

CO226 – Database Systems

Lab 05 – Answers

Task 1:

```
mysql> create database EXXXXXMovieRatingLab01;  
Query OK, 1 row affected (0.34 sec)
```

```
mysql> use EXXXXXMovieRatingLab01;  
Database changed  
mysql> show databases;
```

```
+-----+  
| Database          |  
+-----+  
| information_schema |  
| eXXXXXmovieratinglab01 |  
+-----+  
9 rows in set (0.00 sec)
```

```
mysql> create table Movie(  
    MId int(3) AUTO_INCREMENT,  
    MTitle varchar(25),  
    YearOfRelease int(4),  
    MDirector varchar(25),  
    PRIMARY KEY (MId)  
);  
Query OK, 0 rows affected (0.15 sec)
```

```
mysql> alter table Movie AUTO_INCREMENT=101;  
Query OK, 0 rows affected (0.28 sec)  
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> show tables;  
+-----+  
| Tables_in_eXXXXXmovieratinglab01 |  
+-----+  
| movie                             |  
+-----+  
1 row in set (0.00 sec)
```

```
mysql> describe Movie;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra      |  
+-----+-----+-----+-----+-----+-----+  
| MId        | int(3)    | NO   | PRI | NULL    | auto_increment |  
| MTitle     | varchar(25) | YES  |     | NULL    |              |  
| YearOfRelease | int(4)    | YES  |     | NULL    |              |  
| MDirector  | varchar(25) | YES  |     | NULL    |              |  
+-----+-----+-----+-----+-----+-----+
```

4 rows in set (0.31 sec)

```
mysql> insert into Movie(MTitle,YearOfRelease,MDirector)
values
('Gone with the Wind',1939,'Victor Fleming'),
('Star Wars',1977,'George Lucas'),
('The Sound of Music',1965,'Robert Wise'),
('E.T.',1982,'Steven Spieibrg'),
('Titanic',1997,'James Cameron'),
('Snow White',1937,NULL),
('Avatar',2009,'James Cameron'),
('Raiders of the Lost Ark',1981,'Steven Spielberg');
```

Query OK, 8 rows affected (0.37 sec)

Records: 8 Duplicates: 0 Warnings: 0

```
mysql> select * from Movie;
```

MId	MTitle	YearOfRelease	MDirector
101	Gone with the Wind	1939	Victor Fleming
102	Star Wars	1977	George Lucas
103	The Sound of Music	1965	Robert Wise
104	E.T.	1982	Steven Spieibrg
105	Titanic	1997	James Cameron
106	Snow White	1937	NULL
107	Avatar	2009	James Cameron
108	Raiders of the Lost Ark	1981	Steven Spielberg

8 rows in set (0.00 sec)

```
mysql> create table Reviewer(
  RId int(3) AUTO_INCREMENT PRIMARY KEY,
  RName varchar(25));
```

