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INLS 523

Database Design Assignment

**TABLE CREATION**

SHOW CREATE TABLE classes;

CREATE TABLE `classes` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`schedule` varchar(100) NOT NULL,

`location` varchar(100) NOT NULL,

`capacity` int(11) NOT NULL,

`instructors\_id` int(11) DEFAULT NULL,

`courses\_id` int(11) DEFAULT NULL,

PRIMARY KEY (`id`)

) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=latin1;

SHOW CREATE TABLE class\_registrations;

CREATE TABLE `class\_registrations` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`name` varchar(100) NOT NULL,

`status` enum('active','cancelled','completed') NOT NULL,

`grade\_achieved` tinyint(4) NOT NULL DEFAULT '0',

`classes\_id` int(11) DEFAULT NULL,

`students\_id` int(11) DEFAULT NULL,

PRIMARY KEY (`id`)

) ENGINE=InnoDB AUTO\_INCREMENT=10 DEFAULT CHARSET=latin1;

SHOW CREATE TABLE course\_prerequisites;

CREATE TABLE `course\_prerequisites` (

`courses\_id` int(11) DEFAULT NULL,

`has\_prerequisite` int(11) DEFAULT NULL

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

SHOW CREATE TABLE courses;

CREATE TABLE `courses` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`name` varchar(100) NOT NULL,

`description` varchar(255) NOT NULL,

PRIMARY KEY (`id`),

KEY `courses\_name\_index` (`name`)

) ENGINE=InnoDB AUTO\_INCREMENT=5 DEFAULT CHARSET=latin1;

SHOW CREATE TABLE instructors;

CREATE TABLE `instructors` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`name` varchar(100) NOT NULL,

`email` varchar(200) NOT NULL,

`phone` varchar(15) DEFAULT NULL,

PRIMARY KEY (`id`),

KEY `instructors\_name\_index` (`name`)

) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=latin1;

SHOW CREATE TABLE instructor\_types;

CREATE TABLE `instructor\_types` (

`instructors\_id` int(11) DEFAULT NULL,

`types` enum('adjunct','graduate','visiting','associate','full') NOT NULL

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

SHOW CREATE TABLE students;

CREATE TABLE `students` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`name` varchar(100) NOT NULL,

`email` varchar(200) NOT NULL,

`enrollment\_date` date NOT NULL,

`gpa` decimal(4,2) NOT NULL,

`accumulated\_credit\_hours` tinyint(4) NOT NULL,

PRIMARY KEY (`id`),

KEY `students\_name\_index` (`name`),

KEY `students\_gpa\_index` (`gpa`)

) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=latin1;

**VIEW CREATION**

CREATE OR REPLACE VIEW view\_1 AS

SELECT

students.name AS student\_name,

courses.name AS course\_name,

class\_registrations.grade\_achieved AS grade\_achieved

FROM

students,

courses,

class\_registrations

WHERE

class\_registrations.courses\_id = courses.id AND

class\_registrations.students\_id = students.id;

SELECT \* FROM view\_1;

CREATE OR REPLACE VIEW view\_2 AS

SELECT

avg(class\_registrations.grade\_achieved) AS average\_grade,

courses.name AS course\_name,

instructors.name AS instructor\_name

FROM

class\_registrations,

courses,

instructors,

classes

WHERE

class\_registrations.courses\_id = courses.id AND

class\_registrations.classes\_id = classes.id AND

classes.instructors\_id = instructors.id

GROUP BY

course\_name;

SELECT \* FROM view\_2;