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CS2243

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Database Project

Q1:

**Primary Keys:**

course: COURSE\_ID

course\_section: C\_SEC\_ID

enrollment: S\_ID, C\_SEC\_ID – both are needed as the primary key, see data.

faculty: F\_ID

location: LOC\_ID

student: S\_ID

term: TERM\_ID

**Foreign Keys:**

course\_section: COURSE\_ID(course), TERM\_ID(term), F\_ID(faculty), LOC\_ID(location)

enrollment: S\_ID(student), C\_SEC\_ID(course\_section) – these two FK make up the PK

Brief Justification: Upon update or deletion, we have set the action to “RESTRICT”; the decision was made to prevent foreign keys from being updated, as they are all primary keys of another table.

**Create Table Statements:**

CREATE TABLE `course` (

`COURSE\_ID` int(11) NOT NULL,

`COURSE\_NO` varchar(45) DEFAULT NULL,

`COURSE\_NAME` varchar(45) DEFAULT NULL,

`CREDITS` int(11) DEFAULT NULL,

PRIMARY KEY (`COURSE\_ID`),

UNIQUE KEY `COURSE\_ID\_UNIQUE` (`COURSE\_ID`)

)

CREATE TABLE `course\_section` (

`C\_SEC\_ID` int(11) NOT NULL,

`COURSE\_ID` int(11) DEFAULT NULL,

`TERM\_ID` int(11) DEFAULT NULL,

`SEC\_NUM` int(11) DEFAULT NULL,

`F\_ID` int(11) DEFAULT NULL,

`MTG\_DAYS` varchar(45) DEFAULT NULL,

`START\_TIME` varchar(45) DEFAULT NULL,

`END\_TIME` varchar(45) DEFAULT NULL,

`LOC\_ID` int(11) DEFAULT NULL,

`MAX\_ENRL` int(11) DEFAULT NULL,

PRIMARY KEY (`C\_SEC\_ID`)

)

CREATE TABLE `enrollment` (

`S\_ID` int(11) NOT NULL,

`C\_SEC\_ID` int(11) NOT NULL,

`GRADE` char(1) DEFAULT NULL,

PRIMARY KEY (`S\_ID`,`C\_SEC\_ID`)

)

CREATE TABLE `faculty` (

`F\_ID` int(11) NOT NULL,

`F\_LAST` varchar(45) DEFAULT NULL,

`F\_FIRST` varchar(45) DEFAULT NULL,

`F\_MI` char(1) DEFAULT NULL,

`LOC\_ID` int(11) DEFAULT NULL,

`F\_PHONE` varchar(10) DEFAULT NULL,

`F\_RANK` varchar(45) DEFAULT NULL,

`F\_SUPER` int(11) DEFAULT NULL,

`F\_PIN` varchar(4) DEFAULT NULL,

PRIMARY KEY (`F\_ID`),

UNIQUE KEY `F\_ID\_UNIQUE` (`F\_ID`),

UNIQUE KEY `F\_PIN\_UNIQUE` (`F\_PIN`)

)

CREATE TABLE `location` (

`LOC\_ID` int(11) NOT NULL,

`BLDG\_CODE` varchar(45) DEFAULT NULL,

`ROOM` varchar(45) DEFAULT NULL,

`CAPACITY` int(11) DEFAULT NULL,

PRIMARY KEY (`LOC\_ID`)

)

CREATE TABLE `student` (

`S\_ID` int(11) NOT NULL,

`S\_LAST` varchar(45) DEFAULT NULL,

`S\_FIRST` varchar(45) DEFAULT NULL,

`S\_MI` char(1) DEFAULT NULL,

`S\_ADDRESS` varchar(45) DEFAULT NULL,

`S\_CITY` varchar(45) DEFAULT NULL,

`S\_STATE` varchar(2) DEFAULT NULL,

`S\_ZIP` varchar(5) DEFAULT NULL,

`S\_PHONE` varchar(10) DEFAULT NULL,

`S\_CLASS` varchar(2) DEFAULT NULL,

`S\_DOB` date DEFAULT NULL,

`S\_PIN` varchar(4) DEFAULT NULL,

`F\_ID` int(11) DEFAULT NULL,

`DATE\_ENROLLED` varchar(45) DEFAULT NULL,

PRIMARY KEY (`S\_ID`),

UNIQUE KEY `S\_ID\_UNIQUE` (`S\_ID`)