Query OK, 0 rows affected (0.08 sec)

```
mysql> show tables;
```

Tables_in_eXXXXXmovieratinglab01
movie
reviewer

2 rows in set (0.00 sec)

```
mysql> describe Reviewer;
```

```
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+
| RId   | int(3)    | NO   | PRI | NULL    | auto_increment |
| RName | varchar(25) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> alter table Reviewer AUTO_INCREMENT=201;
```

```
Query OK, 0 rows affected (0.22 sec)
```

```
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> insert into Reviewer(RName)
```

```
value
```

```
('Sarah Martinez'),
('Daniel Lewis'),
('Brittany Harris'),
('Mike Anderson'),
('Chris Jackson'),
('Elizabeth Thomas'),
('James Cameron'),
('Ashley White');
```

```
Query OK, 8 rows affected (0.15 sec)
```

```
Records: 8 Duplicates: 0 Warnings: 0
```

```
mysql> select * from Reviewer;
```

```
+-----+-----+
| RId | RName          |
+-----+-----+
| 201 | Sarah Martinez |
| 202 | Daniel Lewis   |
| 203 | Brittany Harris |
| 204 | Mike Anderson  |
| 205 | Chris Jackson  |
| 206 | Elizabeth Thomas |
| 207 | James Cameron  |
| 208 | Ashley White   |
+-----+-----+
8 rows in set (0.00 sec)
```

```
mysql> create table Rating(
```

```
  RvwId int(3),
```

```
  MvId int(3),
```

```
  RatingStars int(1),
```

```
  RatingDate date,
```

```
  foreign key(RvwId) references Reviewer(RId) on delete cascade on update cascade,
```

```
  foreign key(MvId) references Movie(MId) on delete cascade on update cascade);
```

```
Query OK, 0 rows affected (0.44 sec)
```

```
mysql> show tables;
```

```
+-----+
| Tables_in_eXXXXXmovieratinglab01 |
+-----+
| movie          |
| rating         |
| reviewer       |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> describe Rating;
```

```
+-----+-----+-----+-----+-----+-----+
| Field    | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| RvwId    | int(3) | YES  | MUL | NULL    |       |
| MvId     | int(3) | YES  | MUL | NULL    |       |
| RatingStars | int(1) | YES  |     | NULL    |       |
| RatingDate | date  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> insert into Rating(RvwId,MvId,RatingStars,RatingDate)
```

```
values
```

```
(201,101,2,'2011-01-22'),
(201,101,4,'2011-01-27'),
(202,106,4,NULL),
(203,103,2,'2011-01-20'),
(203,108,4,'2011-01-12'),
(203,108,2,'2011-01-30'),
(204,101,3,'2011-01-09'),
(205,103,3,'2011-01-27'),
(205,104,2,'2011-01-22'),
(205,108,4,NULL),
(206,107,3,'2011-01-15'),
(206,106,5,'2011-01-19'),
(207,107,5,'2011-01-20'),
(208,104,3,'2011-01-02');
```

```
Query OK, 14 rows affected (0.11 sec)
```

```
Records: 14  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Rating;
```

```
+-----+-----+-----+-----+
| RvwId | MvId | RatingStars | RatingDate |
+-----+-----+-----+-----+
| 201   | 101   | 2           | 2011-01-22 |
| 201   | 101   | 4           | 2011-01-27 |
| 202   | 106   | 4           | NULL        |
| 203   | 103   | 2           | 2011-01-20 |
| 203   | 108   | 4           | 2011-01-12 |
```

	203		108		2		2011-01-30	
	204		101		3		2011-01-09	
	205		103		3		2011-01-27	
	205		104		2		2011-01-22	
	205		108		4		NULL	
	206		107		3		2011-01-15	
	206		106		5		2011-01-19	
	207		107		5		2011-01-20	
	208		104		3		2011-01-02	

+-----+-----+-----+-----+

14 rows in set (0.00 sec)

Task 2:

1.

mysql> select * from Movie;

+-----+-----+-----+-----+

MId	MTitle		YearOfRelease	MDirector	
101	Gone with the Wind		1939	Victor Fleming	
102	Star Wars		1977	George Lucas	
103	The Sound of Music		1965	Robert Wise	
104	E.T.		1982	Steven Spieibrg	
105	Titanic		1997	James Cameron	
106	Snow White		1937	NULL	
107	Avatar		2009	James Cameron	
108	Raiders of the Lost Ark		1981	Steven Spielberg	

+-----+-----+-----+-----+

8 rows in set (0.00 sec)

2.

mysql> select * from Movie where MDirector='James Cameron';

+-----+-----+-----+-----+

MId	MTitle		YearOfRelease	MDirector	
105	Titanic		1997	James Cameron	
107	Avatar		2009	James Cameron	

+-----+-----+-----+-----+

2 rows in set (0.00 sec)

3.

mysql> select * from Movie where MDirector='James Cameron'
AND YearOfRelease>=2000;

+-----+-----+-----+-----+

MId	MTitle		YearOfRelease	MDirector	
107	Avatar		2009	James Cameron	

+-----+-----+-----+-----+

1 row in set (0.00 sec)

4.

```
mysql> select RatingStars from Rating;
```

RatingStars
2
4
4
2
4
2
3
3
2
4
3
5
5
3

14 rows in set (0.00 sec)

