

DBMS Assignment 3

Table Creation Codes & Respective Triggers:

-- (1) Courses

```
CREATE TABLE courses
(
  cid INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
  ccode VARCHAR2(2) NOT NULL UNIQUE,
  cname VARCHAR2(50) NOT NULL UNIQUE,
  intake_capacity INT NOT NULL
);
```

-- (2) Subjects Table

```
CREATE TABLE subjects
(
  sid INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
  scode VARCHAR2(4) NOT NULL UNIQUE,
  sname VARCHAR2(50) NOT NULL UNIQUE,
  credit INT NOT NULL
);
```

-- (3) Course & Subject Table: holds which subjects are taught in which course

```
CREATE TABLE course_subject
(
  course_code VARCHAR2(2) NOT NULL,
  subject_code VARCHAR2(4) NOT NULL,
  PRIMARY KEY (course_code, subject_code),
  FOREIGN KEY (course_code) REFERENCES courses (ccode) ON DELETE CASCADE,
  FOREIGN KEY (subject_code) REFERENCES subjects (scode) ON DELETE CASCADE
);
```

-- (3.1) Trigger: To check if the associated subjects are within limit.

```
CREATE OR REPLACE TRIGGER max_subjects_per_course
BEFORE INSERT OR UPDATE ON course_subject
FOR EACH ROW
DECLARE
  subject_count NUMBER;
```

```

BEGIN
  SELECT COUNT(*) INTO subject_count
  FROM course_subject
  WHERE course_code = :NEW.course_code;

  IF subject_count >= 7 THEN
    RAISE_APPLICATION_ERROR(-20003, 'Course ' || :NEW.course_code || ' already has
the maximum of 7 associated subjects.');
```

```

  END IF;
```

```

END;
```

```

/
```

-- (4) Students Table

```

CREATE TYPE address AS OBJECT (
```

```

  locality VARCHAR2(150),
```

```

  city VARCHAR2(30),
```

```

  PIN VARCHAR2(10),
```

```

  state VARCHAR2(30),
```

```

  country VARCHAR2(30)
```

```

);
```

```

CREATE TABLE students
```

```

(
```

```

  student_id INT PRIMARY KEY,
```

```

  name VARCHAR2(100) NOT NULL,
```

```

  dob DATE,
```

```

  phone_number VARCHAR2(10) NOT NULL CHECK (LENGTH(phone_number) = 10),
```

```

  student_address address NOT NULL
```

```

);
```

-- (5) Enrollment Table

```

CREATE TABLE enrollment
```

```

(
```

```

  eid INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
```

```

  student_id INT NOT NULL,
```

```

  course_code VARCHAR2(2) NOT NULL,
```

```

subject_code VARCHAR2(4) NOT NULL,
ecode VARCHAR2(48) GENERATED ALWAYS AS (
    student_id || '-' || course_code || '-' || subject_code
) UNIQUE,
FOREIGN KEY (student_id) REFERENCES students(student_id) ON DELETE CASCADE,
FOREIGN KEY (course_code, subject_code) REFERENCES course_subject(course_code,
subject_code) ON DELETE CASCADE
);

```

-- (5.1) Trigger: To check if a student is enrolled in at most 6 subjects for any particular course

```

CREATE OR REPLACE TRIGGER check_subject_count
BEFORE INSERT ON enrollment
FOR EACH ROW
DECLARE
    subject_count NUMBER;
BEGIN
    SELECT COUNT(*) INTO subject_count
    FROM enrollment
    WHERE student_id = :NEW.student_id AND course_code = :NEW.course_code;

    IF subject_count > 6 THEN
        RAISE_APPLICATION_ERROR(-20001, 'Student can't be enrolled in more than 6
subjects for any particular course.');
```

END IF;

END;

/

-- (5.2) Trigger: To check if a student is enrolled in at least 5 subjects for any particular course

```

CREATE OR REPLACE TRIGGER check_subject_count_min
AFTER DELETE ON enrollment
FOR EACH ROW
DECLARE
    subject_count NUMBER;

```

```

BEGIN
    SELECT COUNT(*) INTO subject_count
    FROM enrollment
    WHERE student_id = :NEW.student_id AND course_code = :NEW.course_code;

    IF subject_count < 5 THEN
        DBMS_OUTPUT.PUT_LINE('Warning: Student must be enrolled in more than 5
subjects for any particular course. ');
    END IF;
END;
/

