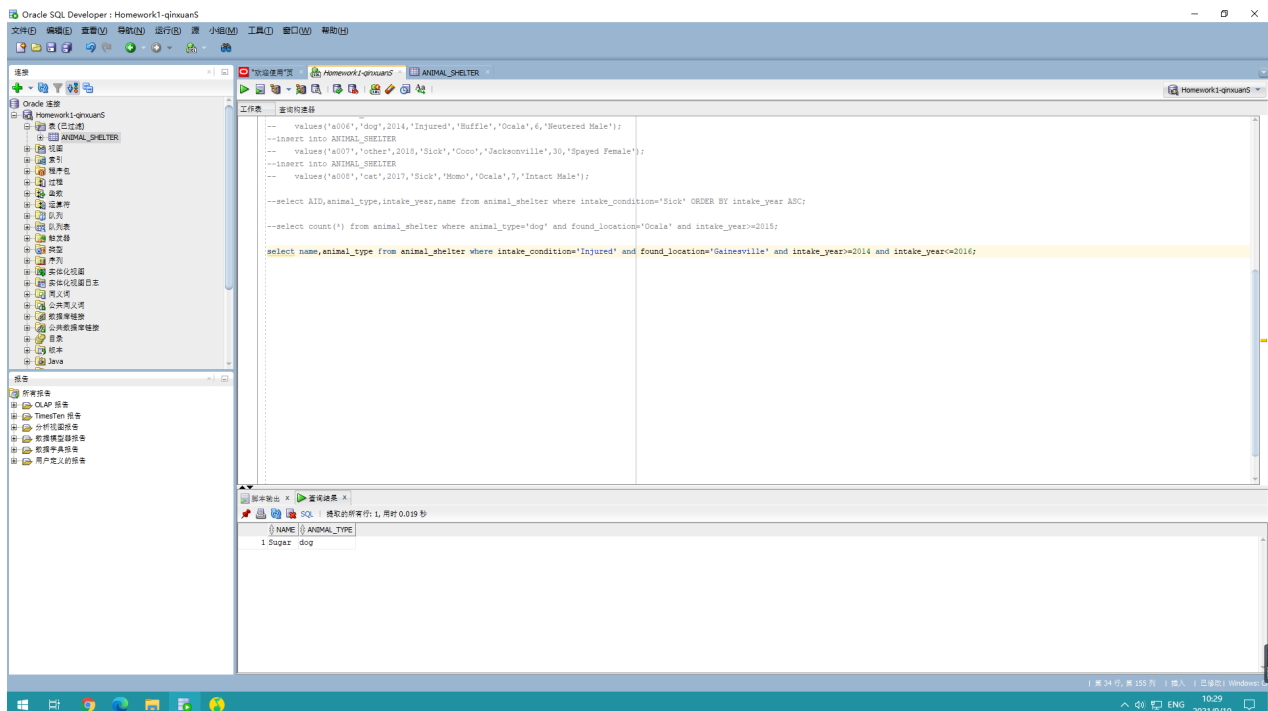


Figure 7: 1.4

(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:

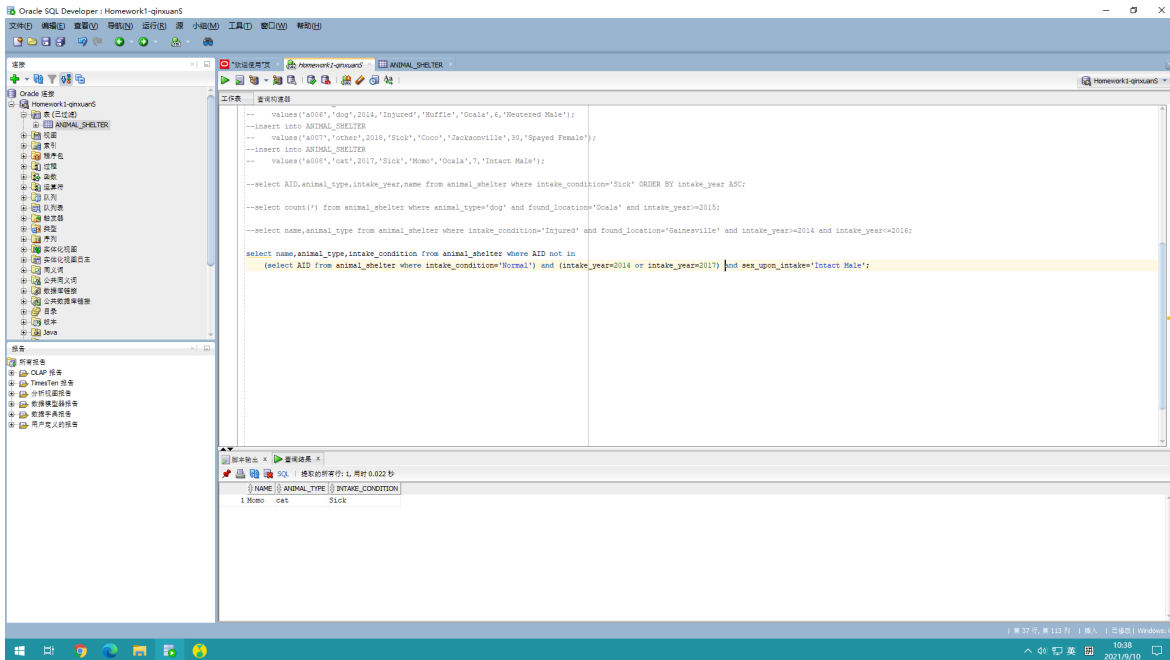


Figure 8: 1.5

(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:

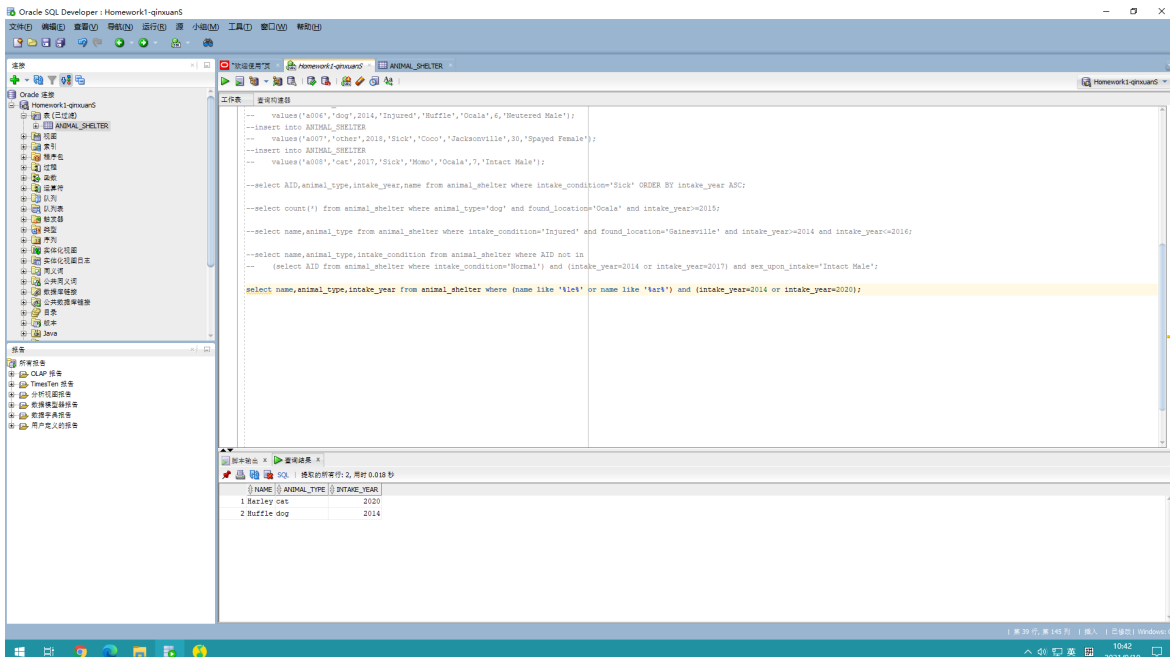


Figure 9: 1.6

(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:

