

CREATE TABLE students (

student\_id NUMBER PRIMARY KEY,

first\_name VARCHAR2(50) NOT NULL,

last\_name VARCHAR2(50) NOT NULL,

email VARCHAR2(100) UNIQUE NOT NULL,

phone\_number VARCHAR2(15),

date\_of\_birth DATE,

enrollment\_date DATE DEFAULT SYSDATE

);

CREATE TABLE courses (

course\_id NUMBER PRIMARY KEY,

course\_name VARCHAR2(100) NOT NULL,

course\_code VARCHAR2(20) UNIQUE NOT NULL,

credit\_hours NUMBER(2) CHECK (credit\_hours BETWEEN 1 AND 6)

);

CREATE TABLE instructors (

instructor\_id NUMBER PRIMARY KEY,

first\_name VARCHAR2(50) NOT NULL,

last\_name VARCHAR2(50) NOT NULL,

email VARCHAR2(100) UNIQUE NOT NULL

);

CREATE TABLE enrollments (

enrollment\_id NUMBER PRIMARY KEY,

student\_id NUMBER NOT NULL,

course\_id NUMBER NOT NULL,

enrollment\_date DATE DEFAULT SYSDATE,

grade CHAR(2), -- Example: A, B, C, D, F

CONSTRAINT fk\_student FOREIGN KEY (student\_id) REFERENCES students(student\_id) ON DELETE CASCADE,

CONSTRAINT fk\_course FOREIGN KEY (course\_id) REFERENCES courses(course\_id) ON DELETE CASCADE

);

INSERT INTO Students (Student\_ID, First\_Name, Last\_Name, Email, Phone\_Number, Date\_of\_Birth, Enrollment\_Date)

VALUES (1, 'John', 'Doe', 'john.doe@example.com', '1234567890', TO\_DATE('2000-05-15', 'YYYY-MM-DD'), SYSDATE);

INSERT INTO Courses (Course\_ID, Course\_Name, Course\_Code, Credit\_Hours)

VALUES (101, 'Database Systems', 'DB101', 3);

INSERT INTO Enrollments (Enrollment\_ID, Student\_ID, Course\_ID, Enrollment\_Date, Grade)

VALUES (1001, 1, 101, SYSDATE, 'A');

INSERT INTO Instructors (Instructor\_ID, First\_Name, Last\_Name, Email)

VALUES (201, 'Dr. Smith', 'Anderson', 'smith.anderson@example.com');

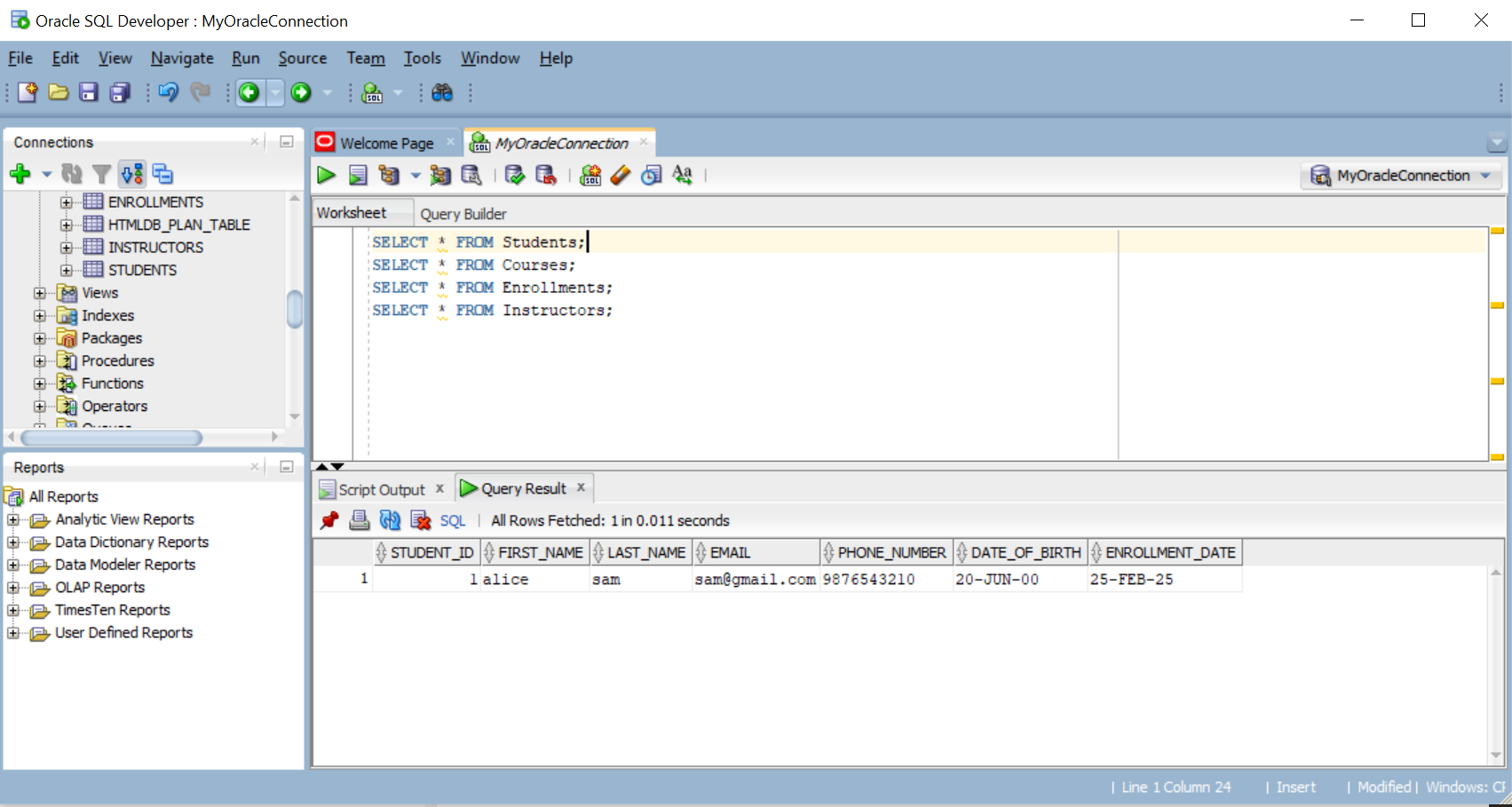
UPDATE Students

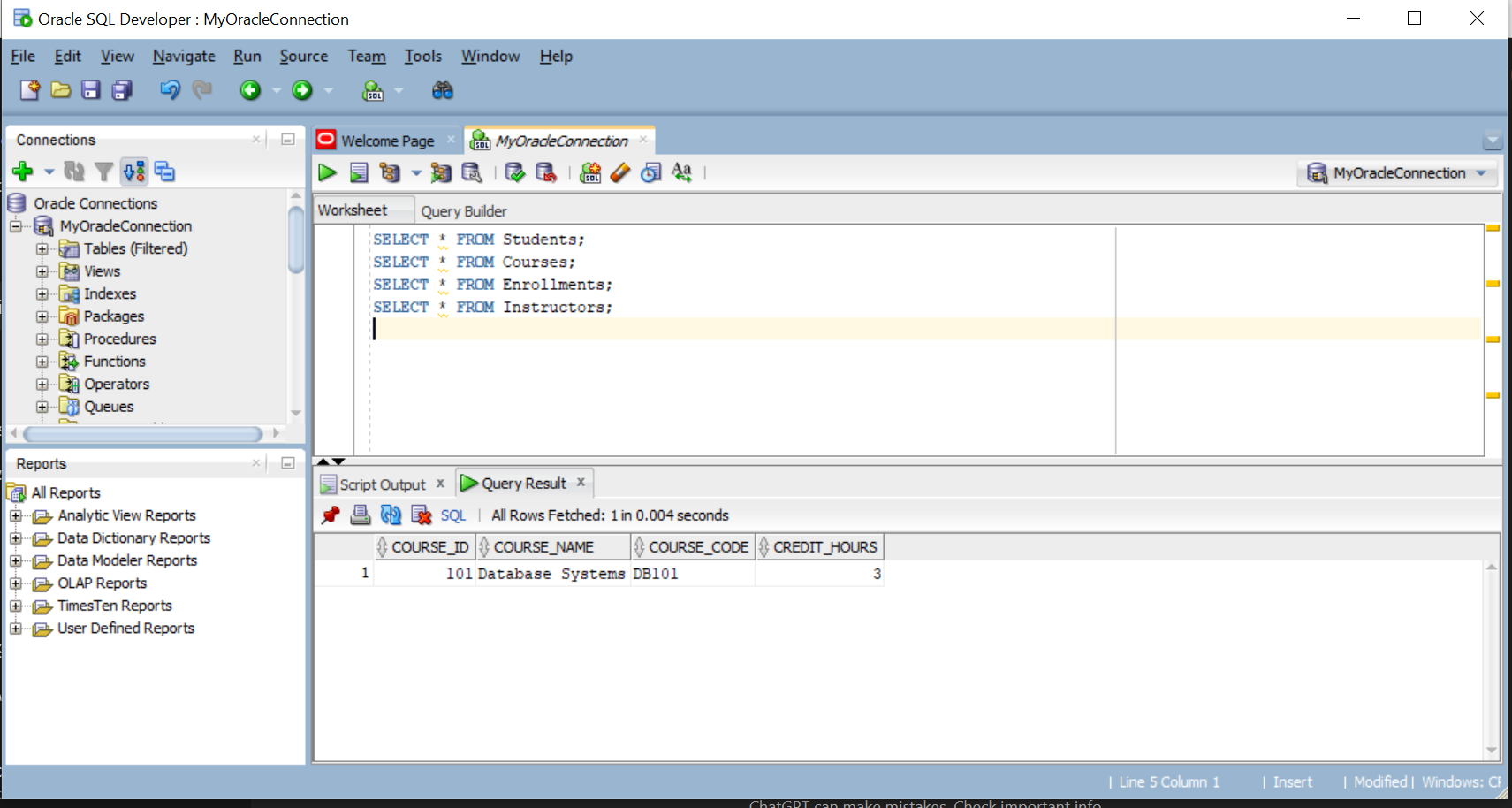
SET Phone\_Number = '9876543210'

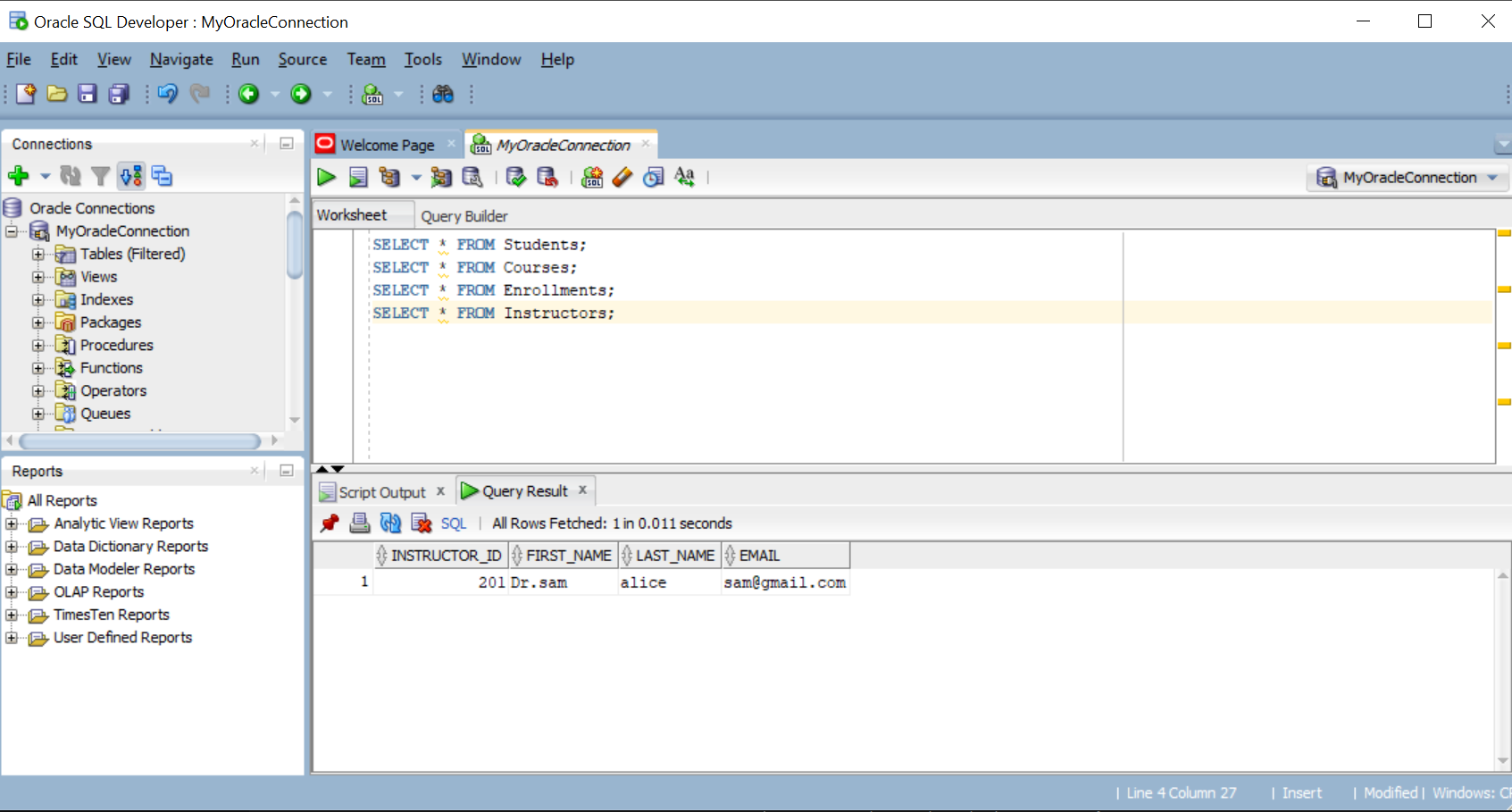
WHERE Student\_ID = 1;

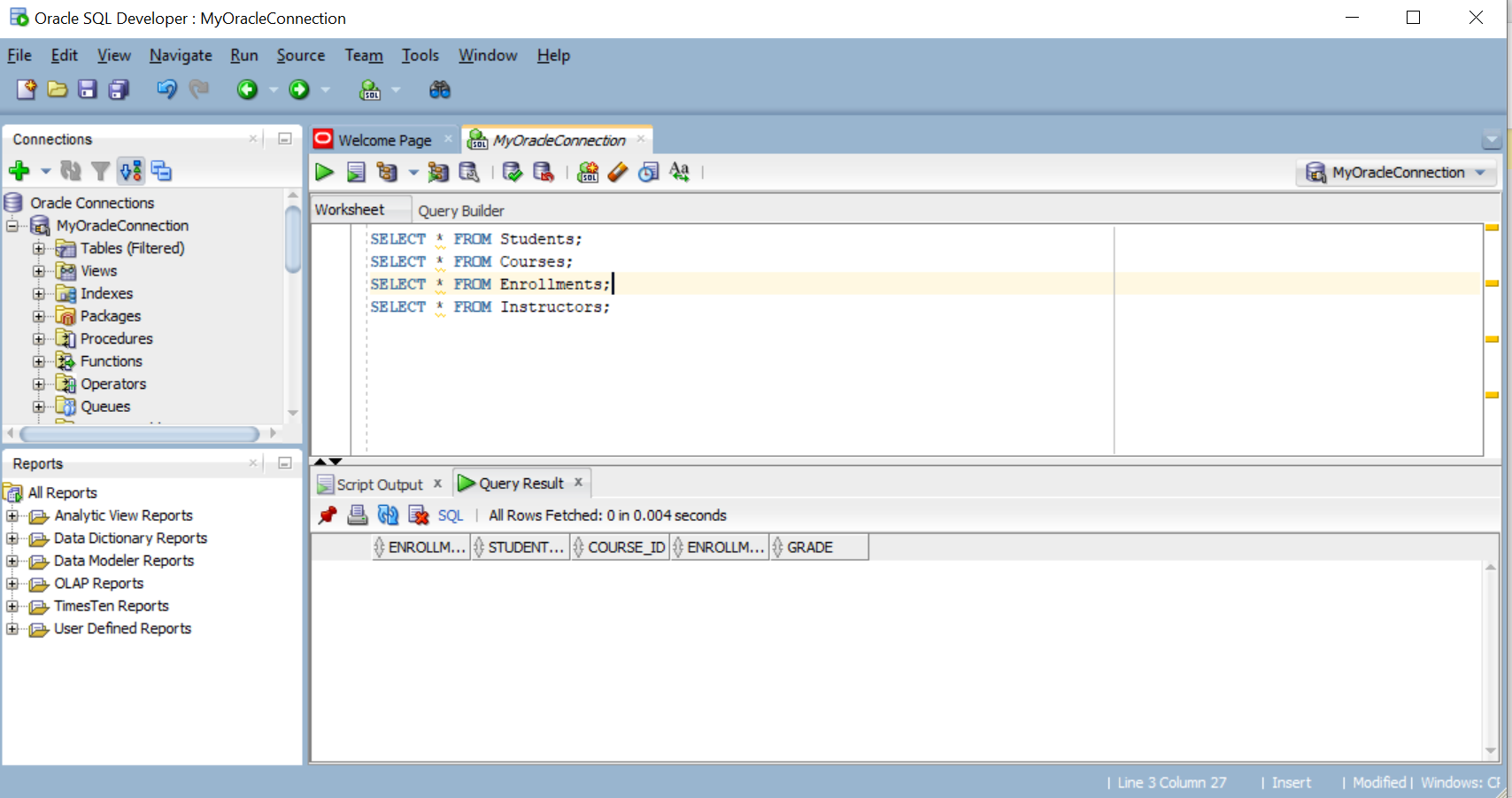
DELETE FROM Enrollments

WHERE Enrollment\_ID = 1001;









SELECT s.Student\_ID, s.First\_Name, s.Last\_Name, c.Course\_Name, e.Grade

FROM Students s

LEFT JOIN Enrollments e ON s.Student\_ID = e.Student\_ID

LEFT JOIN Courses c ON e.Course\_ID = c.Course\_ID;

SELECT s.Student\_ID, s.First\_Name, s.Last\_Name, c.Course\_Name, e.Grade

FROM Students s

LEFT JOIN Enrollments e ON s.Student\_ID = e.Student\_ID

LEFT JOIN Courses c ON e.Course\_ID = c.Course\_ID;

SELECT Student\_ID, COUNT(Course\_ID) AS Course\_Count

FROM Enrollments

GROUP BY Student\_ID

HAVING COUNT(Course\_ID) > 1;

SELECT s.Student\_ID, s.First\_Name, s.Last\_Name

FROM Students s

WHERE NOT EXISTS (

SELECT 1 FROM Enrollments e WHERE e.Student\_ID = s.Student\_ID

);

SELECT \* FROM Students

WHERE Enrollment\_Date >= SYSDATE - 7;

SELECT \* FROM Enrollments

WHERE Enrollment\_Date >= SYSDATE - 7;

SELECT \* FROM (

SELECT s.Student\_ID, s.First\_Name, s.Last\_Name, e.Grade

FROM Students s

JOIN Enrollments e ON s.Student\_ID = e.Student\_ID

ORDER BY e.Grade DESC

)

WHERE ROWNUM <= 5;

SELECT Student\_ID, COUNT(Course\_ID) AS Enrollment\_Count

FROM Enrollments

GROUP BY Student\_ID

HAVING COUNT(Course\_ID) > 3;

INSERT INTO Enrollments (Enrollment\_ID, Student\_ID, Course\_ID, Enrollment\_Date, Grade)

VALUES (1002, 1, 101, SYSDATE, 'B');

COMMIT;

DELETE FROM Enrollments WHERE Enrollment\_ID = 1002;

ROLLBACK; -- This will undo the DELETE if you haven't committed