5.

```
mysql> select distinct RatingStars from Rating;
```

RatingStars
2
4
3
5

4 rows in set (0.00 sec)

6.

```
mysql> select MId,MDirector from Movie;
```

MId	MDirector
101	Victor Fleming
102	George Lucas
103	Robert Wise
104	Steven Speilbrg
105	James Cameron
106	NULL
107	James Cameron
108	Steven Spielberg

8 rows in set (0.00 sec)

7.

```
mysql> select MId,MTitle,YearOfRelease from Movie
where Mdirector='Steven Spielberg';
```

```
+-----+-----+-----+
| MId | MTitle          | YearOfRelease |
+-----+-----+-----+
| 108 | Raiders of the  | 1981 |
+-----+-----+-----+
```

1 row in set (0.00 sec)

8.

```
mysql> select * from Movie,Rating;
```

```
+-----+-----+-----+-----+-----+-----+
--+-----+-----+
| MId | MTitle          | YearOfRelease | MDirector      | RvwId | MvId |
d | RatingStars | RatingDate |
+-----+-----+-----+-----+-----+-----+
--+-----+-----+
| 101 | Gone with the  | 1939 | Victor Fleming | 201 | 10
2011-01-27 |
|
|
```

112 rows in set (0.00 sec)

9.

```
mysql> select MId,MTitle,MvId,RvwId,RatingStars from Movie,Rating;
```

```
+-----+-----+-----+-----+-----+
| MId | MTitle          | MvId | RvwId | RatingStars |
+-----+-----+-----+-----+-----+
| 101 | Gone with the  | 101 | 201 | 2 |
| 102 | Star Wars      | 101 | 201 | 2 |
| 103 | The Sound of Music | 101 | 201 | 2 |
| 104 | E.T.           | 101 | 201 | 2 |
| 105 | Titanic        | 101 | 201 | 2 |
| 106 | Snow White     | 101 | 201 | 2 |
| 107 | Avatar         | 101 | 201 | 2 |
| 103 | The Sound of Music | 106 | 202 | 4 |
```

112 rows in set (0.00 sec)

10.

```
mysql> select MId,MTitle,RvwId,RatingStars from Movie,Rating
where MId=MvId;
```

```
+-----+-----+-----+-----+
| MId | MTitle          | RvwId | RatingStars |
+-----+-----+-----+-----+
| 101 | Gone with the  | 201 | 2 |
| 101 | Gone with the  | 201 | 4 |
| 106 | Snow White     | 202 | 4 |
```

103	The Sound of Music	203	2
108	Raiders of the Lost Ark	203	4
108	Raiders of the Lost Ark	203	2
101	Gone with the Wind	204	3
103	The Sound of Music	205	3
104	E.T.	205	2
108	Raiders of the Lost Ark	205	4
107	Avatar	206	3
106	Snow White	206	5
107	Avatar	207	5
104	E.T.	208	3

+-----+-----+-----+-----+

14 rows in set (0.00 sec)

11.

```
mysql> select MId,MTitle,RvwId,RatingStars from Movie,Rating
where MId=MvId AND RatingStars<=3;
```

+-----+-----+-----+-----+

MId	MTitle	RvwId	RatingStars
+-----+-----+-----+-----+			
101	Gone with the Wind	201	2
103	The Sound of Music	203	2
108	Raiders of the Lost Ark	203	2
101	Gone with the Wind	204	3
103	The Sound of Music	205	3
104	E.T.	205	2
107	Avatar	206	3
104	E.T.	208	3

+-----+-----+-----+-----+

8 rows in set (0.00 sec)

12.

```
mysql> select MId,MTitle,RvwId,RatingStars from Movie,Rating
where MId=MvId AND
RatingStars>=2 AND RatingStars<=4;
```

+-----+-----+-----+-----+

MId	MTitle	RvwId	RatingStars
+-----+-----+-----+-----+			
101	Gone with the Wind	201	2
101	Gone with the Wind	201	4
106	Snow White	202	4
103	The Sound of Music	203	2
108	Raiders of the Lost Ark	203	4
108	Raiders of the Lost Ark	203	2
101	Gone with the Wind	204	3
103	The Sound of Music	205	3
104	E.T.	205	2
108	Raiders of the Lost Ark	205	4
107	Avatar	206	3

