œ Scenario:

At the end of each semester, students have the opportunity to complete a standardized course survey. Each student can complete one survey per course and answer some or all questions. Students can complete the survey over multiple days so the date each question is answered must be saved.

Details:

Implement constraints based on the following bullet points, the ERD, ERDish, sample data provided, and common knowledge:

* Questions are numbered with integers from1 to 20
* Responses are numbered with integers from 0 to 10
* Student & faculty ids are up to 7 digits which may include leading zeros. Ex: 0012345, 54325678
* Faculty rank can be Professor, Associate Professor, Assistant Professor, Lecturer, Adjunct.
* Department is a 3-letter code, always entered in upper case letters
* Course number is always 11 characters XXX-YYY-ZZZ where XXX is the 3-character department code, YYY is the 3-character course code, and ZZZ is the 3-character section code. Course code is 3-digits
* Dates are entered in US format of mm/dd/yyyy

Activities:

1. Create A\_QUESTION\_BANKS, A\_STUDENTS, A\_INSTRUCTORS, and A\_COURSE\_CODES tables with appropriate constraints. Provide text and full window screenshots of each create statement. (4 screenshots)

**A\_QUESTION\_BANKS Table:**

CREATE TABLE a\_question\_banks

(

question\_no VARCHAR2(5),

question\_text VARCHAR2(50)

);

Graphical user interface, text, application

Description automatically generated

**A\_STUDENTS Table:**

**CREATE TABLE a\_students**

**(**

**student\_id VARCHAR2(5),**

**first VARCHAR2(10),**

**last VARCHAR2(20),**

**email VARCHAR2(80)**

**);**

Graphical user interface, text, application

Description automatically generated

**A\_INSTRUCTORS Table:**

CREATE TABLE a\_instructors

(

instructor\_id VARCHAR2(5),

first VARCHAR2(10),

last VARCHAR2(20),

email VARCHAR2(80),

department VARCHAR2(5),

rank VARCHAR2(20)

);

Graphical user interface, text, application

Description automatically generated

**A\_COURSE\_CODES Table:**

CREATE TABLE A\_COURSE\_CODES

(

instructor\_id VARCHAR2(5),

course\_no VARCHAR2(15)

);

Graphical user interface, text, application

Description automatically generated

1. Create A\_SURVEY\_ENTRIES table without any constraints and then alter the table to add all required constraints. Provide text and full window screenshots of each statement. (There will be one screenshot of the create and multiple screenshots as the constraints are added to the table.)

CREATE TABLE A\_SURVEY\_ENTRIES(

student\_id VARCHAR2(5),

course\_no VARCHAR2(20),

question\_no VARCHAR2(5),

reponse VARCHAR2(5),

response\_date DATE

);

Survey\_Entries inheirts from Students table (student\_id)

Survey\_Entries inheirts from Course\_Codes table (course\_no)

Survey\_Entries inheirts from Questions\_Banks table (question\_no)

Graphical user interface, text, application, Word

Description automatically generated

ALTER TABLE a\_survey\_entries

ADD CONSTRAINT surv\_entr\_fk FOREIGN KEY (student\_id)

REFERENCES a\_students (student\_id) ON DELETE CASCADE;

Graphical user interface, text, application

Description automatically generated

ALTER TABLE a\_survey\_entries

ADD CONSTRAINT surv\_enetr\_fk FOREIGN KEY (course\_no)

REFERENCES a\_course\_codes (course\_no) ON DELETE CASCADE;

Graphical user interface, text, application

Description automatically generated

ALTER TABLE a\_survey\_entries

ADD CONSTRAINT surv\_enter\_fk FOREIGN KEY (question\_no)

REFERENCES a\_question\_banks (question\_no) ON DELETE CASCADE;

Graphical user interface, text, application

Description automatically generated

ALTER TABLE a\_students

ADD CONSTRAINT stdnt\_id\_pk PRIMARY KEY (student\_id);

Graphical user interface, text, application

Description automatically generated

ALTER TABLE a\_course\_codes

ADD CONSTRAINT crse\_cde\_pk PRIMARY KEY (course\_no);

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

ALTER TABLE a\_question\_banks

ADD CONSTRAINT qstns\_bnk\_pk PRIMARY KEY (question\_no);

Graphical user interface, text, application

Description automatically generated

1. Insert data. Create one block of insert statements for each table that uses the data that is provided expanded by the rows described below. Provide text and full window screenshots for each insert block (5 screenshots)
   1. QUESTION\_BANKS – add 6 survey questions for a total of 10 questions

INSERT ALL

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00001', 'How did you like the course?')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00002', 'How did you like the instructor?')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00003', 'How did you like the classmates?')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00004', 'How did you like the classroom?')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00005', 'How did you like the projects?')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00006', 'Rate the instructor from 1 - 10')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00007', 'Rate the course from 1 - 10')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00008', 'Rate the classroom from 1 - 10')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00009', 'Rate the projects from 1 - 10')

INTO a\_question\_banks(question\_no, question\_text)

VALUES ('00010', 'Rate your classmates from 1 - 10')

SELECT \*

FROM DUAL;

A screenshot of a computer

Description automatically generated

* 1. STUDENTS – add your own data and 4 family members for a total of 8 students. Be to enter your Bergen email address and Bergen student ID in your row.

