

# Homework: Mapping

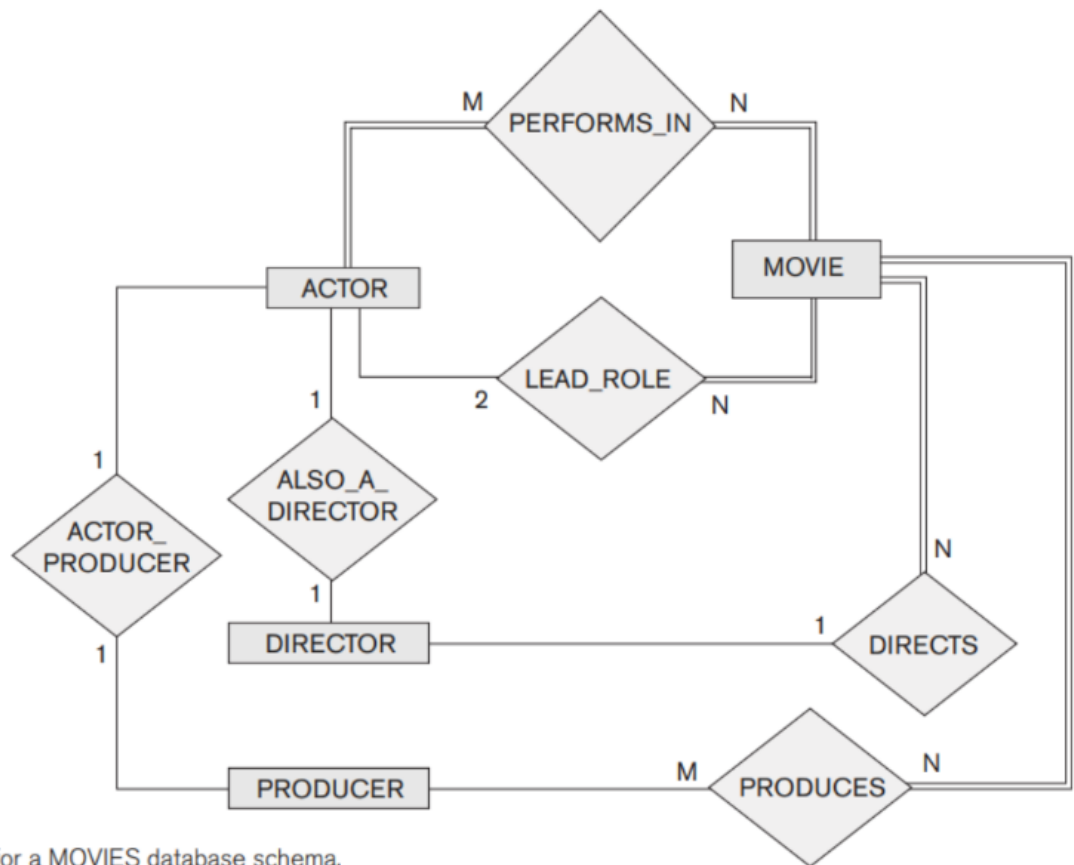
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- 제출일: 2022-04-07

## Problem 1. (20pts)

1. 다음 ER Diagram에 대한 MySQL 스키마를 작성하여, mysql dbms에서 실행한다.
2. 스키마는 ER Diagram의 제약조건 중 관계형 데이터베이스 "create table"문에서 표현가능한 것은 모두 표현하여야 한다.
3. "show create table ....\G"문을 이용하여 각 테이블에 대한 다음과 같은 mysql screenshot을 첨부하시오.
4. 생성된 테이블의 개수만큼 Answer cell을 복사하여 MySQL 스크린샷을 첨부한다.

```
mysql> show create table DEPARTMENT\G
***** 1. row *****
      Table: DEPARTMENT
Create Table: CREATE TABLE `DEPARTMENT` (
  `dnumber` int NOT NULL,
  `dname` varchar(45) NOT NULL,
  `mgrssn` char(9) NOT NULL,
  PRIMARY KEY (`dnumber`),
  UNIQUE KEY `dname_UNIQUE` (`dname`),
  KEY `fk_DEPARTMENT_EMPLOYEE_idx` (`mgrssn`),
  CONSTRAINT `fk_DEPARTMENT_EMPLOYEE` FOREIGN KEY (`mgrssn`) REFERENCES `EMPLOYEE` (`ssn`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8
1 row in set (0.00 sec)
```

