**Constraints and Keys**

SHOW COLUMNS FROM school.classrooms;

SHOW COLUMNS FROM school.courses;

**CREATE** **TABLE** school.courses (

**id** INT(3) **UNSIGNED** **NOT** NULL AUTO\_INCREMENT,

title VARCHAR(255) **NOT** NULL **UNIQUE** **KEY**,

credits TINYINT(2) **UNSIGNED** **NOT** NULL,

PRIMARY **KEY** (**id**)

) AUTO\_INCREMENT = 1;

**CREATE** **TABLE** school.classrooms (

**id** INT(3) **UNSIGNED** **NOT** NULL AUTO\_INCREMENT,

room\_num INT(4) **UNSIGNED** **NOT** NULL **UNIQUE** **KEY**,

course\_id INT(3) **UNSIGNED** **DEFAULT** NULL,

PRIMARY **KEY** (**id**),

FOREIGN **KEY** (course\_id) **REFERENCES** school.courses(**id**)

) AUTO\_INCREMENT = 1;

**CREATE** **TABLE** courses (

**id** INT(3) **UNSIGNED** **NOT NULL** AUTO\_INCREMENT,

title VARCHAR(255) NOT NULL UNIQUE KEY,

credits TINYINT(2) UNSIGNED NOT NULL DEFAULT 1,

PRIMARY **KEY** (**id**)) AUTO\_INCREMENT = 1;

**CREATE** **TABLE** classrooms (

**id** INT(3) **UNSIGNED** **NOT NULL** AUTO\_INCREMENT,

room\_num INT(4) UNSIGNED NOT NULL UNIQUE KEY,

course\_id INT(3) UNSIGNED DEFAULT NULL,

PRIMARY **KEY** (**id**)) AUTO\_INCREMENT = 1;

SELECT \* FROM school.classrooms;

SELECT \* FROM school.courses;

**SELECT** \* **FROM** classrooms

**INNER** **JOIN** courses **ON**

classrooms.course\_id = courses.id;

**SELECT** \* **FROM** classrooms

**JOIN** courses **ON**

classrooms.course\_id = courses.id;

**SELECT** \* **FROM** classrooms

**LEFT** **OUTER** **JOIN** courses **ON**

classrooms.course\_id = courses.id;

**SELECT** \* **FROM** classrooms

**RIGHT** **OUTER** **JOIN** courses **ON**

classrooms.course\_id = courses.id;

**SELECT** classrooms.room\_num, courses.title

**FROM** classrooms

**INNER** **JOIN** courses **ON**

classrooms.course\_id = courses.id;

USE college;

SELECT classrooms.course\_id, courses.id

FROM classrooms

LEFT OUTER JOIN courses ON

classrooms.course\_id = courses.id;

SHOW COLUMNS FROM school.students;

USE college;

ALTER TABLE students

ADD COLUMN classroom\_id INT(3) UNSIGNED NULL,

ADD CONSTRAINT FOREIGN KEY (classroom\_id)

REFERENCES classrooms(id);

SHOW COLUMNS FROM college.students;

USE blog;

SELECT posts.user\_id, users.name, posts.body

FROM posts

RIGHT OUTER JOIN users ON

posts.user\_id = users.user\_id;

**CREATE** **TABLE** comments (

**id** INT(3) **UNSIGNED** **NOT NULL** AUTO\_INCREMENT,

body TEXT DEFAULT NULL,

user\_id INT(7) UNSIGNED NOT NULL,

PRIMARY **KEY** (**id**)) AUTO\_INCREMENT = 1;

USE blog;

ALTER TABLE comments ADD post\_id INT(3) UNSIGNED NOT NULL

ALTER TABLE comments

ADD COLUMN post\_id INT(3) UNSIGNED NOT NULL

ADD CONSTRAINT FOREIGN KEY (post\_id)

REFERENCES posts(id);