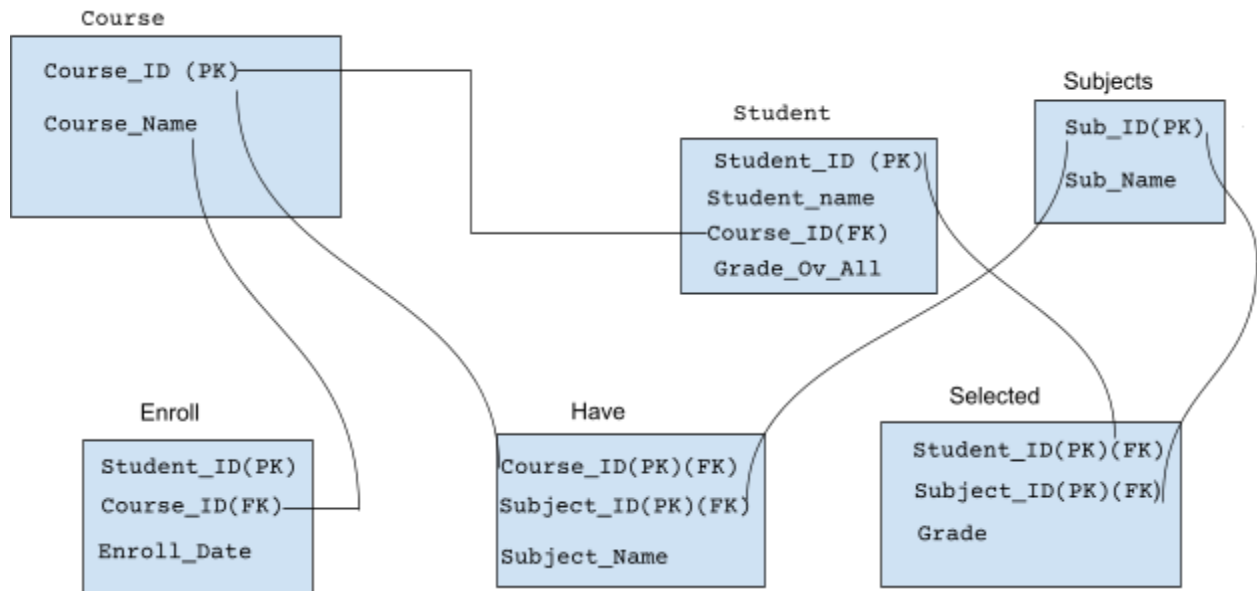


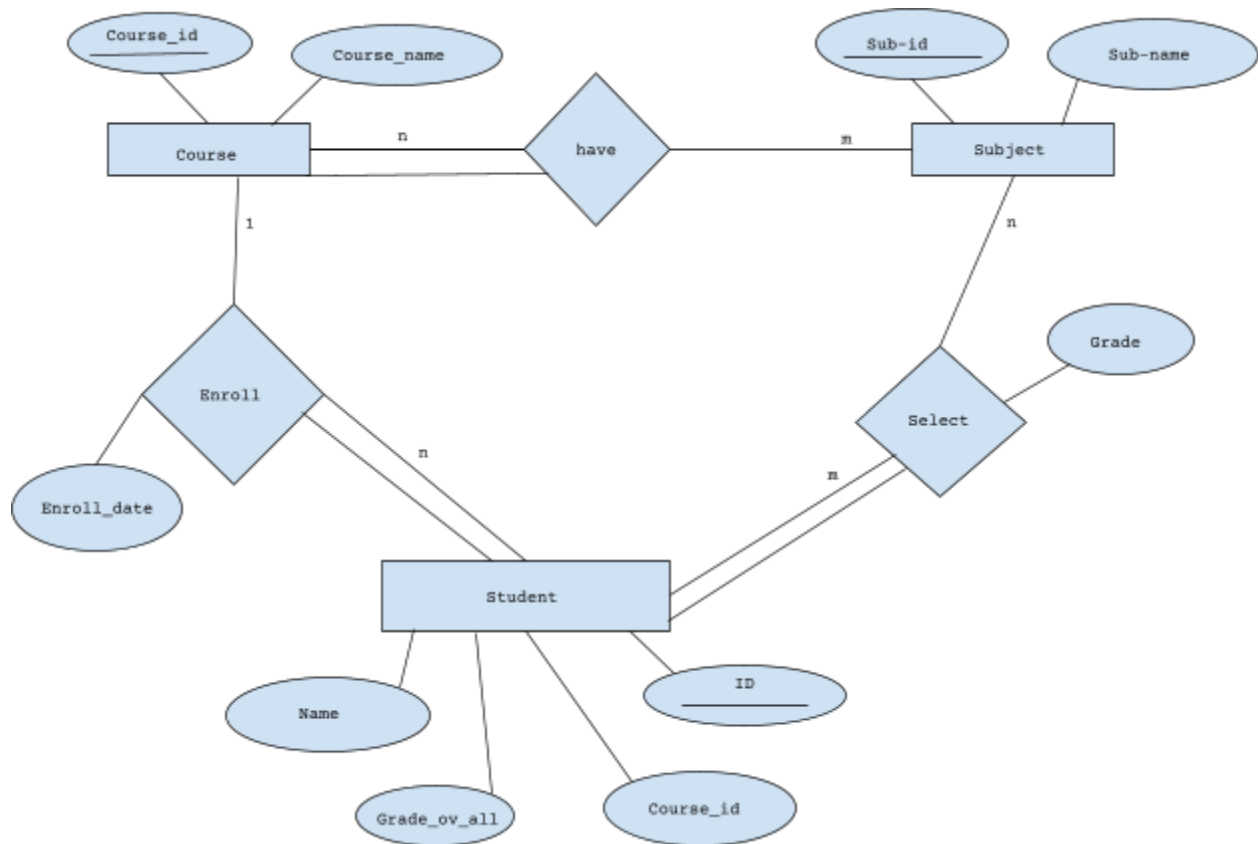
Manas Pratim Biswas

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.



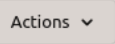


```
ALTER TABLE COURSE  
MODIFY COURSE_NAME VARCHAR(10) NOT NULL;
```

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;
```

  **Live SQL**

 Feedback  Help  manaspb2405@gmail.com



SQL Worksheet  Clear  Find  Actions  Save  Run





```
1  -- Question 4  
2  SELECT * FROM(  
3    SELECT  
4      COUNT(COURSE_ID) AS STUDENT_COUNT, COURSE_ID, COURSE_NAME  
5    FROM(  
6      SELECT ENROLLED.COURSE_ID, COURSE.COURSE_NAME  
7      FROM ENROLLED, COURSE  
8      WHERE ENROLLED.COURSE_ID=COURSE.COURSE_ID)  
9    GROUP BY COURSE_ID, COURSE_NAME)  
10 WHERE STUDENT_COUNT>3;
```





STUDENT_COUNT	COURSE_ID	COURSE_NAME
4	20	IT

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;
```

  **Live SQL**

 Feedback  Help  manaspb2405@gmail.com 

SQL Worksheet  Clear  Find **Actions**  Save **Run** 

```
1  -- Question 5
2  SELECT
3      STUDENT.STUDENT_ID,
4      STUDENT.STUDENT_NAME,
5      SUBJECT.SUBJECT_ID,
6      SUBJECT.SUBJECT_NAME,
7      SELECTED.GRADE
8  FROM student
9  INNER JOIN SELECTED on STUDENT.STUDENT_ID = SELECTED.STUDENT_ID
10 INNER JOIN SUBJECT on SELECTED.SUBJECT_ID = SUBJECT.SUBJECT_ID
11 where STUDENT.STUDENT_ID = 18071;
```

STUDENT_ID	STUDENT_NAME	SUBJECT_ID	SUBJECT_NAME	GRADE
18071	BITASTA	101	DSA	A
18071	BITASTA	102	OOP	B
18071	BITASTA	103	DBMS	A
18071	BITASTA	104	ML	C
18071	BITASTA	105	BIG DATA	B
18071	BITASTA	107	GRAPH THERORY	A