INSERT ALL

INTO a\_students (student\_id, first, last, email)

VALUES ('08477', 'Seifeldeen', 'Mohamed', 'smohamed134599@me.bergen.edu')

INTO a\_students (student\_id, first, last, email)

VALUES ('00001', 'Hoor', 'Khaled', 'hoorkhaled12@gmail.com')

INTO a\_students (student\_id, first, last, email)

VALUES ('02002', 'Judy', 'Al-Midani', 'Judy@gmail.com')

INTO a\_students (student\_id, first, last, email)

VALUES ('32011', 'Ariana', 'Perez', 'arian123@gmail.com')

INTO a\_students (student\_id, first, last, email)

VALUES ('13200', 'Jackie', 'Peterson', 'jackiepete@gmail.com')

INTO a\_students (student\_id, first, last, email)

VALUES ('12402', 'Jose', 'Zuniga', 'josezuniga@estuniga.com')

INTO a\_students (student\_id, first, last, email)

VALUES ('15402', 'Renelle', 'Ramriez', 'renelle@hotmail.com')

INTO a\_students (student\_id, first, last, email)

VALUES ('10102', 'Esra', 'Ydiz', 'esra@montclair.edu')

SELECT \*

FROM DUAL;

A screenshot of a computer

Description automatically generated

* 1. COURSE\_CODES – Add a mix of INF, CIS, and MAT courses in your degree program so you have a total of 10 courses listed.

ALTER TABLE a\_instructors

ADD CONSTRAINT intctr\_id\_pk PRIMARY KEY (instructor\_id);

ALTER TABLE a\_course\_codes

ADD CONSTRAINT crse\_cd\_fk FOREIGN KEY (instructor\_id)

REFERENCES a\_instructors (instructor\_id) ON DELETE CASCADE;

INSERT ALL

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('INF-277','34511')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('INF-222','23445')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('CIS-188','26264')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('MAT-112','62671')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('CIS-327','73472')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('MAT-100','46323')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('CIS-271','74123')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('INF-721','92367')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('INF-233','32156')

INTO a\_course\_codes (course\_no, instructor\_id)

VALUES('CIS-862','87121')

SELECT \*

FROM DUAL;

A screenshot of a computer

Description automatically generated

* 1. INSTRUCTORS – Add instructors to match the courses in the COURSE\_CODES table

INSERT ALL

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('34511', 'Sharon', 'Kim', 'sharonkim@gail', 'INF', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('23445', 'Anita', 'Verno', 'anita@begren.edu', 'INF', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('26264', 'Fasial', 'Aljmal', 'af@bergen.edu', 'CIS', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('62671', 'Sofia', 'Wang', 'sof@cornell.edu', 'MAT', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('73472', 'Oscar', 'Martinez', 'oscar@cornell.edu', 'CIS', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('46323', 'Marwan', 'Gabreil;', 'falco@middleessex@gmail.com', 'MAT', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('74123','George', 'Chudyk', 'gerorge@bergen.edu', 'CIS', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('92367', 'Mamdouh', 'ElSayed', 'mamdouh78@cairo.com', 'INF', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('32156', 'Ghada', 'Khattab', 'ghada@cairo.com', 'INF', 'Professor')

INTO a\_instructors (instructor\_id, first, last, email, department, rank)

VALUES('87121', 'Han', 'Ye', 'han@wellsheet.com', 'CIS', 'Professor/Engineer')

SELECT \*

FROM DUAL;

A screenshot of a computer

Description automatically generated

* 1. SURVEY\_ENTRIES – Choose 2 of your courses and provide answers to every survey question.

BEGIN

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('08477','INF-721','00003','I give it a 3', TO\_DATE('11/12/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('02002','CIS-862','00004','Maybe a 8/10', TO\_DATE('12/11/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('32011','CIS-862' ,'00002','Def a 9', TO\_DATE('11/10/2019', 'MM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('13200','CIS-862','00001','Had the worst time 2', TO\_DATE('10/10/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('12402', 'CIS-862' ,'00005','Not the greatest time 3', TO\_DATE('11/30/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('15402','INF-721','00006','I has the a bad time 4', TO\_DATE('12/13/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('10102','INF-721','00007','It was ok, 7', TO\_DATE('12/10/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('08477','INF-721','00008','I would say a 7', TO\_DATE('10/20/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('10102', 'CIS-862' ,'00009','Great time! I give it a 10 ', TO\_DATE('11/15/2019', 'fxMM/DD/YYYY'));