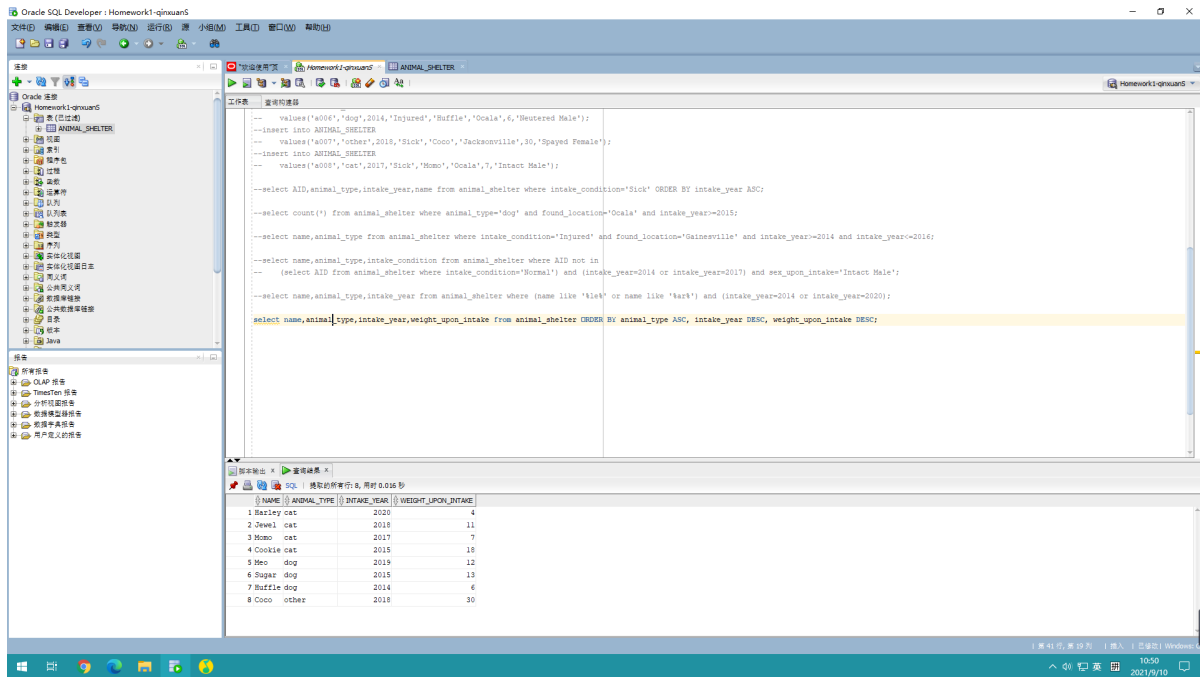


Figure 10: 1.7

(8) SQL queries:

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

Output screen snapshots:

