Name : Hrithvik Kondalkar

Roll : 002211001088

***ER DIAGRAM***

HAS

1...\*

7…7

HAS

SUBJECTS

0…\*

1…1

COURSE

IN

1…\*

1…1

ENROLLMENT

STUDENT

0.. \*

1…1

GRADE\_CARD

HAS

5..6

HAS

0.. \*

ENROLLED\_SUBJECTS

CREATE TABLE enrollments (

enrl\_id NUMBER(15) NOT NULL,

student\_id NUMBER(10) NOT NULL,

course\_id NUMBER(3) NOT NULL,

PRIMARY KEY (enrl\_id),

FOREIGN KEY (student\_id) REFERENCES students (student\_id),

FOREIGN KEY (course\_id) REFERENCES courses (course\_id)

);

CREATE TABLE enrollment\_subjects (

enrl\_id NUMBER(15) NOT NULL,

course\_id NUMBER(3) NOT NULL,

subject\_id NUMBER(3) NOT NULL,

PRIMARY KEY (enrl\_id, subject\_id),

FOREIGN KEY (enrl\_id) REFERENCES enrollments (enrl\_id),

FOREIGN KEY (course\_id,subject\_id) REFERENCES subjects (course\_id,subject\_id)

);

CREATE TABLE grades (

enrl\_id NUMBER(15) NOT NULL,

semester NUMBER(1) NOT NULL,

subject\_id NUMBER(3) NOT NULL,

subject\_marks NUMBER(4,1) NOT NULL,

PRIMARY KEY (enrl\_id, semester,subject\_id),

FOREIGN KEY (enrl\_id) REFERENCES enrollments (enrl\_id),

FOREIGN KEY (enrl\_id, subject\_id) REFERENCES enrollment\_subjects(enrl\_id, subject\_id)

);

***DATABASE SCHEMA***

CREATE TABLE students (

student\_id NUMBER(10) NOT NULL,

name VARCHAR(255) NOT NULL,

email VARCHAR(255) NOT NULL,

PRIMARY KEY (student\_id)

);

CREATE TABLE courses (

course\_id NUMBER(2) NOT NULL,

course\_name VARCHAR(255) NOT NULL,

max\_strength INT NOT NULL,

PRIMARY KEY (course\_id)

);

CREATE TABLE subjects (

course\_id NUMBER(2) NOT NULL,

subject\_id NUMBER(3) NOT NULL,

subject\_name VARCHAR(255) NOT NULL,

PRIMARY KEY (course\_id,subject\_id),

FOREIGN KEY (course\_id) REFERENCES courses(course\_id)

);

*1.Insert at least five tuples in each table.*

-- courses TABLE insertion

INSERT INTO courses VALUES (1, 'Math', 50);

INSERT INTO courses VALUES (2, 'History', 30);

INSERT INTO courses VALUES (3, 'Physics', 60);

INSERT INTO courses VALUES (4, 'English', 45);

INSERT INTO courses VALUES (5, 'Computer Science', 55);

-- subjects TABLE insertion for the first course (Math)

INSERT INTO subjects VALUES (1, 1, 'Algebra');

INSERT INTO subjects VALUES (1, 2, 'Geometry');

INSERT INTO subjects VALUES (1, 3, 'Calculus');

INSERT INTO subjects VALUES (1, 4, 'Statistics');

INSERT INTO subjects VALUES (1, 5, 'Linear Algebra');

INSERT INTO subjects VALUES (1, 6, 'Differential Equations');

INSERT INTO subjects VALUES (1, 7, 'Number Theory');

-- subjects TABLE insertion for the second course (History)

INSERT INTO subjects VALUES (2, 8, 'World History');

INSERT INTO subjects VALUES (2, 9, 'English Literature');

INSERT INTO subjects VALUES (2, 10, 'Ancient History');

INSERT INTO subjects VALUES (2, 19, 'Medivial History');

INSERT INTO subjects VALUES (2, 20, 'Cold War');

INSERT INTO subjects VALUES (2, 21, 'History elective 1');

INSERT INTO subjects VALUES (2, 22, 'History elective 2');

-- subjects TABLE insertion for the third course (Physics)

INSERT INTO subjects VALUES (3, 11, 'Classical Mechanics');

INSERT INTO subjects VALUES (3, 12, 'Electromagnetism');

INSERT INTO subjects VALUES (3, 6, 'Differential Equations');

INSERT INTO subjects VALUES (3, 4, 'Statistics');

INSERT INTO subjects VALUES (3, 2, 'Geometry');

INSERT INTO subjects VALUES (3, 18, 'Thermodynamics');

INSERT INTO subjects VALUES (3, 28, 'Fluid Mechanics');

-- subjects TABLE insertion for the fourth course (English)

INSERT INTO subjects VALUES (4, 9, 'English Literature');

INSERT INTO subjects VALUES (4, 13, 'Grammar');

INSERT INTO subjects VALUES (4, 23, 'Sociology');

INSERT INTO subjects VALUES (4, 24, 'Play writing');

INSERT INTO subjects VALUES (4, 25, 'Public speaking');

INSERT INTO subjects VALUES (4, 26, 'English elective 1');

INSERT INTO subjects VALUES (4, 27, 'English elective 2');

-- subjects TABLE insertion for the fifth course (Com)

INSERT INTO subjects VALUES (5, 14, 'Introduction to Object Oriented Programming');

INSERT INTO subjects VALUES (5, 15, 'Data Structures');

INSERT INTO subjects VALUES (5, 16, 'Computer Architecture');

INSERT INTO subjects VALUES (5, 17, 'Database Management');

INSERT INTO subjects VALUES (5, 3, 'Calculus');

INSERT INTO subjects VALUES (5, 5, 'Linear Algebra');

INSERT INTO subjects VALUES (5, 4, 'Statistics');

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