**/\*TASK 1**

**1) DATABASE CREATION - Creating 3 tables : StudentInfo, CoursesInfo, EnrollmentInfo. \*/**

create table StudentInfo(

STU\_ID int PRIMARY KEY,

STU\_NAME varchar(25),

DOB date,

PHONE\_NO varchar(15),

EMAIL\_ID varchar(50),

ADDRESS varchar(100));

create table CoursesInfo(

Course\_ID int PRIMARY KEY,

COURSE\_NAME varchar(50),

COURSE\_INSTRUCTOR\_NAME varchar(50));

create table EnrollmentInfo(

ENROLLMENT\_ID VARCHAR(15),

STU\_ID INT,

COURSE\_ID INT,

ENROLL\_STATUS varchar(20) CHECK (ENROLL\_STATUS IN ('Enrolled', 'NOT Enrolled')) NOT NULL,

FOREIGN KEY (STU\_ID) REFERENCES StudentInfo(STU\_ID),

FOREIGN KEY (COURSE\_ID) REFERENCES CoursesInfo(Course\_ID));

**-- 2) Data Creation: Insert sample data in 3 tables**

INSERT INTO StudentInfo(STU\_ID,STU\_NAME,DOB,PHONE\_NO,EMAIL\_ID,ADDRESS)

Values

(1, 'Naveen', '1997-02-13', '9988776654', 'naveen25@csk.com', 'New street, Pallavaram'),

(2, 'Prajwel', '1994-08-20', '8787878787', 'prajwel25@csk.com', 'middle street, medavakkam'),

(3, 'Vishal', '1996-03-18', '1818181818', 'vishal18@rcb.com', 'old street, madhavaram'),

(4, 'Hari', '1990-12-12', '3456789012', 'hari90@police.com', 'high street, OMR'),

(5, 'Deena', '2000-01-01', '9020002000', 'johndeena@canadain.com', 'modern street, Guduvancherry'),

(6, 'Giji', '1999-08-09', '7654321123', 'Gjthemodel@llm.com', 'model street, mudichur');

INSERT INTO CoursesInfo(COURSE\_ID,COURSE\_NAME,COURSE\_INSTRUCTOR\_NAME)

VALUES

(101, 'SQL', 'Jayaselan'),

(102, 'PYTHON', 'Ramesh'),

(103, 'JAVA', 'Vinayagam');

INSERT INTO EnrollmentInfo(ENROLLMENT\_ID,STU\_ID,COURSE\_ID,ENROLL\_STATUS)

VALUES

('D51', 1, 101, 'Enrolled'),

('D51', 1, 102, 'Enrolled'),

('D52', 2, 101, 'Enrolled'),

('D53', 3, 102, 'Enrolled'),

('D54', 4, 102, 'Enrolled'),

('D55', 5, 103, 'Enrolled'),

('D56', 6, 103, 'Enrolled');

**/\* 3. Retrieve the Student Information :**

**a) Query to retrive student details, such as student name, contact informations, Enrollment status. \*/**

Select

s.STU\_ID as Student\_Name,

s.PHONE\_NO as Phone\_number,

S.EMAIL\_ID as Email\_id,

S.ADDRESS as Address,

E.ENROLL\_STATUS as Enrollment\_status,

C.course\_name as course\_name

From

StudentInfo s

JOIN

EnrollmentInfo e ON s.STU\_ID = e.STU\_ID

JOIN

CoursesINFO c ON e.course\_id = c.course\_id;

**-- b) Query to retrive a list of courses in which a specific student is enrolled.**

select s.stu\_name, c.course\_name

from

CoursesInfo c

join

EnrollmentInfo e ON c.Course\_id = e.Course\_id

join

StudentInfo s on s.STU\_ID = e.STU\_ID

WHERE

s.Stu\_name = 'Naveen';

**-- c) Query to retrive a list of course information, including course name, instructor information.**

Select course\_name, Course\_instructor\_name as instructors\_name

from CoursesInfo;

**-- d) Query to retrive a list of course information for specific course.**

select Course\_name, Course\_id, Course\_instructor\_name as instructor\_name from CoursesInfo

where course\_name = 'JAVA';

**-- e) Query to retrive a list of course information for multiple courses.**

select Course\_name, Course\_id, Course\_instructor\_name as instructor\_name from CoursesInfo;

**/\* f) Test the queries to ensure accurate retrieval of student information.**

**(execute the queries and verify the results against the expected output.) \*/**

select \* from StudentInfo

where stu\_name IN ('Prajwel', 'Giji'); **-- Sample testing with IN operator.**

select \* from StudentInfo

where stu\_name = 'prajwel' OR 'giji'; **-- Sample testing with OR operator.**

**/\* 4) Reporting and Analytics (Using joining queries)**

**a) Write a query to retrieve the number of students enrolled in each course. \*/**

Select c.COURSE\_NAME, COUNT(s.STU\_NAME) AS student\_count

FROM

StudentInfo s

JOIN enrollmentInfo e on s.stu\_id = e.stu\_id

Join coursesinfo c on c.Course\_ID = e.Course\_ID

WHERE

e.ENROLL\_STATUS = 'Enrolled'

Group by c.Course\_name;

**-- b) Query to retrieve list of students enrolled in a specific course.**

Select s.STU\_NAME as Students\_enrolled\_in\_SQL

FROM

StudentInfo s

JOIN enrollmentInfo e on s.stu\_id = e.stu\_id

Join coursesinfo c on c.Course\_ID = e.Course\_ID

WHERE

e.ENROLL\_STATUS = 'Enrolled' and e.course\_id = '101';

**-- c) Query to retrieve count of students enrolled for each instructor.**

Select c.course\_instructor\_name, count(s.stu\_name) as Students\_enrolled

from

StudentInfo s

JOIN enrollmentInfo e on s.stu\_id = e.stu\_id

join coursesinfo c on e.Course\_id = c.course\_id

where

e.ENROLL\_STATUS = 'Enrolled'

Group by c.course\_instructor\_name;

**-- d) Query to retrieve the list of students who are enrolled in multiple courses.**

select s.STU\_Name as Students\_enrolled\_in\_multiple\_courses

from

CoursesInfo c

JOIN EnrollmentInfo e on c.Course\_ID = e.Course\_ID

JOIN StudentInfo s on s.STU\_ID = e.STU\_ID

where ENROLL\_STATUS = 'Enrolled'

GROUP BY

s.STU\_NAME

Having

count(\*) > 1;

**-- e) Query to retrieve the list of courses that have the highest no. of enrolled students(arrange from highest to lowest):**

Select c.Course\_name, Count(s.Stu\_name) as Enrolled\_students\_Count

FROM

CoursesInfo c

Join EnrollmentInfo e on c.Course\_ID = e.Course\_ID

JOIN StudentInfo s on s.STU\_ID = e.STU\_ID

where ENROLL\_STATUS = 'Enrolled'

group by

c.Course\_name

order by

Enrolled\_students\_Count;

select \* from StudentInfo;

select \* from CoursesInfo;

select \* from EnrollmentInfo;