INSERT INTO a\_survey\_entries(student\_id, course\_no, question\_no, response, response\_date)

VALUES('15402','INF-721','00010','Amazing time! I say a 10', TO\_DATE('10/03/2019', 'fxMM/DD/YYYY'));

COMMIT;

END;

A screenshot of a computer

Description automatically generated

1. Describe each table and provide a screenshot of each (5 screenshots)

A\_QUESTION\_BANKS, A\_STUDENTS, A\_INSTRUCTORS, and A\_COURSE\_CODES a\_survey\_entries

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

1. For each table, run a command that provides the constraint\_name, index\_name and constraint\_type and provide the text and screenshot or each. Hint: user\_constraints. (5 screenshots)

A\_A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

1. Display all data in each table, in default order, with the col names as headers, sorted by the primary key in the table. (5 screenshots)

for 6 just put the column names and table name exactly as she states them in the question into a SELECT statement, w the specific table name in the WHERE part being the table you need in uppercase.

A\_QUESTION\_BANKS, A\_STUDENTS, A\_INSTRUCTORS, and A\_COURSE\_CODES a\_survey\_entries

SELECT \*

FROM user\_tab\_columns

WHERE table\_name = 'A\_STUDENTS';

A screenshot of a computer

Description automatically generated

SELECT \*

FROM user\_tab\_columns

WHERE table\_name = 'A\_INSTRUCTORS';

A screenshot of a computer

Description automatically generated

SELECT \*

FROM user\_tab\_columns

WHERE table\_name = 'A\_SURVEY\_ENTRIES';

A screenshot of a computer

Description automatically generated

SELECT \*

FROM user\_tab\_columns

WHERE table\_name = 'A\_COURSE\_CODES';

A screenshot of a computer

Description automatically generated

SELECT \*

FROM user\_tab\_columns

WHERE table\_name = 'A\_QUESTION\_BANKS';

A screenshot of a computer

Description automatically generated

# **ERD**

SURVEY\_ENTRY

\* response

\* response\_date

contain the answer

completed

appear

QUESTION\_BANK

# question\_no

\* question\_text

pertain to

STUDENT

# id

\* first

\* last

\* email

complete

appear

COURSE\_CODE

# course\_no

taught by

teach

INSTRUCTOR

# id

\* first

\* last

\* email

o department

o rank

# **ERDish**

EACH student MAY complete ONE OR MORE survey\_entry.  
EACH survey\_entry MUST BE completed by ONE AND ONLY ONE student.

EACH question\_bank MAY appear on ONE OR MORE survey\_entry.  
EACH survey\_entry MUST contain the answer for ONE AND ONLY ONE question\_bank.

EACH instructor MAY teach ONE OR MORE course\_code(s).  
EACH course\_code MUST BE taught by ONE AND ONLY ONE instructor.

EACH course\_code MAY appear on ONE OR MORE survey\_entry.  
EACH survey\_entry MUST pertain to ONE AND ONLY ONE course\_code.

# Data

INSTRUCTORS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| instructor\_id | first | last | email | department | rank |
| 8120011 | Paul | Smith | psmith@myschool.edu | INF | Adjunct |
| 8156258 | Janelle | Gonzalez | jgonzalez@myschool.edu | CIS | Professor |
| 1012915 | Ayanna | Cornithia | acornithia@myschool.edu | INF | Associate Professor |
| 0459601 | Miguel | Jones | mjones@myschool.edu | MAT | Professor |

STUDENTS

|  |  |  |  |
| --- | --- | --- | --- |
| student\_id | first | last | email |
| 1230012 | Jane | Doe | jdoe@pretend.bergen.edu |
| 0067234 | John | Applebee | japplebee@pretend.bergen.edu |
| 0123589 | Peter | Pumpkin | ppumpkin@pretend.bergen.edu |

COURSE\_CODES

|  |  |
| --- | --- |
| course\_no | Instructor\_id |
| INF-101-001 | 8120011 |
| INF-101-002 | 1012915 |
| CIS-165-001 | 8156258 |
| CIS-165-601 | 8156258 |
| MAT-223-001 | 0459601 |

QUESTION\_BANKS

|  |  |
| --- | --- |
| question\_no | question\_text |
| 1 | Rate the instructor 1-10 |
| 2 | Rate the exams 1-10 |
| 3 | Rate the HW 1-5 |
| 4 | How hard did you work 1-5 |

SURVEY\_ENTRIES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| student\_id | course\_no | question\_no | response | Response\_date |
| 1230012 | INF-101-002 | 3 | 3 | 11/05/2021 |
| 1230012 | INF-101-002 | 2 | 1 | 12/15/2021 |
| 1230012 | CIS-165-601 | 2 | 2 | 12/16/2021 |
| 1230012 | CIS-165-601 | 1 | 10 | 11/30/2021 |
| 0123589 | INF-101-002 | 2 | 3 | 11/25/2021 |