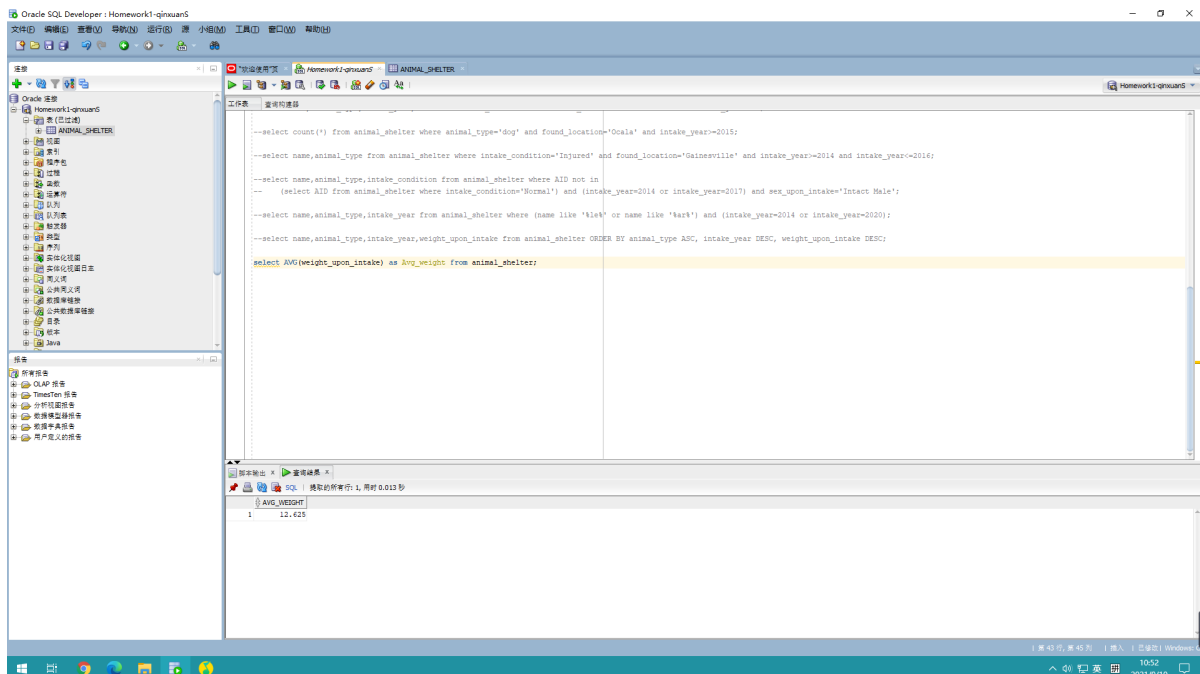


Figure 11: 1.8

(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:

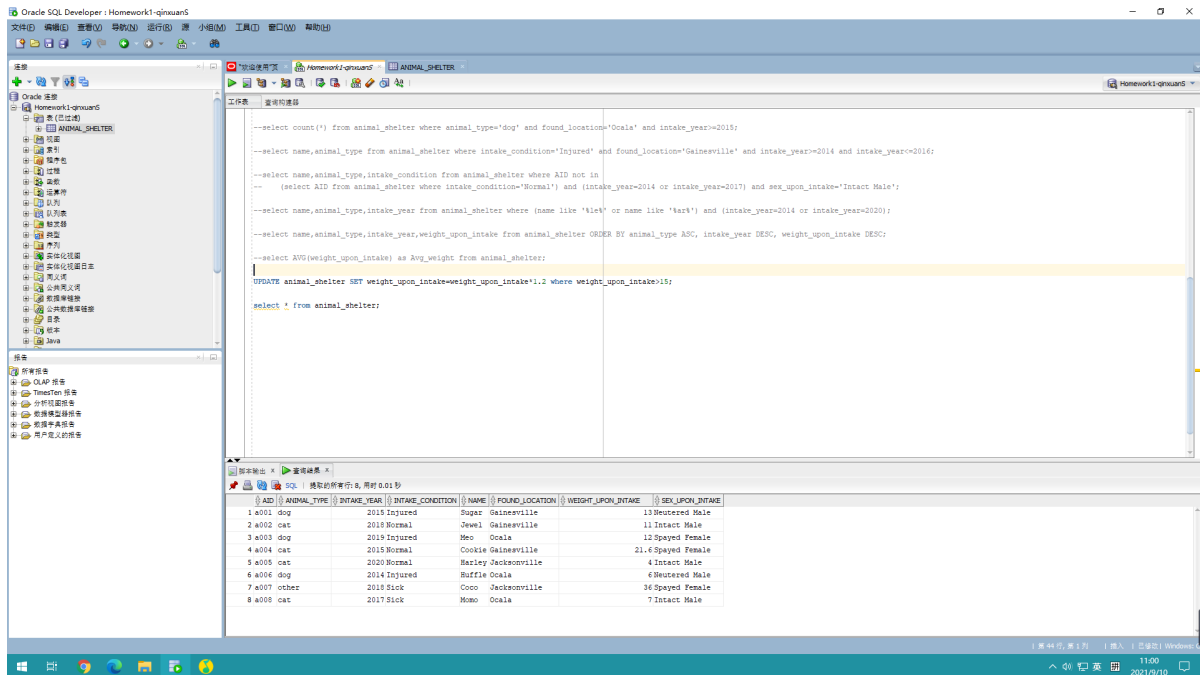


Figure 12: 1.9

2 Exercise 2

Entity-Relationship diagram for department management system.