```

-- (5.3) Trigger: To keep in check the enrollment count

```

CREATE OR REPLACE TRIGGER check_intake_capacity
BEFORE INSERT ON enrollment
FOR EACH ROW
DECLARE
    current_enrollment_count NUMBER;
    max_intake NUMBER;
BEGIN
    SELECT COUNT(DISTINCT student_id) INTO current_enrollment_count
    FROM enrollment
    WHERE course_code = :NEW.course_code;

    SELECT intake_capacity INTO max_intake
    FROM courses
    WHERE ccode = :NEW.course_code;

    IF current_enrollment_count >= max_intake_capacity THEN
        RAISE_APPLICATION_ERROR(-20002, 'Enrollment exceeds the intake capacity for this
course. ');
    END IF;
END;
/

```

-- (6) Grade_Scale table

```

CREATE TABLE grade_scale
(
    grade_id INT GENERATED ALWAYS AS IDENTITY PRIMARY KEY,
    grade VARCHAR2(2) NOT NULL UNIQUE,
    low_range INT NOT NULL CHECK (low_range >= 0),
    high_range INT NOT NULL CHECK (high_range <= 100),

```

```
CONSTRAINT check_ranges CHECK (low_range <= high_range)
);
```

-- (7) Grade Card Table

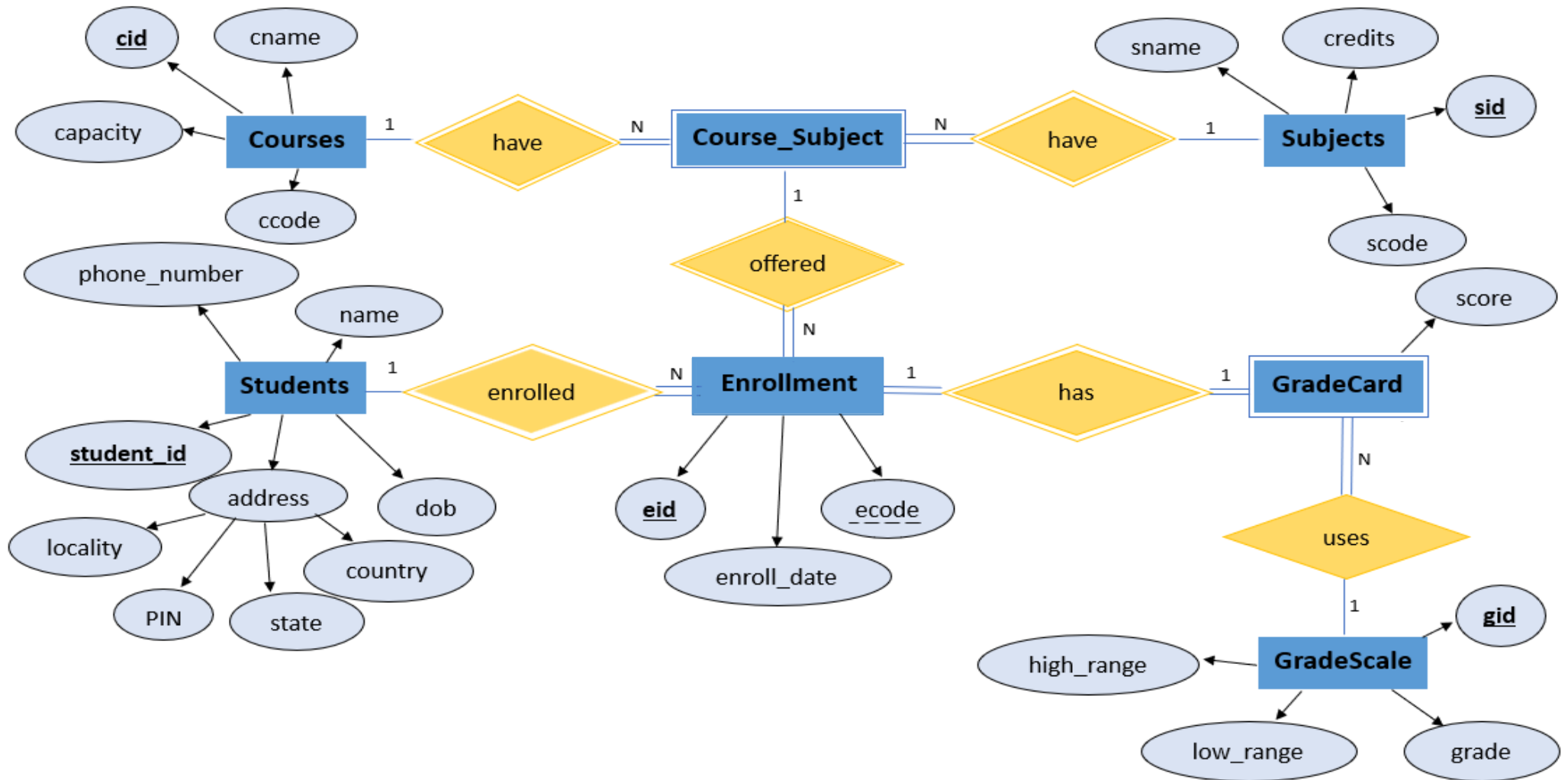
```
CREATE TABLE grade_card
(
    enrollment_code VARCHAR2(48) PRIMARY KEY,
    score INT CHECK (score >= 0 AND score <= 100),
    grade VARCHAR2(2),
    FOREIGN KEY (enrollment_code) REFERENCES enrollment(ecode) ON DELETE CASCADE
);
```