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));

```

Feedback
Help
manaspb2405@gmail.com

SQL Worksheet
Clear
Find
Actions
Save
Run

```

1  -- QUESTION 6
2  SELECT STUDENT_COUNT,COURSE_NAME FROM (
3      SELECT COUNT(COURSE_ID) AS STUDENT_COUNT ,COURSE_ID, COURSE_NAME
4      FROM (
5          SELECT ENROLLED.COURSE_ID , COURSE.COURSE_NAME
6          FROM ENROLLED,COURSE
7          WHERE ENROLLED.COURSE_ID=COURSE.COURSE_ID)
8      GROUP BY COURSE_ID,COURSE_NAME)
9  WHERE STUDENT_COUNT = (
10     SELECT MAX(STUDENT_COUNT) FROM(
11         SELECT COUNT(COURSE_ID) AS STUDENT_COUNT ,COURSE_ID, COURSE_NAME
12         FROM (
13             SELECT ENROLLED.COURSE_ID , COURSE.COURSE_NAME
14             FROM ENROLLED,COURSE
15             WHERE ENROLLED.COURSE_ID=COURSE.COURSE_ID)
16     GROUP BY COURSE_ID,COURSE_NAME));

```



STUDENT_COUNT	COURSE_NAME
4	IT

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;

```

  **Live SQL**

Feedback Help manaspb2405@gmail.com

SQL Worksheet

Clear Find Actions Save Run

```
1 -- Question 7
2 SELECT
3     COURSE.COURSE_ID,
4     COURSE_NAME
5 FROM COURSE
6 LEFT JOIN STUDENT ON COURSE.COURSE_ID = STUDENT.COURSE_ID
7 WHERE STUDENT_ID IS NULL;
```



COURSE_ID	COURSE_NAME
30	ECE

QUESTION 8.

```
DELETE FROM COURSE
WHERE COURSE_ID = 30;
```

QUESTION 9.

```
RENAME COURSE TO DEPARTMENT;
```


  **Live SQL**

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SQL Worksheet

Clear Find Actions Save Run

1

```
SELECT * FROM DEPARTMENT;
```

COURSE_ID	COURSE_NAME
10	CS
20	IT
40	AI
50	WEB DEV

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;
```