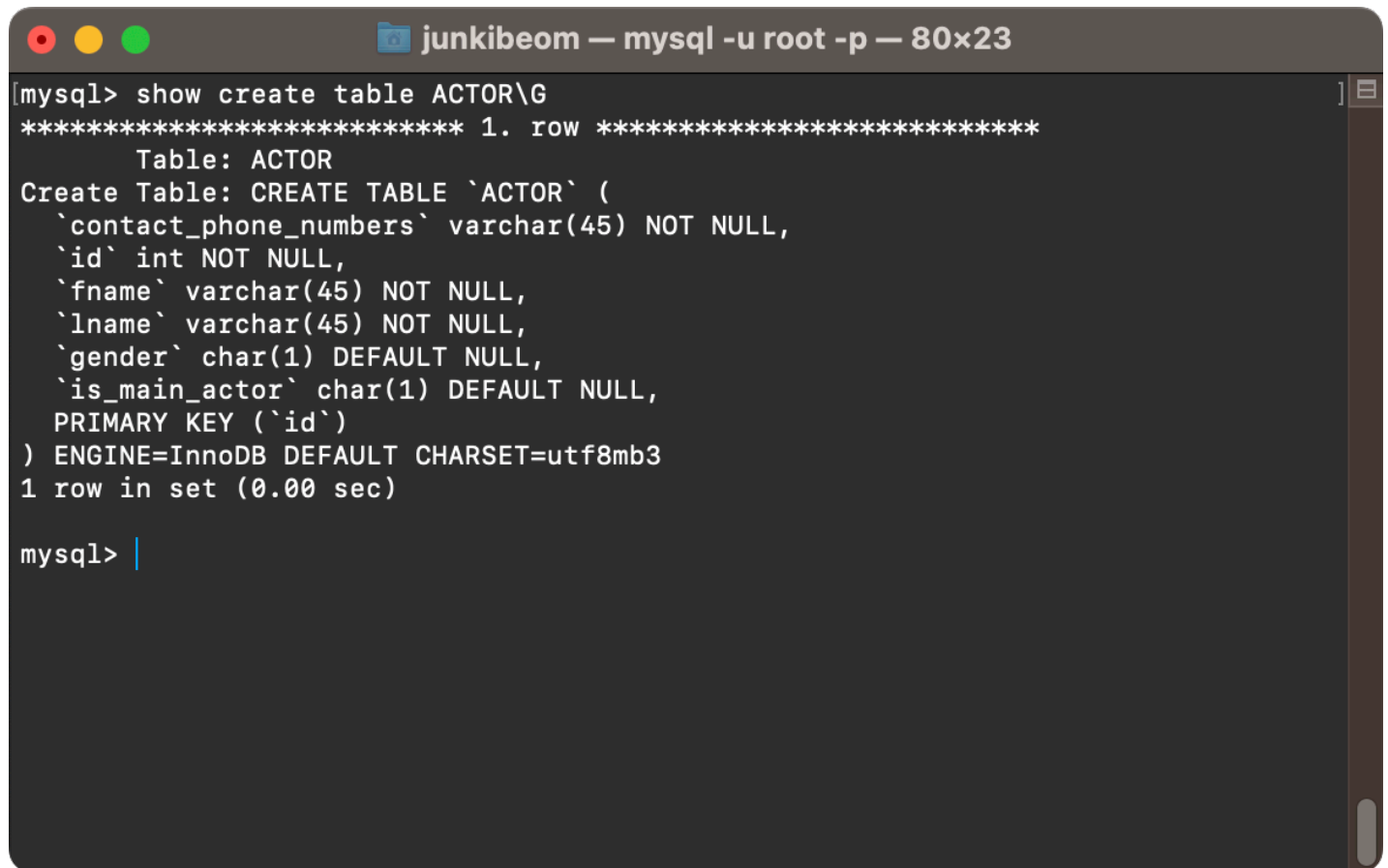
## ER Diagram for Movies Database



- MOVIES DB의 Entity는 오직 하나의 attribute인 entity\_name + id만을 가진다.
- 예를 들어, director는 director\_id라는 하나의 attribute를 가진다.
- 예외로, actor는 actor\_id와 contact\_phone\_numbers(연락가능 전화번호들)의 attributes를 가진다.

## Answer

- To edit, double click this cell
- Paste your figure here (CTRL + V)