104	E.T.	208	3
-----	------	-----	---

12 rows in set (0.00 sec)

13.

mysql> select RvwId,MvId from Rating;

RvwId	MvId
201	101
201	101
202	106
203	103
203	108
203	108
204	101
205	103
205	104
205	108
206	107
206	106
207	107
208	104

14 rows in set (0.00 sec)

14.

mysql> select distinct RvwId,MvId from Rating;

RvwId	MvId
201	101
202	106
203	103
203	108
204	101
205	103
205	104
205	108
206	107
206	106
207	107
208	104

12 rows in set (0.00 sec)

15.

```
mysql> select MId,MTitle,RId,RName,RatingStars from Movie,Reviewer,Rating where  
MId=MvId AND RId=RvwId;
```

MId	MTitle	RId	RName	RatingStars
101	Gone with the Wind	201	Sarah Martinez	2
101	Gone with the Wind	201	Sarah Martinez	4
106	Snow White	202	Daniel Lewis	4
103	The Sound of Music	203	Brittany Harris	2
108	Raiders of the Lost Ark	203	Brittany Harris	4
108	Raiders of the Lost Ark	203	Brittany Harris	2
101	Gone with the Wind	204	Mike Anderson	3
103	The Sound of Music	205	Chris Jackson	3
104	E.T.	205	Chris Jackson	2
108	Raiders of the Lost Ark	205	Chris Jackson	4
107	Avatar	206	Elizabeth Thomas	3
106	Snow White	206	Elizabeth Thomas	5
107	Avatar	207	James Cameron	5
104	E.T.	208	Ashley White	3

14 rows in set (0.03 sec)

16.

```
mysql> select MId,MTitle,RId,RName,RatingStars from Movie,Reviewer,Rating where  
MId=MvId AND RId=RvwId AND RatingStars=5;
```

MId	MTitle	RId	RName	RatingStars
106	Snow White	206	Elizabeth Thomas	5
107	Avatar	207	James Cameron	5

2 rows in set (0.00 sec)

17.

```
mysql> select MTitle,RName,RatingStars from Movie,Reviewer,Rating where MId=MvId  
AND RId=RvwId AND RatingDate is NULL;
```

MTitle	RName	RatingStars
Snow White	Daniel Lewis	4
Raiders of the Lost Ark	Chris Jackson	4

2 rows in set (0.00 sec)

18.

```
mysql> (select MDirector from Movie where MDirector is NOT NULL)  
-> UNION  
-> (select RName from Reviewer where RName is NOT NULL);
```

```

+-----+
| MDirector      |
+-----+
| Victor Fleming |
| George Lucas   |
| Robert Wise    |
| Steven Spielberg |
| James Cameron  |
| Sarah Martinez |
| Daniel Lewis   |
| Brittany Harris |
| Mike Anderson  |
| Chris Jackson  |
| Elizabeth Thomas |
| Ashley White   |
+-----+
13 rows in set (0.00 sec)

```

19.

```

mysql> select * from Reviewer where RName LIKE '%Martinez%';
+---+-----+
| RId | RName      |
+---+-----+
| 201 | Sarah Martinez |
+---+-----+
1 row in set (0.00 sec)

```

20.

```

mysql> select * from Rating where RatingDate LIKE '____-__-0_';
+-----+-----+-----+-----+
| RvwId | MvId | RatingStars | RatingDate |
+-----+-----+-----+-----+
| 204 | 101 | 3 | 2011-01-09 |
| 208 | 104 | 3 | 2011-01-02 |
+-----+-----+-----+-----+
2 rows in set, 1 warning (0.00 sec)

```

21.

```

mysql> select * from Rating where RatingDate < '2011-01-10';
+-----+-----+-----+-----+
| RvwId | MvId | RatingStars | RatingDate |
+-----+-----+-----+-----+
| 204 | 101 | 3 | 2011-01-09 |
| 208 | 104 | 3 | 2011-01-02 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