-- (7.1) Trigger: auto generate grade based on score

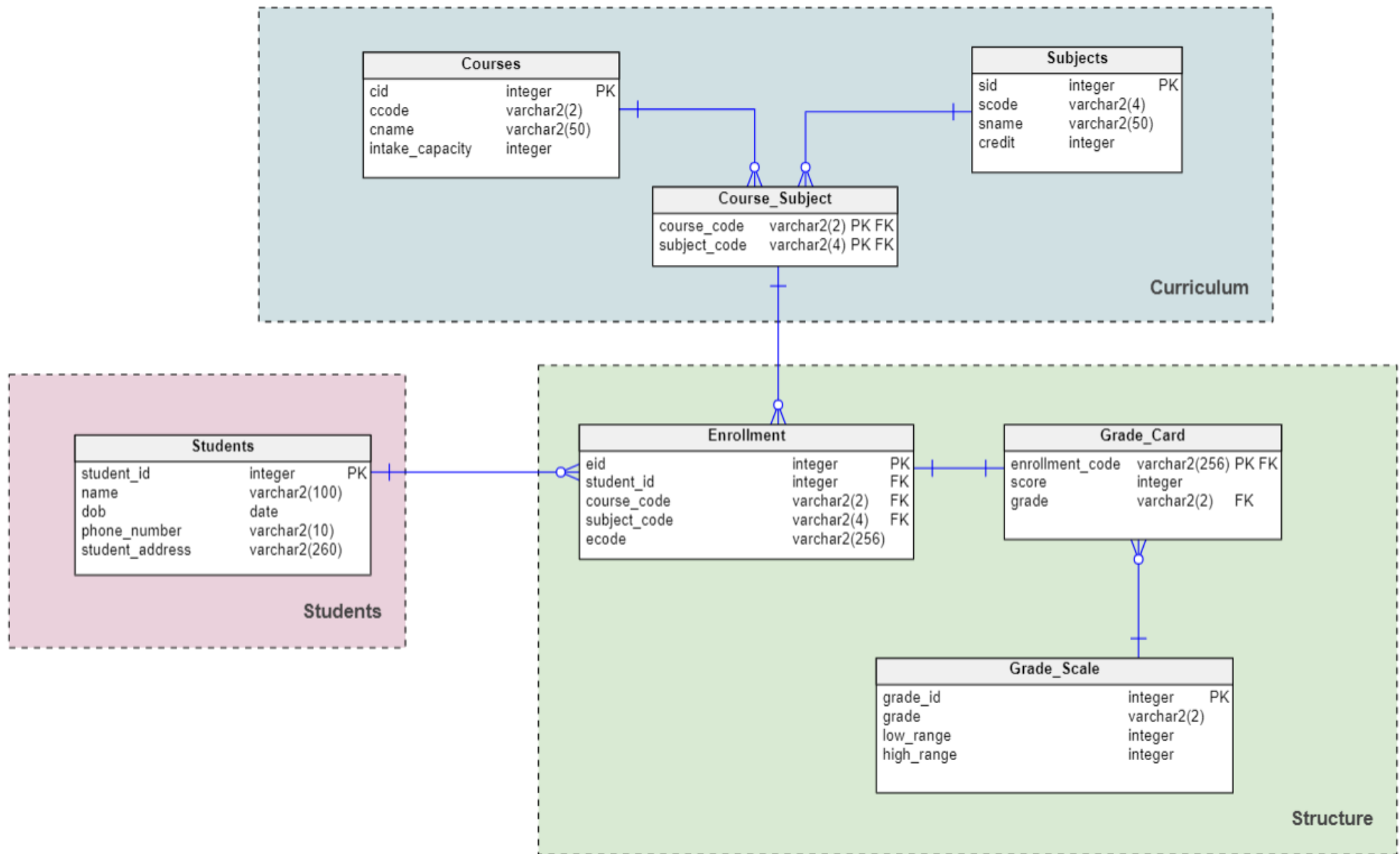
```
CREATE OR REPLACE TRIGGER generate_grade
BEFORE INSERT OR UPDATE ON grade_card
FOR EACH ROW
DECLARE
    v_grade VARCHAR2(1);
BEGIN
    SELECT grade
    INTO v_grade
    FROM grade_scale
    WHERE :NEW.score BETWEEN low_range AND high_range;

    :NEW.grade := v_grade;
END;
/
```