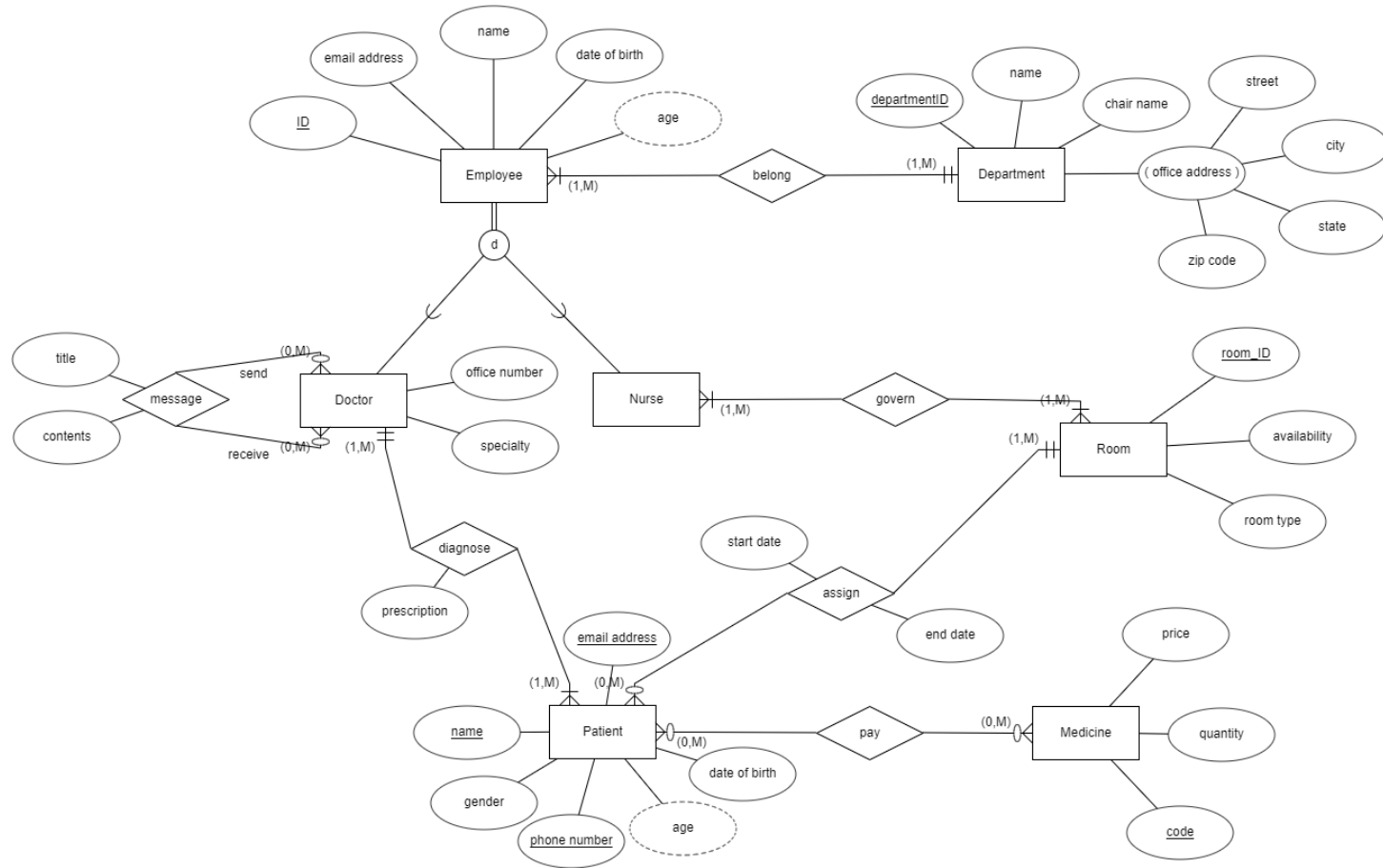


Figure 13: Exercise2

3 Exercise 3

Entity-Relationship diagram for online course management system.