```

22.

```
mysql> update Rating set RatingStars = CONCAT(RatingStars+1) where RvwId=203;
Query OK, 3 rows affected (0.14 sec)
Rows matched: 3  Changed: 3  Warnings: 0
```

```
mysql> select RvwId,MvId,RatingStars from Rating where RvwId=203;
```

RvwId	MvId	RatingStars
203	103	3
203	108	5
203	108	3

3 rows in set (0.00 sec)

23.

```
mysql> select MTitle,RName,RatingStars from Movie,Reviewer,Rating where MId=MvId
AND RId=RvwId ORDER BY MTitle;
```

MTitle	RName	RatingStars
Avatar	Elizabeth Thomas	3
Avatar	James Cameron	5
E.T.	Chris Jackson	2
E.T.	Ashley White	3
Gone with the Wind	Mike Anderson	3
Gone with the Wind	Sarah Martinez	2
Gone with the Wind	Sarah Martinez	4
Raiders of the Lost Ark	Brittany Harris	5
Raiders of the Lost Ark	Chris Jackson	4
Raiders of the Lost Ark	Brittany Harris	3
Snow White	Daniel Lewis	4
Snow White	Elizabeth Thomas	5
The Sound of Music	Chris Jackson	3
The Sound of Music	Brittany Harris	3

14 rows in set (0.00 sec)

24.

```
mysql> select MTitle,RatingStars,RatingDate from Movie,Rating
where MId=MvId ORDER BY MTitle;
```

MTitle	RatingStars	RatingDate
Avatar	3	2011-01-15
Avatar	5	2011-01-20
E.T.	3	2011-01-02
E.T.	2	2011-01-22
Gone with the Wind	3	2011-01-09

Gone with the Wind		2	2011-01-22	
Gone with the Wind		4	2011-01-27	
Raiders of the Lost Ark		5	2011-01-12	
Raiders of the Lost Ark		3	2011-01-30	
Raiders of the Lost Ark		4	NULL	
Snow White		5	2011-01-19	
Snow White		4	NULL	
The Sound of Music		3	2011-01-20	
The Sound of Music		3	2011-01-27	

+-----+-----+

14 rows in set (0.00 sec)

mysql> select MTitle,RatingStars,RatingDate from Movie,Rating where MId=MvId ORDER BY RatingStars DESC;

MTitle		RatingStars		RatingDate	
Avatar		5		2011-01-20	
Raiders of the Lost Ark		5		2011-01-12	
Snow White		5		2011-01-19	
Gone with the Wind		4		2011-01-27	
Snow White		4		NULL	
Raiders of the Lost Ark		4		NULL	
E.T.		3		2011-01-02	
Avatar		3		2011-01-15	
The Sound of Music		3		2011-01-27	
Gone with the Wind		3		2011-01-09	
Raiders of the Lost Ark		3		2011-01-30	
The Sound of Music		3		2011-01-20	
E.T.		2		2011-01-22	
Gone with the Wind		2		2011-01-22	

+-----+-----+

14 rows in set (0.00 sec)

mysql> select MTitle,RatingStars,RatingDate from Movie,Rating where MId=MvId ORDER BY RatingDate DESC;

MTitle		RatingStars		RatingDate	
Raiders of the Lost Ark		3		2011-01-30	
The Sound of Music		3		2011-01-27	
Gone with the Wind		4		2011-01-27	
E.T.		2		2011-01-22	
Gone with the Wind		2		2011-01-22	
The Sound of Music		3		2011-01-20	
Avatar		5		2011-01-20	
Snow White		5		2011-01-19	
Avatar		3		2011-01-15	
Raiders of the Lost Ark		5		2011-01-12	

Gone with the Wind		3	2011-01-09	
E.T.		3	2011-01-02	
Snow White		4	NULL	
Raiders of the Lost Ark		4	NULL	

14 rows in set (0.00 sec)

25.

```
mysql> select * from Movie where MDirector in
(select RName from Reviewer);
```

MId	MTitle	YearOfRelease	MDirector	
105	Titanic	1997	James Cameron	
107	Avatar	2009	James Cameron	

2 rows in set (0.01 sec)