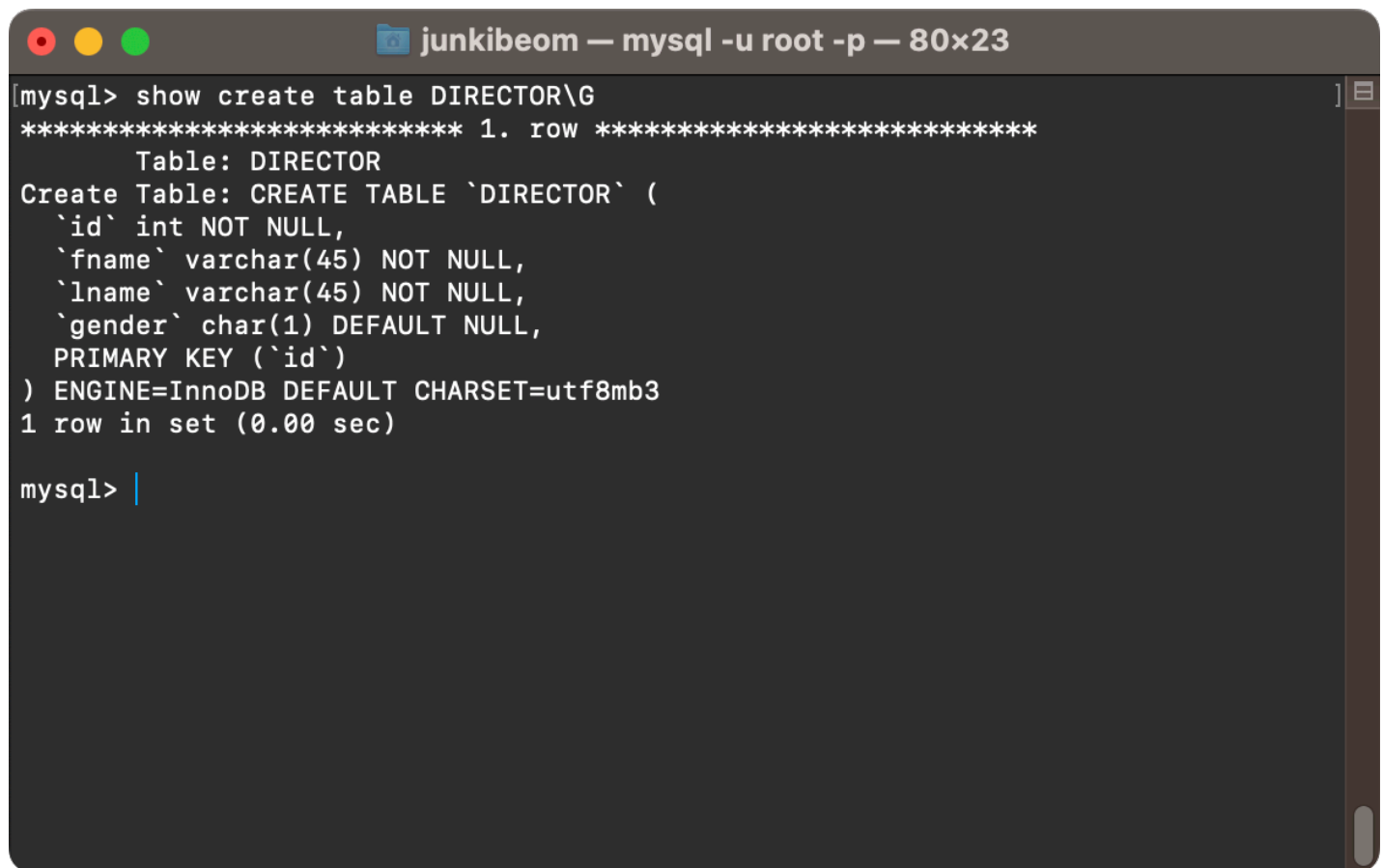
A terminal window titled 'junkibeom — mysql -u root -p — 80x23' with standard macOS window controls (red, yellow, green buttons). The terminal shows the output of the 'show create table ACTOR\G' command. The output includes a separator line, the table name 'Table: ACTOR', the full CREATE TABLE statement for 'ACTOR' with columns 'contact\_phone\_numbers', 'id', 'fname', 'lname', 'gender', and 'is\_main\_actor', and engine/charset information. It also shows '1 row in set (0.00 sec)'. The prompt 'mysql>' is followed by a cursor.

```
junkibeom — mysql -u root -p — 80x23
[mysql> show create table ACTOR\G
***** 1. row *****
      Table: ACTOR
Create Table: CREATE TABLE `ACTOR` (
  `contact_phone_numbers` varchar(45) NOT NULL,
  `id` int NOT NULL,
  `fname` varchar(45) NOT NULL,
  `lname` varchar(45) NOT NULL,
  `gender` char(1) DEFAULT NULL,
  `is_main_actor` char(1) DEFAULT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3
1 row in set (0.00 sec)

mysql> |
```