Student Course Enrollment Data ER Model



Student Course Enrollment Data Schema



Queries:

1. Insert at least five tuples in each table.

-- (1) Courses Table

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('01', 'Computer Science', 60);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('02', 'Information Technology', 60);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('03', 'Electronics & Telecommunication Engineering', 60);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('04', 'Electrical Engineering', 80);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('05', 'Mechanical Engineering', 70);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('06', 'Civil Engineering', 70);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('07', 'Chemical Engineering', 40);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('08', 'Aerospace Engineering', 35);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('09', 'Biomedical Engineering', 30);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('10', 'Environmental Engineering', 25);
```

```
INSERT INTO courses (ccode, cname, intake_capacity) VALUES ('11', 'Materials Science and Engineering', 40);
```

-- (2) Subjects Table

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0001', 'Mathematics for Engineers', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0002', 'Physics for Engineers', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0003', 'Chemistry for Engineers', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0101', 'Introduction to Computer Science', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0102', 'Data Structures and Algorithms', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0103', 'Operating Systems', 4);
```



```
INSERT INTO subjects (scode, sname, credit) VALUES ('0104', 'Software Engineering', 3);  
INSERT INTO subjects (scode, sname, credit) VALUES ('0105', 'Artificial Intelligence', 4);
```

-- CSE & IT

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0106', 'Database Management  
Systems', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0201', 'Introduction to Information  
Technology', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0202', 'Web Development', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0203', 'Network Security', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0204', 'Cloud Computing', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0205', 'Data Analytics', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0301', 'Digital Signal Processing',  
4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0302', 'Wireless Communication',  
3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0303', 'Microelectronics', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0304', 'Telecommunication  
Networks', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0305', 'Embedded Systems', 4);
```

-- ETCE & EE

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0401', 'Circuit Analysis', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0402', 'Electromagnetic Fields', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0403', 'Power Systems', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0404', 'Control Systems', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0405', 'Digital Electronics', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0406', 'Renewable Energy  
Systems', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0501', 'Mechanics of Materials', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0502', 'Thermodynamics', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0503', 'Fluid Mechanics', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0504', 'Heat Transfer', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0505', 'Machine Design', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0506', 'Manufacturing Processes',  
4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0601', 'Structural Analysis', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0602', 'Geotechnical Engineering',
4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0603', 'Transportation
Engineering', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0604', 'Construction
Management', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0605', 'Hydraulics and Hydrology',
4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0701', 'Chemical
Thermodynamics', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0702', 'Chemical Reaction
Engineering', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0703', 'Process Control and
Instrumentation', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0704', 'Transport Phenomena', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0705', 'Chemical Process Design',
3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0706', 'Polymer Engineering', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0801', 'Aerodynamics', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0802', 'Flight Mechanics', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0803', 'Aerospace Structures', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0804', 'Spacecraft Systems', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0805', 'Propulsion Systems', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0806', 'Aerospace Materials', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('0901', 'Introduction to Biomedical
Engineering', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0902', 'Biomechanics', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0903', 'Biomedical Imaging', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0904', 'Biomaterials', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('0905', 'Physiology and Anatomy',
3);
INSERT INTO subjects (scode, sname, credit) VALUES ('0906', 'Medical Device Design', 4);
```

– Civil & Env

```
INSERT INTO subjects (scode, sname, credit) VALUES ('1001', 'Introduction to
Environmental Engineering', 3);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('1002', 'Water Quality Engineering', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('1003', 'Air Pollution Control', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('1004', 'Waste Management', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('1005', 'Environmental Impact Assessment', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('1006', 'Sustainable Environmental Design', 4);
```

```
INSERT INTO subjects (scode, sname, credit) VALUES ('1101', 'Introduction to Materials Science', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('1102', 'Materials Characterization', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('1103', 'Materials Processing', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('1104', 'Nanomaterials', 4);
INSERT INTO subjects (scode, sname, credit) VALUES ('1105', 'Materials for Energy Applications', 3);
INSERT INTO subjects (scode, sname, credit) VALUES ('1106', 'Advanced Materials Design', 4);
```

-- (3) Course Subject Table

-- Insert subjects for Course 1

```
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0001');
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0101');
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0102');
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0103');
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0104');
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0105');
INSERT INTO course_subject (course_code, subject_code) VALUES ('01', '0106');
```

-- Insert subjects for Course 2

```
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0001');
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0201');
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0202');
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0203');
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0204');
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0205');
INSERT INTO course_subject (course_code, subject_code) VALUES ('02', '0106');
```



```
INSERT INTO course_subject (course_code, subject_code) VALUES ('07', '0704');
INSERT INTO course_subject (course_code, subject_code) VALUES ('07', '0705');
INSERT INTO course_subject (course_code, subject_code) VALUES ('07', '0706');
```

-- Insert subjects for Course 8

```
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0002');
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0801');
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0802');
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0803');
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0804');
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0805');
INSERT INTO course_subject (course_code, subject_code) VALUES ('08', '0806');
```

-- Insert subjects for Course 9

```
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0003');
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0901');
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0902');
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0903');
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0904');
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0905');
INSERT INTO course_subject (course_code, subject_code) VALUES ('09', '0906');
```

-- Insert subjects for Course 10

```
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '0003');
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '1001');
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '1002');
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '1003');
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '1004');
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '1005');
INSERT INTO course_subject (course_code, subject_code) VALUES ('10', '1006');
```

-- Insert subjects for Course 11

```
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '0003');
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '1101');
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '1102');
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '1103');
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '1104');
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '1105');
INSERT INTO course_subject (course_code, subject_code) VALUES ('11', '1106');
```

-- (4) Students Table

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (1, 'John Doe', TO_DATE ('1995-03-15', 'YYYY-MM-DD'), '9434567890',
        address('123 Main St', 'New York', '10001', 'NY', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (2, 'Jane Smith', TO_DATE ('1998-08-20', 'YYYY-MM-DD'), '9876543210',
        address ('456 Elm St', 'Los Angeles', '90001', 'CA', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (3, 'Michael Johnson', TO_DATE ('1997-05-10', 'YYYY-MM-DD'), '5551234567',
        address ('789 Oak St', 'Chicago', '60601', 'IL', 'USA')
);
```

-- Inserting more student records with addresses

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (4, 'Sarah Wilson', TO_DATE('1999-12-02', 'YYYY-MM-DD'), '4449876543',
        address('321 Pine St', 'Houston', '77001', 'TX', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (5, 'David Brown', TO_DATE('1996-11-25', 'YYYY-MM-DD'), '7773334444',
        address('567 Cedar St', 'San Francisco', '94101', 'CA', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (6, 'Emily Davis', TO_DATE('2000-02-12', 'YYYY-MM-DD'), '1234567890',
        address('222 Oak St', 'Boston', '02101', 'MA', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (7, 'William Miller', TO_DATE('1994-09-30', 'YYYY-MM-DD'), '9876543210',
        address('789 Elm St', 'Seattle', '98101', 'WA', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (8, 'Olivia Wilson', TO_DATE('1997-07-22', 'YYYY-MM-DD'), '5551234567',
        address('456 Maple St', 'Miami', '33101', 'FL', 'USA')
);
```

-- Inserting more student records with addresses

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (9, 'James Smith', TO_DATE('1998-04-05', 'YYYY-MM-DD'), '4449876543',
        address('654 Birch St', 'Denver', '80201', 'CO', 'USA'))
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (10, 'Ava Johnson', TO_DATE('1996-01-18', 'YYYY-MM-DD'), '7773334444',
        address('987 Pine St', 'Dallas', '75201', 'TX', 'USA'))
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (11, 'Emma Brown', TO_DATE('1999-10-07', 'YYYY-MM-DD'), '1234567890',
        address('789 Cedar St', 'San Diego', '92101', 'CA', 'USA'))
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (12, 'Noah Davis', TO_DATE('1995-06-29', 'YYYY-MM-DD'), '9876543210',
        address('123 Elm St', 'Philadelphia', '19101', 'PA', 'USA'))
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (13, 'Sophia Wilson', TO_DATE('1998-03-14', 'YYYY-MM-DD'), '5551234567',
        address('234 Maple St', 'Phoenix', '85001', 'AZ', 'USA'))
);
```

-- Inserting more student records with addresses

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (14, 'Liam Smith', TO_DATE('1997-09-17', 'YYYY-MM-DD'), '4449876543',
        address('567 Oak St', 'Austin', '73301', 'TX', 'USA'))
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (15, 'Mia Johnson', TO_DATE('1996-12-24', 'YYYY-MM-DD'), '7773334444',
        address('876 Pine St', 'Nashville', '37201', 'TN', 'USA'))
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (16, 'Charlotte Brown', TO_DATE('1995-04-03', 'YYYY-MM-DD'), '1234567890',
        address('123 Birch St', 'Portland', '97201', 'OR', 'USA'))
```

);

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (17, 'Emma Johnson', TO_DATE('1998-06-15', 'YYYY-MM-DD'), '5559876543',
address('123 Elm Street', 'Cityville', '12345', 'CA', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (18, 'Noah Brown', TO_DATE('2001-09-05', 'YYYY-MM-DD'), '5553334444',
address('567 Pine Lane', 'Hamletville', '98765', 'FL', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (19, 'Olivia Smith', TO_DATE('2000-11-10', 'YYYY-MM-DD'), '5557778888',
address('789 Maple Road', 'Villagetown', '34567', 'NY', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (20, 'Liam Wilson', TO_DATE('1999-03-22', 'YYYY-MM-DD'), '5555555555',
address('456 Oak Avenue', 'Townsville', '56789', 'TX', 'USA')
);
```

```
INSERT INTO students (student_id, name, dob, phone_number, student_address)
VALUES (18069, 'Chris Wilson', TO_DATE('1999-03-22', 'YYYY-MM-DD'), '5555555555',
address('456 Oak Avenue', 'Townsville', '56789', 'TX', 'USA')
);
```

-- (5) Enrollment Table

-- Student 1

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (1, '01',
'0001');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (1, '01', '0101');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (1, '01',
'0102');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (1, '01',
'0104');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (1, '01',
'0106');
```


-- Student 2

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (2, '02', '0001');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (2, '02', '0201');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (2, '02', '0202');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (2, '02', '0203');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (2, '02', '0204');
```

-- Student 3

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (3, '03', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (3, '03', '0301');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (3, '03', '0302');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (3, '03', '0303');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (3, '03', '0304');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (3, '03', '0305');
```

-- Student 4

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (4, '04', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (4, '04', '0401');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (4, '04', '0402');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (4, '04', '0403');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (4, '04', '0404');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (4, '04', '0405');
```

-- Student 5

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (5, '05', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (5, '05', '0501');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (5, '05', '0502');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (5, '05', '0503');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (5, '05', '0504');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (5, '05', '0505');
```

-- Student 6

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (6, '06', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (6, '06', '0601');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (6, '06', '0602');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (6, '06', '0603');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (6, '06', '0604');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (6, '06', '1001');
```

-- Student 8

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (8, '08', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (8, '08', '0801');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (8, '08', '0802');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (8, '08', '0803');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (8, '08', '0804');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (8, '08', '0805');
```

-- Student 9

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (9, '02', '0001');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (9, '02', '0201');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (9, '02', '0202');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (9, '02', '0204');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (9, '02', '0205');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (9, '02', '0106');
```

-- Student 11

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (11, '11', '0003');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (11, '11', '1101');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (11, '11', '1102');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (11, '11', '1103');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (11, '11', '1104');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (11, '11', '1105');
```

-- Student 12

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (12, '01', '0001');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (12, '01', '0101');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (12, '01', '0102');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (12, '01', '0103');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (12, '01', '0104');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (12, '01', '0106');
```

-- Student 13

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (13, '01', '0001');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (13, '01', '0101');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (13, '01', '0102');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (13, '01', '0104');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (13, '01', '0105');
```

-- Student 16

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (16, '04', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (16, '04', '0401');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (16, '04', '0402');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (16, '04', '0403');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (16, '04', '0404');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (16, '04', '0405');
```

-- Student 17

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (17, '05', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (17, '05', '0501');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (17, '05', '0502');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (17, '05', '0503');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (17, '05', '0504');
```

-- Student 20

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (20, '08', '0002');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (20, '08', '0801');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (20, '08', '0802');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (20, '08', '0803');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (20, '08', '0804');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (20, '08', '0805');
```

-- Student 18069

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (18069, '02', '0001');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (18069, '02', '0201');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (18069, '02', '0202');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (18069, '02', '0203');
```

```
INSERT INTO enrollment (student_id, course_code, subject_code) VALUES (18069, '02', '0204');
```

-- (6) Grade Scale Table

```
INSERT INTO grade_scale (grade, low_range, high_range)  
VALUES ('S', 90, 100);
```

```
INSERT INTO grade_scale (grade, low_range, high_range)  
VALUES ('A', 80, 89);
```

```
INSERT INTO grade_scale (grade, low_range, high_range)  
VALUES ('B', 70, 79);
```

```
INSERT INTO grade_scale (grade, low_range, high_range)  
VALUES ('C', 60, 69);
```

```
INSERT INTO grade_scale (grade, low_range, high_range)
VALUES ('D', 50, 59);
```

```
INSERT INTO grade_scale (grade, low_range, high_range)
VALUES ('E', 40, 49);
```

```
INSERT INTO grade_scale (grade, low_range, high_range)
VALUES ('F', 0, 39);
```

-- (7) Grade Card Table

-- Student 1

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('1-01-0001', 95);
INSERT INTO grade_card (enrollment_code, score) VALUES ('1-01-0101', 88);
INSERT INTO grade_card (enrollment_code, score) VALUES ('1-01-0102', 78);
INSERT INTO grade_card (enrollment_code, score) VALUES ('1-01-0104', 92);
INSERT INTO grade_card (enrollment_code, score) VALUES ('1-01-0106', 70);
```

-- Student 2

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('2-02-0001', 90);
INSERT INTO grade_card (enrollment_code, score) VALUES ('2-02-0201', 82);
INSERT INTO grade_card (enrollment_code, score) VALUES ('2-02-0202', 75);
INSERT INTO grade_card (enrollment_code, score) VALUES ('2-02-0203', 88);
INSERT INTO grade_card (enrollment_code, score) VALUES ('2-02-0204', 77);
```

-- Student 3

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('3-03-0002', 92);
INSERT INTO grade_card (enrollment_code, score) VALUES ('3-03-0301', 92);
INSERT INTO grade_card (enrollment_code, score) VALUES ('3-03-0302', 85);
INSERT INTO grade_card (enrollment_code, score) VALUES ('3-03-0303', 78);
INSERT INTO grade_card (enrollment_code, score) VALUES ('3-03-0304', 69);
INSERT INTO grade_card (enrollment_code, score) VALUES ('3-03-0305', 60);
```

-- Student 4

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('4-04-0002', 88);
INSERT INTO grade_card (enrollment_code, score) VALUES ('4-04-0401', 88);
INSERT INTO grade_card (enrollment_code, score) VALUES ('4-04-0402', 79);
INSERT INTO grade_card (enrollment_code, score) VALUES ('4-04-0403', 71);
INSERT INTO grade_card (enrollment_code, score) VALUES ('4-04-0404', 63);
INSERT INTO grade_card (enrollment_code, score) VALUES ('4-04-0405', 55);
```

-- Student 5

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('5-05-0002', 78);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('5-05-0501', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('5-05-0502', 87);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('5-05-0503', 78);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('5-05-0504', 68);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('5-05-0505', 52);
```

-- Student 6

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('6-06-0002', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('6-06-0601', 85);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('6-06-0602', 76);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('6-06-0603', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('6-06-0604', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('6-06-1001', 68);
```

-- Student 8

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('8-08-0002', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('8-08-0801', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('8-08-0802', 78);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('8-08-0803', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('8-08-0804', 70);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('8-08-0805', 55);
```

-- Student 9

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('9-02-0001', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('9-02-0201', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('9-02-0202', 76);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('9-02-0204', 68);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('9-02-0205', 45);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('9-02-0106', 85);
```

-- Student 11

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('11-11-0003', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('11-11-1101', 76);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('11-11-1102', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('11-11-1103', 70);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('11-11-1104', 45);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('11-11-1105', 60);
```

-- Student 12

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('12-01-0001', 78);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('12-01-0101', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('12-01-0102', 60);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('12-01-0103', 78);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('12-01-0104', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('12-01-0106', 81);
```

-- Student 13

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('13-01-0001', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('13-01-0101', 76);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('13-01-0102', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('13-01-0104', 68);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('13-01-0105', 45);
```

-- Student 16

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('16-04-0002', 75);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('16-04-0401', 75);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('16-04-0402', 82);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('16-04-0403', 72);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('16-04-0404', 94);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('16-04-0405', 58);
```

-- Student 17

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('17-05-0002', 65);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('17-05-0501', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('17-05-0502', 70);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('17-05-0503', 95);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('17-05-0504', 45);
```

-- Student 20

```
INSERT INTO grade_card (enrollment_code, score) VALUES ('20-08-0002', 92);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('20-08-0801', 68);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('20-08-0802', 65);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('20-08-0803', 88);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('20-08-0804', 70);  
INSERT INTO grade_card (enrollment_code, score) VALUES ('20-08-0805', 95);
```


-- Student 18069

INSERT INTO grade_card (enrollment_code, score) VALUES ('18069-02-0001', 86);

INSERT INTO grade_card (enrollment_code, score) VALUES ('18069-02-0201', 84);

INSERT INTO grade_card (enrollment_code, score) VALUES ('18069-02-0202', 75);

INSERT INTO grade_card (enrollment_code, score) VALUES ('18069-02-0203', 58);

INSERT INTO grade_card (enrollment_code, score) VALUES ('18069-02-0204', 77);

- 2. At the time of creation if we forget to create a field enrollment date (ENROLL_DATE) in ENROLL table so add the field.**

```
ALTER TABLE enrollment  
ADD enroll_date DATE DEFAULT TO_DATE('2023-09-24', 'YYYY-MM-DD') NOT NULL;
```

- 3. Course name cannot be blank, therefore add the criteria in the specific table.**

```
ALTER TABLE courses  
MODIFY cname VARCHAR2(50) NOT NULL;
```

```
ORA-01442: column to be modified to NOT NULL is already NOT NULL
```

- 4. Find the Course which has more than 3 students.**

```
SELECT c.cname AS course_name,  
       COUNT(DISTINCT(e.student_id)) AS enrollment  
FROM enrollment e  
LEFT JOIN courses c ON e.course_code = c.ccode  
GROUP BY c.cname  
HAVING COUNT(DISTINCT(e.student_id)) > 3;
```

```
no data found
```

5. Give the details of a STUDENT with all Subjects and Grade where he/she enroll (Enter the sid value as input).

```
-- ACCEPT sid PROMPT 'Enter Student ID (SID): '
```

```
SELECT s.student_id,  
       s.name AS student_name,  
       c.cname AS course_name,  
       sub.sname AS subject_name,  
       gc.score,  
       gc.grade  
FROM students s  
JOIN enrollment e ON s.student_id = e.student_id  
JOIN grade_card gc ON e.ecode = gc.enrollment_code  
JOIN courses c ON e.course_code = c.ccode  
JOIN subjects sub ON e.subject_code = sub.scode  
WHERE s.student_id = 1;  
-- WHERE s.student_id = '&sid';
```

STUDENT_ID	STUDENT_NAME	COURSE_NAME	SUBJECT_NAME	SCORE	GRADE
1	John Doe	Computer Science	Mathematics for Engineers	95	S
1	John Doe	Computer Science	Introduction to Computer Science	88	A
1	John Doe	Computer Science	Data Structures and Algorithms	78	B
1	John Doe	Computer Science	Software Engineering	92	S
1	John Doe	Computer Science	Database Management Systems	70	B

6. Display the course where the maximum number of students enrolls.

```
WITH course_enrollment AS (  
  SELECT c.cname AS course_name,  
         COUNT(DISTINCT(e.student_id)) AS enrollment  
  FROM enrollment e  
  LEFT JOIN courses c ON e.course_code = c.ccode  
  GROUP BY c.cname  
)  
  
SELECT course_name, enrollment  
FROM course_enrollment  
WHERE enrollment = (SELECT MAX(enrollment) FROM course_enrollment);
```

COURSE_NAME	ENROLLMENT
Information Technology	3
Computer Science	3

7. Find out the course where no student is enrolled.

```
WITH course_enrollment AS (  
  SELECT c.cname AS course_name,  
         COUNT(DISTINCT(e.student_id)) AS enrollment  
  FROM enrollment e  
  FULL JOIN courses c ON e.course_code = c.ccode  
  GROUP BY c.cname  
)  
  
SELECT course_name, enrollment  
FROM course_enrollment  
WHERE enrollment = 0;
```

COURSE_NAME	ENROLLMENT
Chemical Engineering	0
Biomedical Engineering	0
Environmental Engineering	0

8. Delete Course no 30 from COURSE table.

```
DELETE FROM courses
WHERE cid = 30;
```

```
0 row(s) deleted.
```

9. Rename the COURSE table as DEPARTMENT.

```
ALTER TABLE courses
RENAME TO department;
-- Modify the triggers to reflect the change
```

```
Table altered.
```

10. Change the Marks Grade of Student “A” to “B” who is Enroll in the subject DBMS.

-- Won't be able to just change grade cause it's dependent on score. So, changing the score for students who have gotten 'A'

```
UPDATE grade_card
SET score = score - 10
WHERE substr(enrollment_code, INSTR(enrollment_code, '-', 1, 2) + 1,
LENGTH(enrollment_code)) =
(
  SELECT scode AS subject_code
  FROM subjects
  WHERE sname = 'Database Management Systems'
)
AND grade = 'A';
```

-- Before

ENROLLMENT_CODE	SCORE	GRADE
9-02-0106	85	A
12-01-0106	81	A
1-01-0106	60	C

-- After

ENROLLMENT_CODE	SCORE	GRADE
9-02-0106	75	B
12-01-0106	71	B
1-01-0106	60	C

11. Delete the record of the student who is enrolled in the course 'IT'.

```
SELECT DISTINCT student_id, d.cname AS course_name
FROM enrollment e
JOIN department d ON e.course_code = d.ccode
WHERE d.cname = 'Information Technology'
```

STUDENT_ID	COURSE_NAME
9	Information Technology
18069	Information Technology
2	Information Technology

-- There are 3 students with student_id (2, 9, 18069) enrolled in "IT".
-- Let's delete the record of the student with id 9.
-- In order to do that we first have to disable the trigger (5.2)
"CHECK_SUBJECT_COUNT_MIN"

```
DELETE FROM enrollment
WHERE student_id = 9;
```

```
6 row(s) deleted.
```

-- Enable the trigger back.

STUDENT_ID	COURSE_NAME
18069	Information Technology
2	Information Technology

12. Change the enroll date to '16-08-2018' whose student id is 18069 (first convert the date into the default format).

```
UPDATE enrollment  
SET enroll_date = TO_DATE('2018-08-16', 'YYYY-MM-DD')  
WHERE student_id = 18069;
```

```
5 row(s) updated.
```