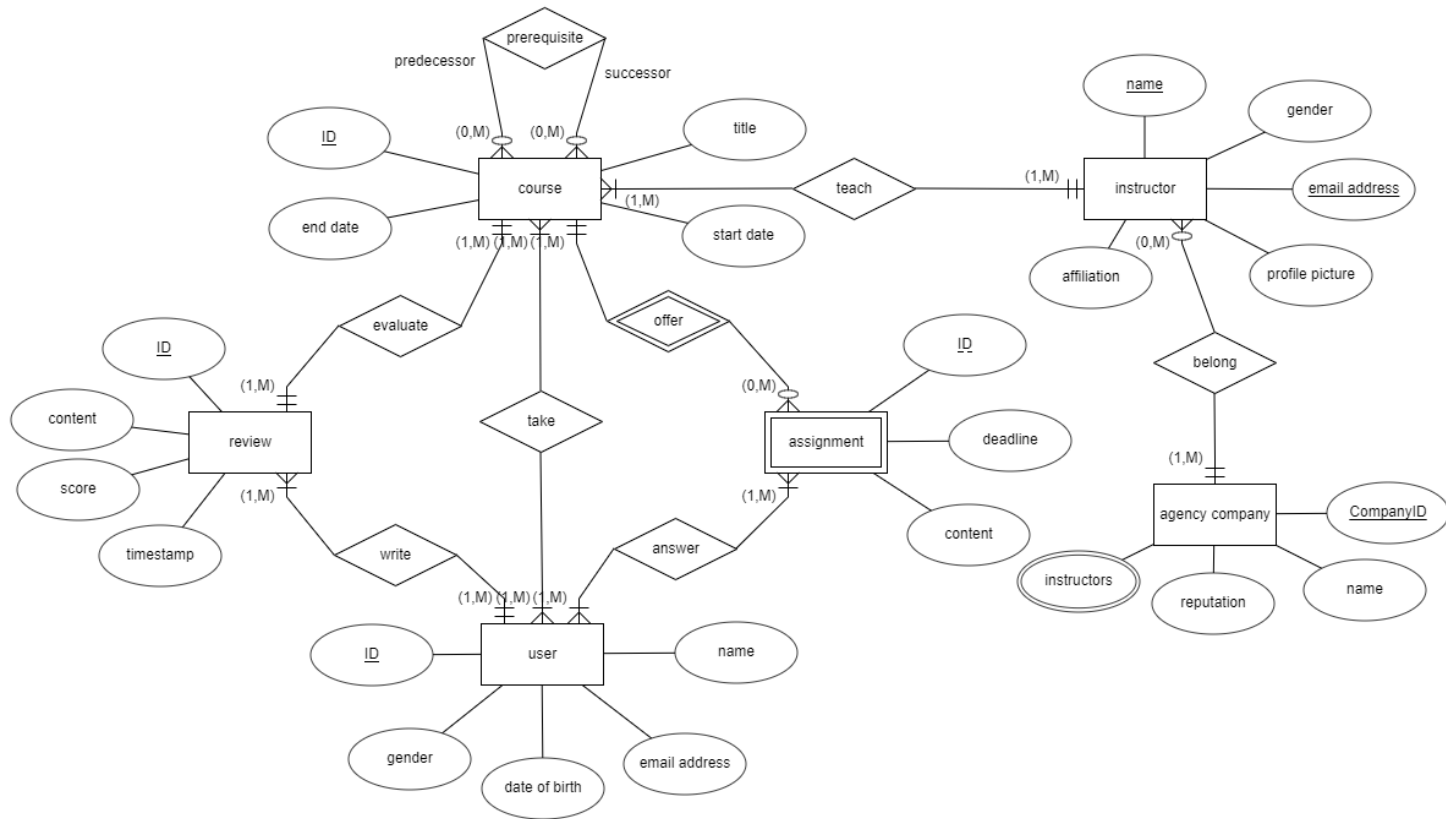


Figure 14: Exercise3