

Homework 1

1)a)

```
mysql> SELECT * FROM A;
```

i	j	val
0	0	1
0	1	0
1	0	0
1	1	1

```
mysql> SELECT * FROM B;
```

i	j	val
0	0	2
0	1	0
1	0	0
1	1	2

```
mysql> SELECT A.i,A.j, (A.val + B.val) AS new_val FROM A,B WHERE A.i = B.i AND A.j = B.j;
```

i	j	new_val
0	0	3
0	1	0
1	0	0
1	1	3

b)

```
mysql> SELECT A.i,A.j, (A.val * 27) AS new_val FROM A;
```

i	j	new_val
0	0	27
0	1	0
1	0	0
1	1	27

c)

```
mysql> SELECT A.i,B.j, sum(A.val * B.val) AS new_val FROM A,B WHERE A.j = B.i GROUP BY A.i,B.j;
```

i	j	new_val
0	0	2
0	1	0
1	0	0
1	1	2

2) a)

```
mysql> DESC Pet;
```

Field	Type	Null	Key	Default	Extra
name	varchar(20)	YES		NULL	
owner	varchar(20)	YES		NULL	
species	varchar(20)	YES		NULL	
sex	char(1)	YES		NULL	
birth	date	YES		NULL	
death	date	YES		NULL	

```
mysql> DESC Event;
```

Field	Type	Null	Key	Default	Extra
name	varchar(20)	YES		NULL	
date	date	YES		NULL	
type	varchar(15)	YES		NULL	
remark	varchar(255)	YES		NULL	

b)

```
mysql> SELECT * FROM Pet;
```

name	owner	species	sex	birth	death
Fluffy	Harold	cat	f	1993-02-04	NULL
Claws	Gwen	cat	m	1994-03-17	NULL
Buffy	Harold	dog	f	1989-05-13	NULL
Fang	Benny	dog	m	1990-08-27	NULL
Bowser	Diane	dog	m	1979-08-31	1995-07-29
Chirpy	Gwen	bird	f	1998-09-11	NULL
Whistler	Gwen	bird	NULL	1997-12-09	NULL
Slim	Benny	snake	m	1996-04-29	NULL

```
mysql> SELECT * FROM Event;
```

name	date	type	remark
Fluffy	1995-05-15	litter	4 kittens 3 female 1 male
Buffy	1993-06-23	litter	5 puppies 2 female 3 male
Buffy	1994-06-19	litter	3 puppies 3 female
Chirpy	1999-03-21	vet	needed beak straightened
Slim	1997-08-03	vet	broken rib
Bowser	1991-10-12	kennel	
Fang	1991-10-12	kennel	
Fang	1998-08-28	birthday	Gave him a new chew toy
Claws	1998-03-17	birthday	Gave him a new flea collar
Whistler	1998-12-09	birthday	First birthday

c)

```
mysql> SELECT name, sex, species FROM Pet WHERE species = 'cat' AND sex = 'm' UNION  
SELECT name, sex, species FROM Pet WHERE species = 'dog' AND sex = 'f';
```

name	sex	species
Claws	m	cat
Buffy	f	dog

d)

```
mysql> SELECT DISTINCT Pet.name, Event.type, (YEAR(CURDATE()) - YEAR(birth)) As Age FROM  
Pet JOIN Event WHERE Event.type='litter' AND Pet.name=Event.name;
```

name	type	Age
Fluffy	litter	24
Buffy	litter	28