## Answer

- To edit, double click this cell
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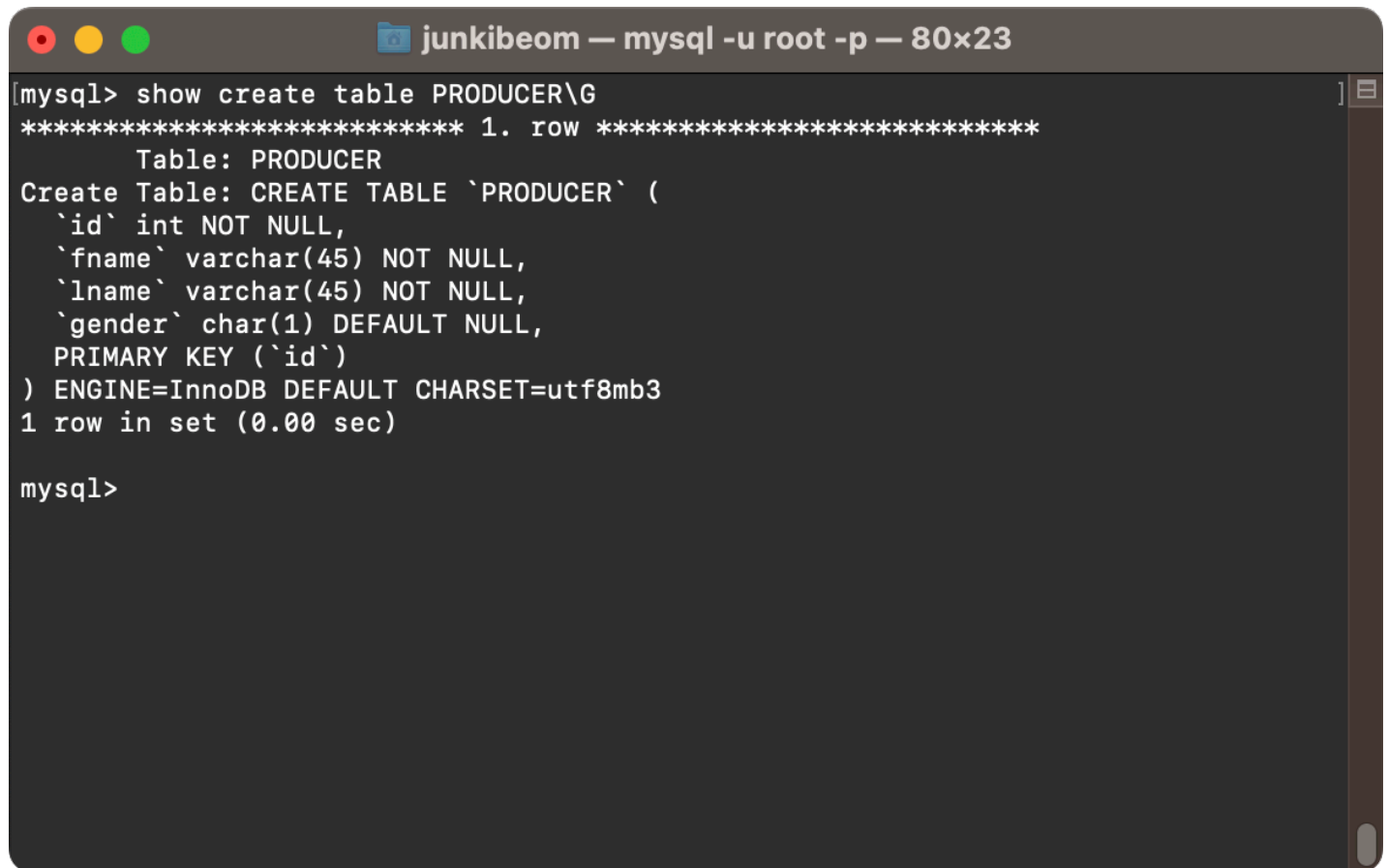
```
junkibeom — mysql -u root -p — 80x23

[mysql> show create table DIRECTOR\G
***** 1. row *****
      Table: DIRECTOR
Create Table: CREATE TABLE `DIRECTOR` (
  `id` int NOT NULL,
  `fname` varchar(45) NOT NULL,
  `lname` varchar(45) NOT NULL,
  `gender` char(1) DEFAULT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3
1 row in set (0.00 sec)

mysql> |
```

## Answer

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- Paste your figure here (CTRL + V)