)

CREATE TABLE `term` (

`TERM\_ID` int(11) NOT NULL,

`TERM\_DESC` varchar(45) DEFAULT NULL,

`STATUS` varchar(45) DEFAULT NULL,

`START\_DATE` varchar(45) DEFAULT NULL,

PRIMARY KEY (`TERM\_ID`)

)

Q2: To import the data into our database, we used a built-in import wizard in Microsoft Excel to quickly append our relations with new data. After mapping the columns, MySQL took care of the rest, instead of needlessly writing INSERT INTO commands.

Q3:

a.

i. 19:37:16 INSERT INTO course\_section VALUES (12, 2, 6, 2, 2, “MTWRF”, 10:00 AM, 11:30 AM, 5, 35) Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ':00 AM, 11:30 AM, 5, 35)' at line 2 0.000 sec

ii. 19:38:46 INSERT INTO course\_section VALUES (12, 2, 6, 2, 2, “MTWRF”, 9:00 AM, 10:30 AM, 6, 35) Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ':00 AM, 10:30 AM, 6, 35)' at line 2 0.000 sec

iii. 19:39:31 INSERT INTO course\_section VALUES (2, 1, 4, 2, 3, “TR”, 9:30 AM, 10:45 AM, 4, 35) Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ':30 AM, 10:45 AM, 4, 35)' at line 2 0.000 sec

b.

i. 19:40:33 INSERT INTO faculty VALUES (4, “Brown”, “Colin”, “D”, 11, “3253456789”, “Assistant”, 4, 9871) Error Code: 1054. Unknown column '“Brown”' in 'field list' 0.031 sec //F\_ID 4 already exists – must be unique

ii. 19:41:19 INSERT INTO faculty VALUES (6, “Reeves”, “Bob”, “S”, 15, “3256789012”, “Full”, , 1234) Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ' 1234)' at line 2 0.000 sec //no LOC\_ID 15

iii. 19:42:02 INSERT INTO faculty VALUES (6, “Reeves”, “Bob”, “S”, 10, “3256789012”, “Assistant”, 7, 1234) Error Code: 1054. Unknown column '“Reeves”' in 'field list' 0.000 sec //no F\_SUPER = 7

iv. 19:42:41 INSERT INTO faculty VALUES (6, “Reeves”, “Bob”, “S”, 10, “3255678901”, “Assistant”, 2, 1234) Error Code: 1054. Unknown column '“Reeves”' in 'field list' 0.000 sec //SSN must be unique

c. 19:43:43 INSERT INTO course VALUES (4, “CS 120”, “Intro. to Programming in C++”, 3) Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '120”, “Intro. to Programming in C++”, 3)' at line 2 0.000 sec //course\_id 4 already exists

d. 19:49:43 DELETE FROM location WHERE (LOC\_ID=11 AND BLDG\_CODE=“BUS” AND ROOM=“222” AND CAPACITY=1) Error Code: 1054. Unknown column '“BUS”' in 'where clause' 0.015 sec //tuple does not exist

e. 19:54:06 DELETE FROM term WHERE (TERM\_ID=4 AND TERM\_DESC=“Fall 2007” AND STATUS=“CLOSED” AND START\_DATE=“28-AUG-07”) Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '2007” AND STATUS=“CLOSED” AND START\_DATE=“28-AUG-07”)' at line 2 0.000 sec //must use mm-dd-yyyy format

Q4: