**Manas Pratim Biswas**

**IT-A1-025 DBMS Assignment 3**

**Database Schema:**



**ER Diagram:**



**QUESTION 1.**

-- COURSE Table

CREATE TABLE COURSE(

COURSE\_ID NUMBER(2),

COURSE\_NAME VARCHAR2(10)

);

INSERT INTO COURSE VALUES (10, 'CS');

INSERT INTO COURSE VALUES (20, 'IT');

INSERT INTO COURSE VALUES (30, 'ECE');

INSERT INTO COURSE VALUES (40, 'AI');

INSERT INTO COURSE VALUES (50, 'WEB DEV');

-- SUBJECT Table

CREATE TABLE SUBJECT(

SUBJECT\_ID NUMBER(3),

SUBJECT\_NAME VARCHAR2(15)

);

INSERT INTO SUBJECT VALUES (101, 'DSA');

INSERT INTO SUBJECT VALUES (102, 'OOP');

INSERT INTO SUBJECT VALUES (103, 'DBMS');

INSERT INTO SUBJECT VALUES (104, 'ML');

INSERT INTO SUBJECT VALUES (105, 'BIG DATA');

INSERT INTO SUBJECT VALUES (106, 'COA');

INSERT INTO SUBJECT VALUES (107, 'GRAPH THERORY');

INSERT INTO SUBJECT VALUES (108, 'NETWORKING');

-- STUDENT Table

CREATE TABLE STUDENT(

STUDENT\_ID NUMBER(5),

STUDENT\_NAME VARCHAR2(25),

COURSE\_ID NUMBER(2),

GRADE VARCHAR2(1)

);

INSERT INTO STUDENT VALUES (18066, 'MANAS', 10, 'B');

INSERT INTO STUDENT VALUES (18067, 'RAJASI', 20, 'A');

INSERT INTO STUDENT VALUES (18068, 'SOHAM', 20, 'C');

INSERT INTO STUDENT VALUES (18069, 'SHRAYAN', 20, 'B');

INSERT INTO STUDENT VALUES (18070, 'SHREYA', 20, 'A');

INSERT INTO STUDENT VALUES (18071, 'BITASTA', 40, 'A');

INSERT INTO STUDENT VALUES (18072, 'KAUSTAV', 50, 'B');

-- ENROLLED Table

CREATE TABLE ENROLLED(

STUDENT\_ID NUMBER(5),

COURSE\_ID NUMBER(2)

);

INSERT INTO ENROLLED VALUES (18066, 10);

INSERT INTO ENROLLED VALUES (18067, 20);

INSERT INTO ENROLLED VALUES (18068, 20);

INSERT INTO ENROLLED VALUES (18069, 20);

INSERT INTO ENROLLED VALUES (18070, 20);

-- HAVE Table

CREATE TABLE HAVE(

COURSE\_ID NUMBER(2),

STUDENT\_ID NUMBER(3),

SUBJECT\_NAME VARCHAR(15)

);

INSERT INTO HAVE VALUES (40, 101, 'DSA');

INSERT INTO HAVE VALUES (40, 102, 'OOP');

INSERT INTO HAVE VALUES (40, 103, 'DBMS');

INSERT INTO HAVE VALUES (40, 104, 'ML');

INSERT INTO HAVE VALUES (40, 105, 'BIG DATA');

INSERT INTO HAVE VALUES (40, 107, 'GRAPH THEROY');

-- SELECTED Table

CREATE TABLE SELECTED(

STUDENT\_ID NUMBER(5),

SUBJECT\_ID NUMBER(3),

GRADE VARCHAR2(1)

);

INSERT INTO SELECTED VALUES (18071, 101, 'A');

INSERT INTO SELECTED VALUES (18071, 102, 'B');

INSERT INTO SELECTED VALUES (18071, 103, 'A');

INSERT INTO SELECTED VALUES (18071, 104, 'C');

INSERT INTO SELECTED VALUES (18071, 105, 'B');

INSERT INTO SELECTED VALUES (18071, 107, 'A');

**QUESTION 2.**

ALTER TABLE ENROLLED

ADD (ENROLL\_DATE DATE);

UPDATE ENROLLED SET ENROLL\_DATE='19-NOV-19' WHERE STUDENT\_ID=18066;

UPDATE ENROLLED SET ENROLL\_DATE='17-JUL-18' WHERE STUDENT\_ID=18067;

UPDATE ENROLLED SET ENROLL\_DATE='14-DEC-19' WHERE STUDENT\_ID=18068;

UPDATE ENROLLED SET ENROLL\_DATE='21-JUL-19' WHERE STUDENT\_ID=18069;

UPDATE ENROLLED SET ENROLL\_DATE='04-JUN-21' WHERE STUDENT\_ID=18070;

**QUESTION 3.**

ALTER TABLE COURSE

MODIFY COURSE\_NAME VARCHAR(10) NOT NULL;

**QUESTION 4.**

SELECT \* FROM(

SELECT

COUNT(COURSE\_ID) AS STUDENT\_COUNT, COURSE\_ID, COURSE\_NAME

FROM(

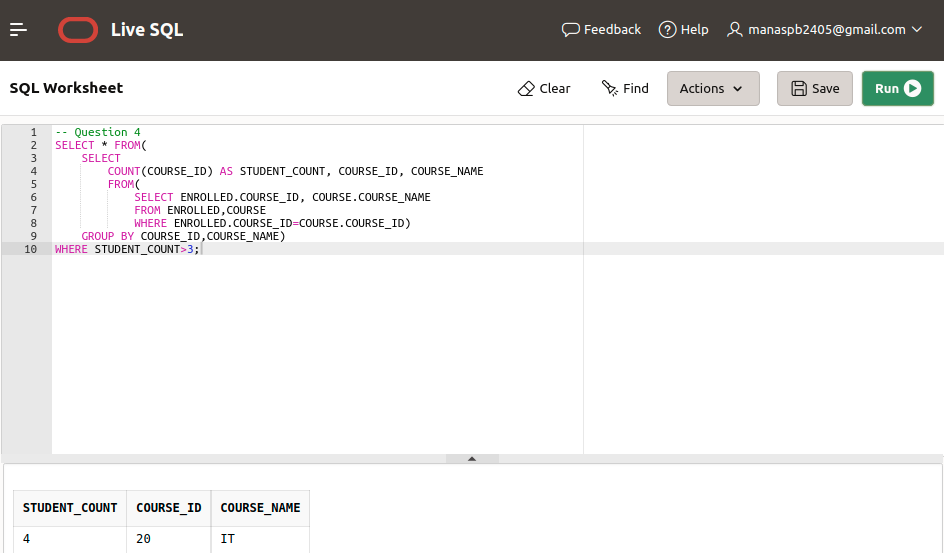
SELECT ENROLLED.COURSE\_ID, COURSE.COURSE\_NAME

FROM ENROLLED,COURSE

WHERE ENROLLED.COURSE\_ID=COURSE.COURSE\_ID)

GROUP BY COURSE\_ID,COURSE\_NAME)

WHERE STUDENT\_COUNT>3;



**QUESTION 5.**

SELECT

STUDENT.STUDENT\_ID,

STUDENT.STUDENT\_NAME,

SUBJECT.SUBJECT\_ID,

SUBJECT.SUBJECT\_NAME,

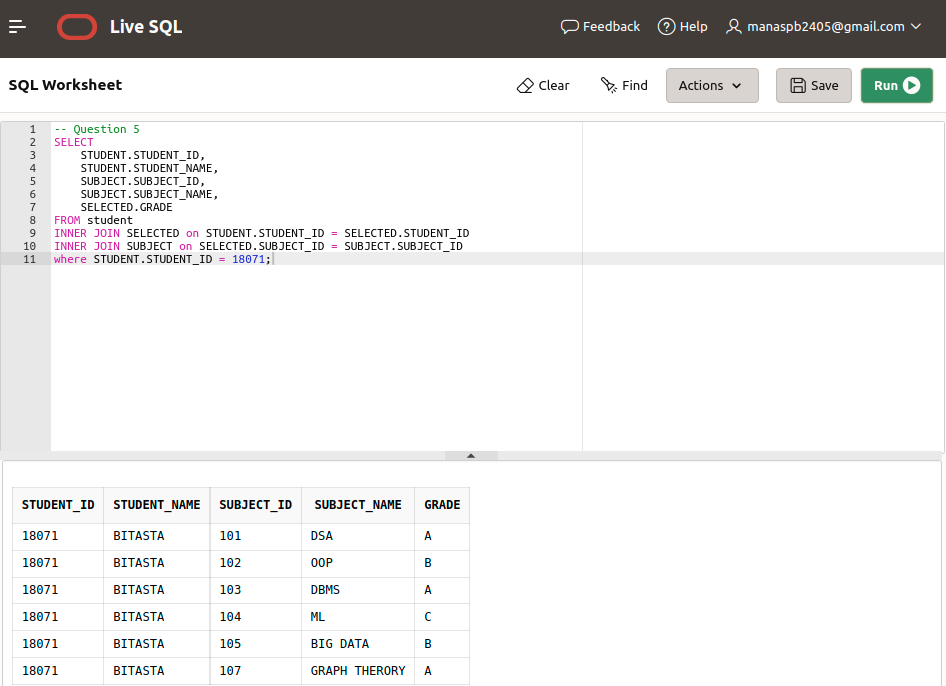
SELECTED.GRADE

FROM student

INNER JOIN SELECTED on STUDENT.STUDENT\_ID = SELECTED.STUDENT\_ID

INNER JOIN SUBJECT on SELECTED.SUBJECT\_ID = SUBJECT.SUBJECT\_ID

where STUDENT.STUDENT\_ID = 18071;



**QUESTION 6.**

SELECT STUDENT\_COUNT, COURSE\_NAME FROM (

SELECT COUNT(COURSE\_ID) AS STUDENT\_COUNT ,COURSE\_ID, COURSE\_NAME

FROM (

SELECT ENROLLED.COURSE\_ID , COURSE.COURSE\_NAME

FROM ENROLLED,COURSE

WHERE ENROLLED.COURSE\_ID=COURSE.COURSE\_ID)

GROUP BY COURSE\_ID,COURSE\_NAME)

WHERE STUDENT\_COUNT = (

SELECT MAX(STUDENT\_COUNT) FROM(

SELECT COUNT(COURSE\_ID) AS STUDENT\_COUNT ,COURSE\_ID, COURSE\_NAME

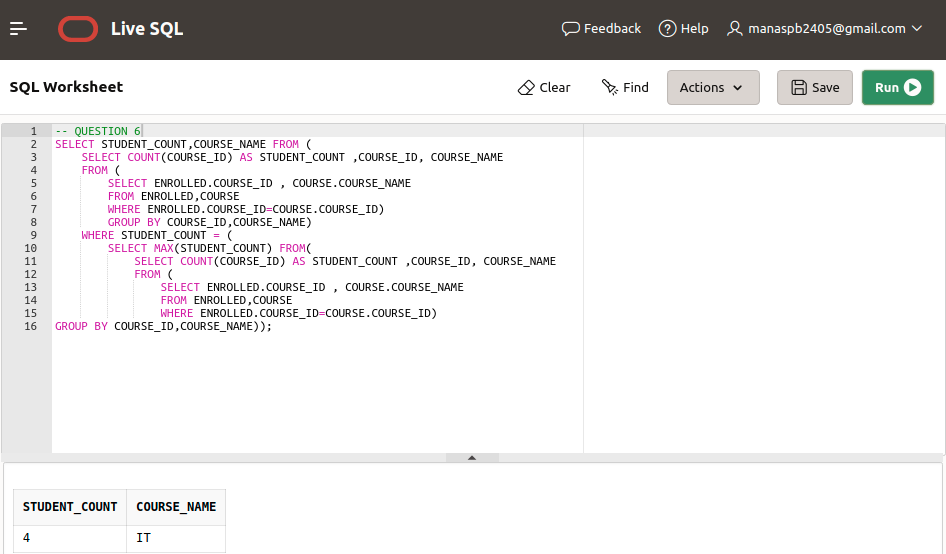
FROM (

SELECT ENROLLED.COURSE\_ID , COURSE.COURSE\_NAME

FROM ENROLLED,COURSE

WHERE ENROLLED.COURSE\_ID=COURSE.COURSE\_ID)

GROUP BY COURSE\_ID,COURSE\_NAME));



**QUESTION 7.**

SELECT

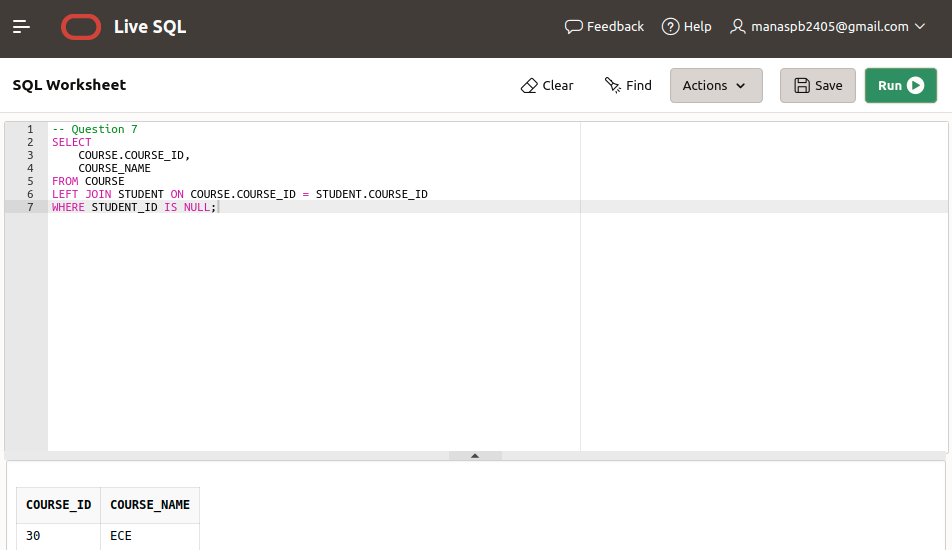
COURSE.COURSE\_ID,

COURSE\_NAME

FROM COURSE

LEFT JOIN STUDENT ON COURSE.COURSE\_ID = STUDENT.COURSE\_ID

WHERE STUDENT\_ID IS NULL;



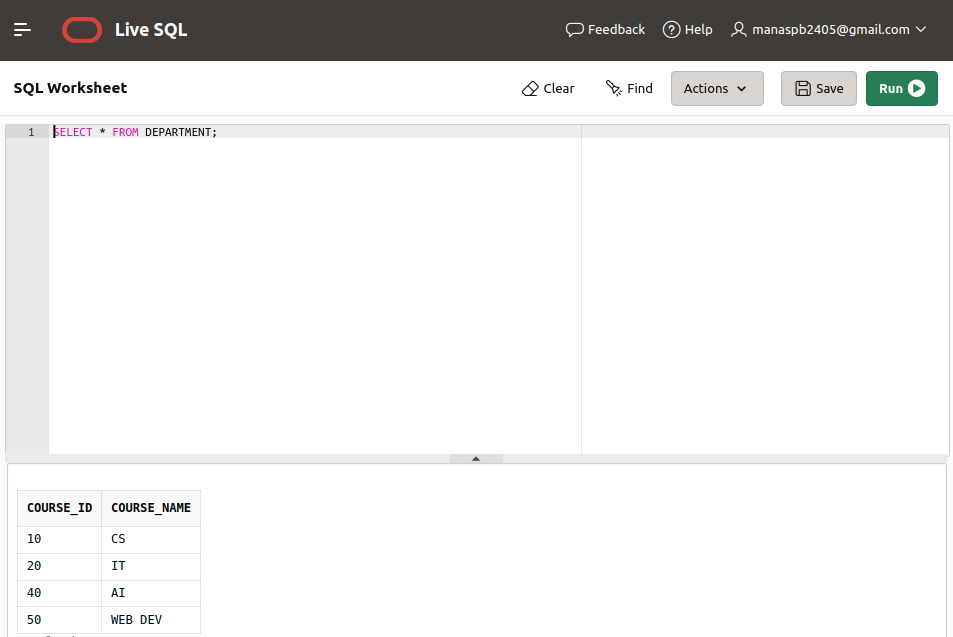
**QUESTION 8.**

DELETE FROM COURSE

WHERE COURSE\_ID = 30;

**QUESTION 9.**

RENAME COURSE TO DEPARTMENT;



**QUESTION 10.**

UPDATE SELECTED

SET GRADE='B'

WHERE SUBJECT\_ID =103 AND GRADE='A';

**QUESTION 11.**

DELETE FROM STUDENT

WHERE COURSE\_ID = 20;

**QUESTION 12.**

UPDATE ENROLLED

SET ENROLL\_DATE = '16-AUG-18'

WHERE STUDENT\_ID = 18069;