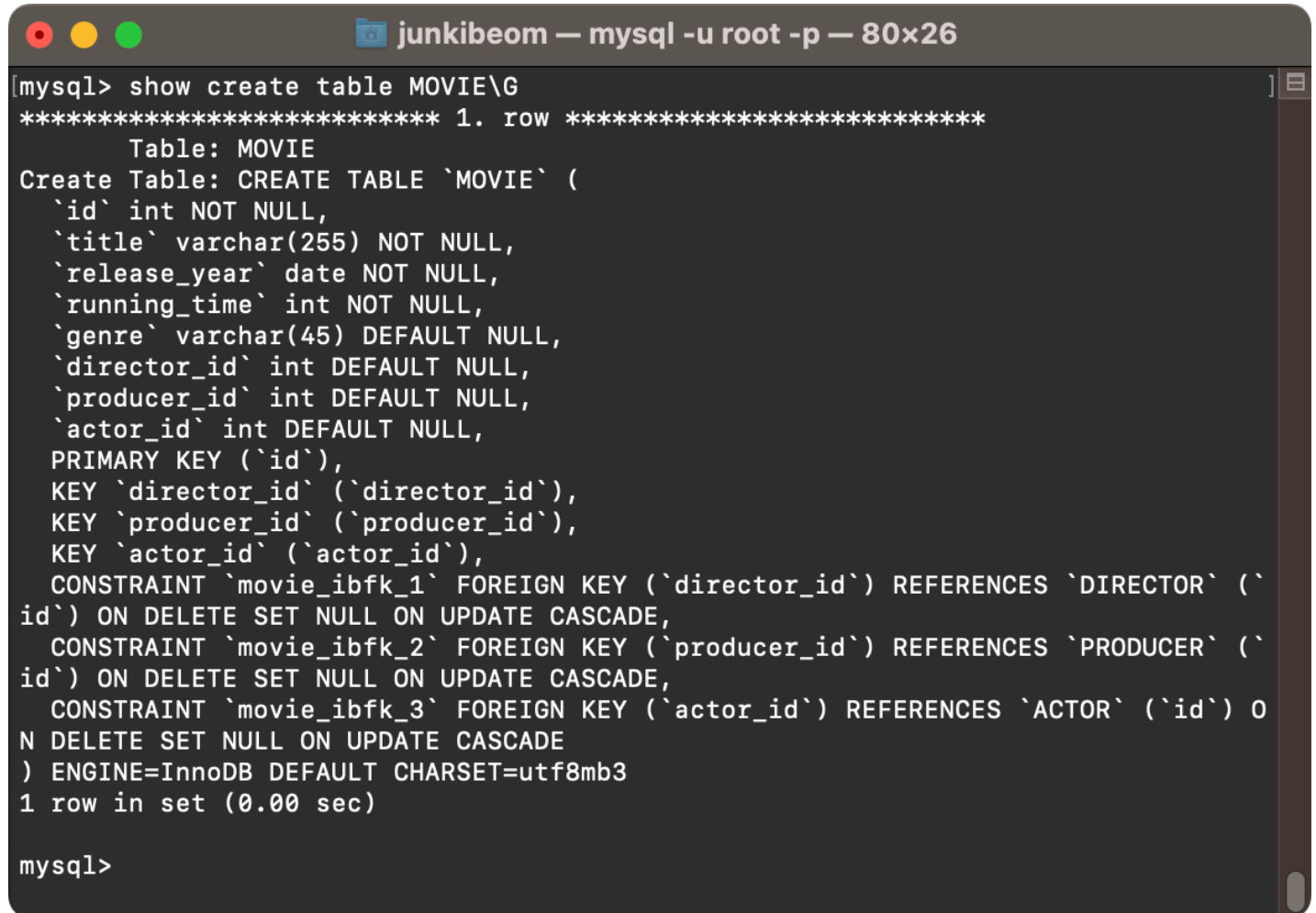


```
junkibeom — mysql -u root -p — 80x23
[mysql> show create table PRODUCER\G
***** 1. row *****
      Table: PRODUCER
Create Table: CREATE TABLE `PRODUCER` (
  `id` int NOT NULL,
  `fname` varchar(45) NOT NULL,
  `lname` varchar(45) NOT NULL,
  `gender` char(1) DEFAULT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3
1 row in set (0.00 sec)

mysql>
```

## Answer

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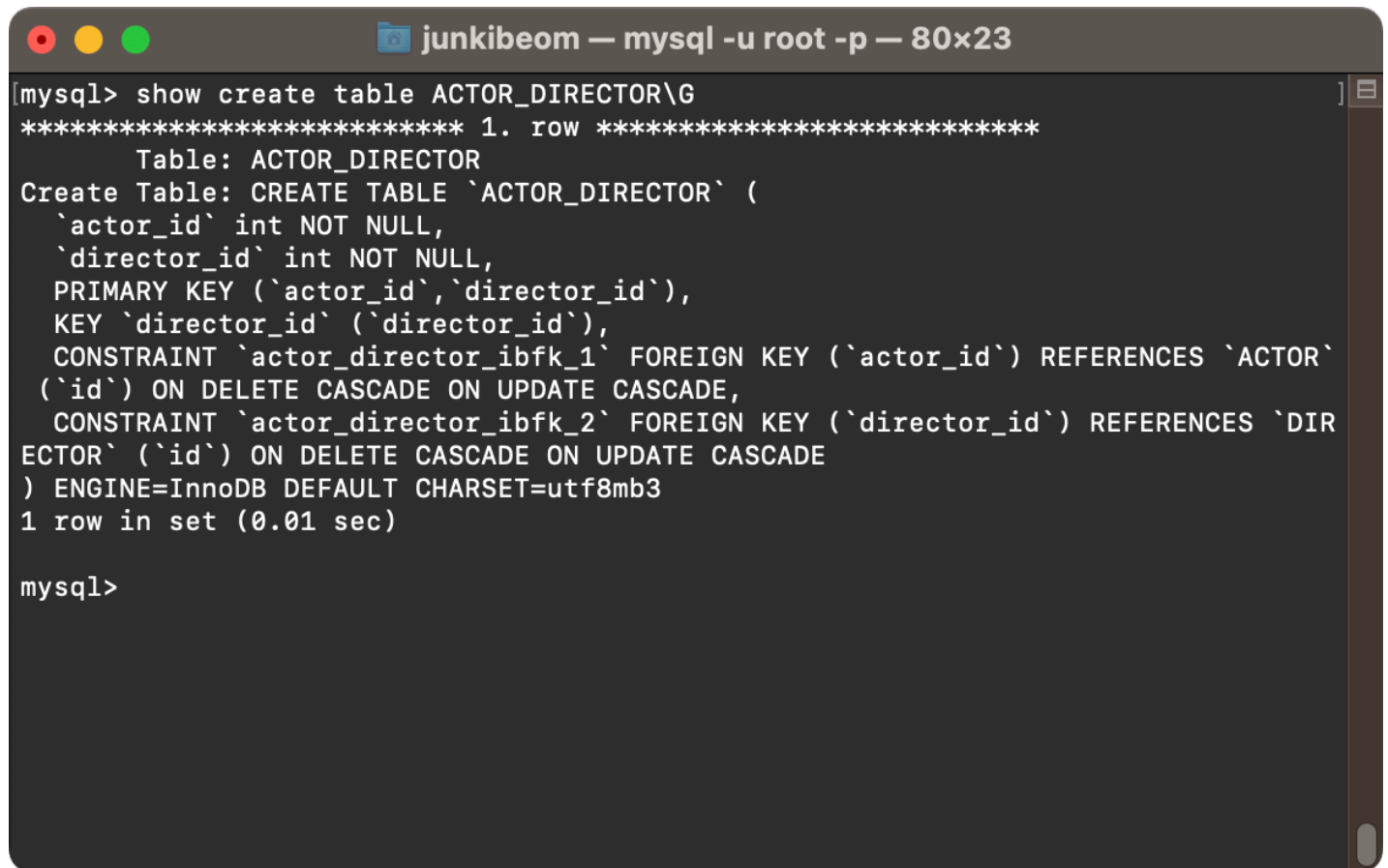
```
junkibeom — mysql -u root -p — 80x26

[mysql> show create table MOVIE\G
***** 1. row *****
      Table: MOVIE
Create Table: CREATE TABLE `MOVIE` (
  `id` int NOT NULL,
  `title` varchar(255) NOT NULL,
  `release_year` date NOT NULL,
  `running_time` int NOT NULL,
  `genre` varchar(45) DEFAULT NULL,
  `director_id` int DEFAULT NULL,
  `producer_id` int DEFAULT NULL,
  `actor_id` int DEFAULT NULL,
  PRIMARY KEY (`id`),
  KEY `director_id` (`director_id`),
  KEY `producer_id` (`producer_id`),
  KEY `actor_id` (`actor_id`),
  CONSTRAINT `movie_ibfk_1` FOREIGN KEY (`director_id`) REFERENCES `DIRECTOR` (`id`) ON DELETE SET NULL ON UPDATE CASCADE,
  CONSTRAINT `movie_ibfk_2` FOREIGN KEY (`producer_id`) REFERENCES `PRODUCER` (`id`) ON DELETE SET NULL ON UPDATE CASCADE,
  CONSTRAINT `movie_ibfk_3` FOREIGN KEY (`actor_id`) REFERENCES `ACTOR` (`id`) ON DELETE SET NULL ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3
1 row in set (0.00 sec)

mysql>
```

## Answer

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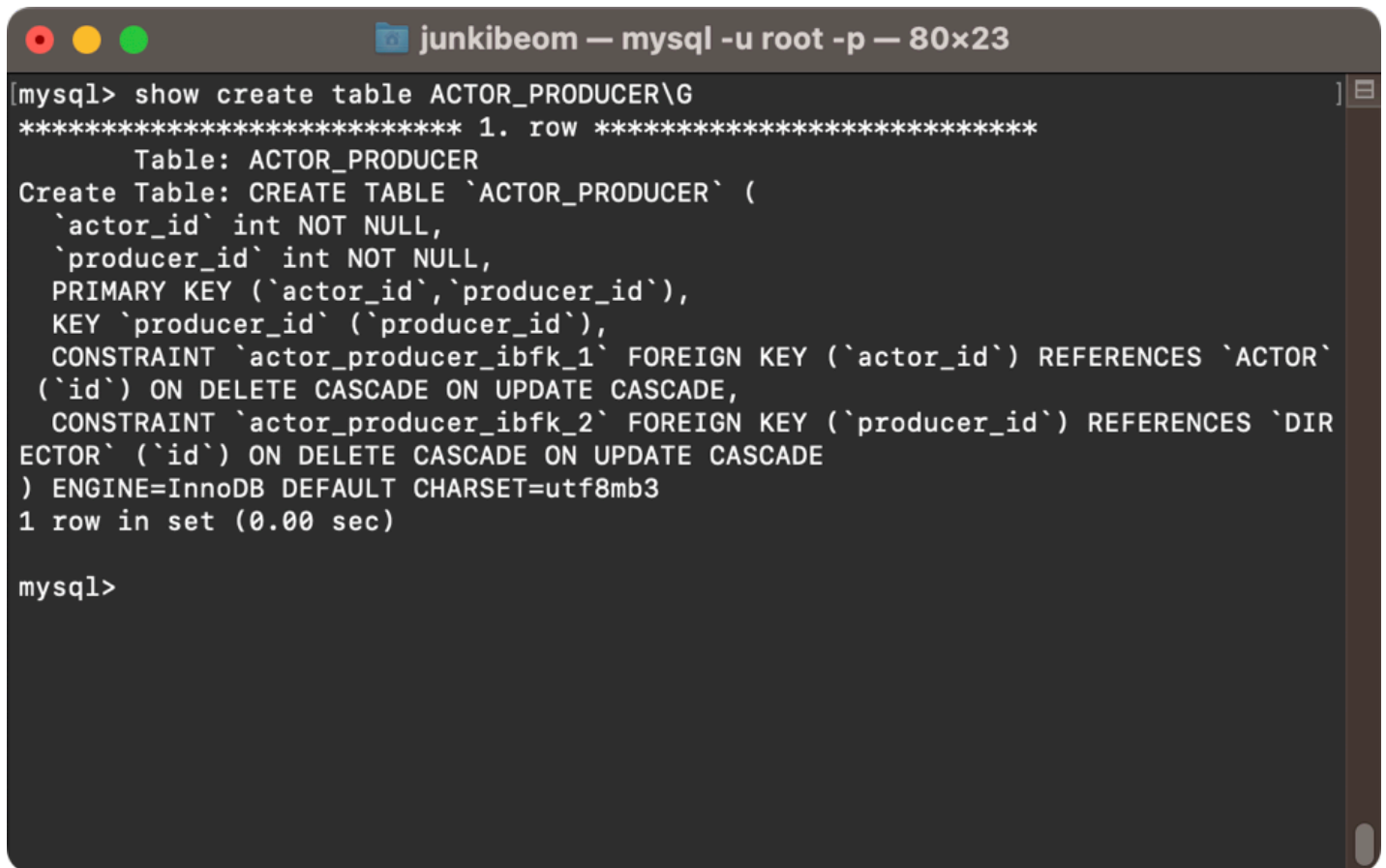


```
junkibeom — mysql -u root -p — 80x23
[mysql> show create table ACTOR_DIRECTOR\G
***** 1. row *****
      Table: ACTOR_DIRECTOR
Create Table: CREATE TABLE `ACTOR_DIRECTOR` (
  `actor_id` int NOT NULL,
  `director_id` int NOT NULL,
  PRIMARY KEY (`actor_id`,`director_id`),
  KEY `director_id` (`director_id`),
  CONSTRAINT `actor_director_ibfk_1` FOREIGN KEY (`actor_id`) REFERENCES `ACTOR`
(`id`) ON DELETE CASCADE ON UPDATE CASCADE,
  CONSTRAINT `actor_director_ibfk_2` FOREIGN KEY (`director_id`) REFERENCES `DIR
ECTOR` (`id`) ON DELETE CASCADE ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3
1 row in set (0.01 sec)

mysql>
```

## Answer

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- Paste your figure here (CTRL + V)



```
junkibeom — mysql -u root -p — 80x23
[mysql> show create table ACTOR_PRODUCER\G
***** 1. row *****
      Table: ACTOR_PRODUCER
Create Table: CREATE TABLE `ACTOR_PRODUCER` (
  `actor_id` int NOT NULL,
  `producer_id` int NOT NULL,
  PRIMARY KEY (`actor_id`,`producer_id`),
  KEY `producer_id` (`producer_id`),
  CONSTRAINT `actor_producer_ibfk_1` FOREIGN KEY (`actor_id`) REFERENCES `ACTOR`
(`id`) ON DELETE CASCADE ON UPDATE CASCADE,
  CONSTRAINT `actor_producer_ibfk_2` FOREIGN KEY (`producer_id`) REFERENCES `DIR
ECTOR` (`id`) ON DELETE CASCADE ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3
1 row in set (0.00 sec)

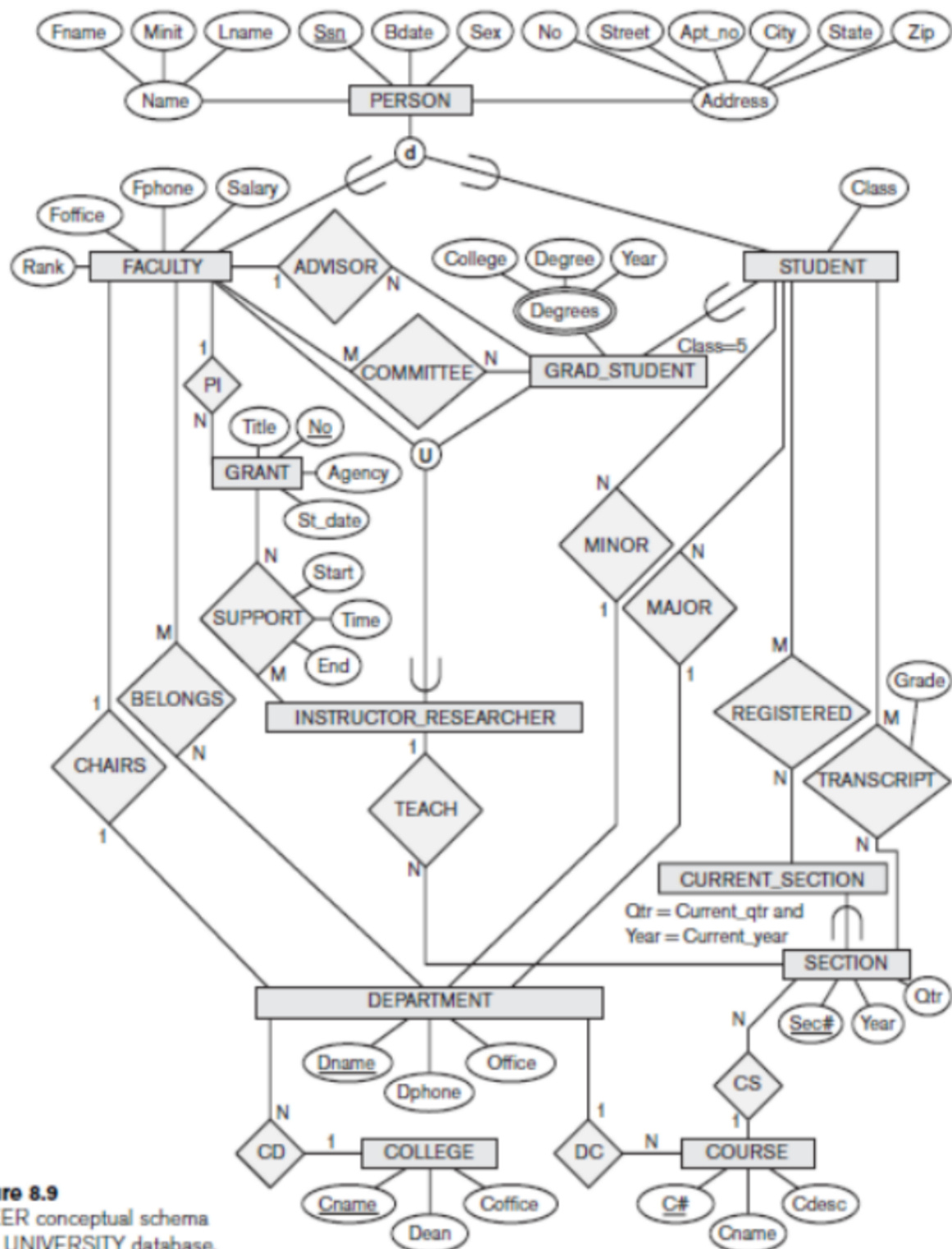
mysql>
```

## Problem 2 (30pts)

1. 다음 ER Diagram에 대한 MySQL 스키마를 작성하여, mysql dbms에서 실행한다.
2. 스키마는 ER Diagram의 제약조건 중 관계형 데이터베이스 "create table"문에서 표현가능한 것은 모두 표현하여야 한다.
3. "show create table ....\G"문을 이용하여 각 테이블에 대한 mysql screenshot을 첨부하시오.
4. superclass/subclass mapping은 '선택 8A'를 이용하고, subclass에 대해서는 적절한 view를 제공하여야 한다. (UNION Type은 제외) "show create view ....\G"문을이용하여, 각 view에 대한 mysql screenshot을 첨부하시오.
5. 생성된 테이블의 개수만큼 Answer cell을 복사하여 MySQL 스크린샷을 첨부한다.

EER Diagram: University





**Figure 8.9**  
An EER conceptual schema  
for a UNIVERSITY database.

Answer

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## Answer

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## Answer

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## Answer

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## Answer

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## Answer

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## Ethics:

If you cheat, you will get negative of the total points. If the homework total is 20 and you cheat, you get -20.

## What to submit

- Goto "File -> Print Preview"
- Print the page as pdf
- Submit the pdf file in google classroom
- Pdf file name must be in a form of: homework\_2\_홍길동\_202300001.pdf
- No late homeworks will be accepted