ASSIGNMENT 10 MySQL

Create three tables using MySQL

(1) Students

```
mysql> desc students;
+-----------------+----------------------+------+-----+---------+----------------+
| Field           | Type                 | Null | Key | Default | Extra          |
+-----------------+----------------------+------+-----+---------+----------------+
| student_id      | int                  | NO   | PRI | NULL    | auto_increment |
| first_name      | varchar(50)          | YES  |     | NULL    |                |
| last_name       | varchar(50)          | YES  |     | NULL    |                |
| email           | varchar(100)         | YES  |     | NULL    |                |
| birthdate       | date                 | YES  |     | NULL    |                |
| gender          | enum('Male','Female') | YES  |     | NULL    |                |
| enrollment_date | date                 | YES  |     | NULL    |                |
+-----------------+----------------------+------+-----+---------+----------------+
7 rows in set (0.02 sec)
```

(2) courses

```
mysql> desc courses;
+--------------------+--------------+------+-----+---------+----------------+
| Field              | Type         | Null | Key | Default | Extra          |
+--------------------+--------------+------+-----+---------+----------------+
| course_id          | int          | NO   | PRI | NULL    | auto_increment |
| course_name        | varchar(100) | YES  |     | NULL    |                |
| course_description | text         | YES  |     | NULL    |                |
| start_date         | date         | YES  |     | NULL    |                |
| end_date           | date         | YES  |     | NULL    |                |
+--------------------+--------------+------+-----+---------+----------------+
5 rows in set (0.00 sec)
```

(3) enrollments

```
mysql> desc enrollments;
+---------------+------+------+-----+---------+----------------+
| Field         | Type | Null | Key | Default | Extra          |
+---------------+------+------+-----+---------+----------------+
| enrollment_id | int  | NO   | PRI | NULL    | auto_increment |
| student_id    | int  | YES  | MUL | NULL    |                |
| course_id     | int  | YES  | MUL | NULL    |                |
+---------------+------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

Add some data in all tables

For example:

```
mysql> select * from students;
+------------+------------+-----------+--------------------------+------------+--------+-----------------+
| student_id | first_name | last_name | email                    | birthdate  | gender | enrollment_date |
+------------+------------+-----------+--------------------------+------------+--------+-----------------+
|          1 | Aarav      | Sharma    | aarav.sharma@example.com | 2003-01-15 | Male   | 2024-01-01      |
|          2 | Aditi      | Mehta     | aditi.mehta@example.com  | 2002-05-22 | Female | 2024-01-01      |
|          3 | Ishaan     | Singh     | ishaan.singh@example.com | 2004-02-14 | Male   | 2024-01-01      |
|          4 | Riya       | Patel     | riya.patel@example.com   | 2001-11-30 | Female | 2024-01-01      |
|          5 | Kavya      | Reddy     | kavya.reddy@example.com  | 2003-07-07 | Female | 2024-01-01      |
|          6 | Vivaan     | Nair      | vivaan.nair@example.com  | 2002-03-20 | Male   | 2024-01-01      |
|          7 | Ananya     | Ghosh     | ananya.ghosh@example.com | 2004-05-25 | Female | 2024-01-01      |
|          8 | Arjun      | Kumar     | arjun.kumar@example.com  | 2003-10-10 | Male   | 2024-01-01      |
|          9 | Saanvi     | Joshi     | saanvi.joshi@example.com | 2004-08-18 | Female | 2024-01-01      |
|         10 | Dev        | Bose      | dev.bose@example.com     | 2001-12-12 | Male   | 2024-01-01      |
+------------+------------+-----------+--------------------------+------------+--------+-----------------+
10 rows in set (0.00 sec)
```

```
mysql> select * from courses;
+-----------+------------------+-----------------------------------------------------------------+------------+------------+
| course_id | course_name      | course_description                                              | start_date | end_date   |
+-----------+------------------+-----------------------------------------------------------------+------------+------------+
|         1 | Database Systems | Introduction to Database Systems and SQL.                       | 2024-02-01 | 2024-05-01 |
|         2 | Web Development  | Learn HTML, CSS, JavaScript, and basic web development techniques. | 2024-02-01 | 2024-05-01 |
|         3 | Data Structures  | Learn about various data structures and their applications.     | 2024-02-01 | 2024-05-01 |
|         4 | Algorithms       | Introduction to algorithms and problem-solving techniques.      | 2024-02-01 | 2024-05-01 |
|         5 | Computer Networks | Overview of computer networking principles and practices.      | 2024-02-01 | 2024-05-01 |
+-----------+------------------+-----------------------------------------------------------------+------------+------------+
5 rows in set (0.00 sec)
```

```
mysql> select * from enrollments;
+---------------+------------+-----------+
| enrollment_id | student_id | course_id |
+---------------+------------+-----------+
|             1 |          1 |         1 |
|             2 |          1 |         2 |
|             3 |          2 |         1 |
|             4 |          2 |         3 |
|             5 |          3 |         2 |
|             6 |          3 |         4 |
|             7 |          4 |         3 |
|             8 |          4 |         5 |
|             9 |          5 |         4 |
|            10 |          5 |         1 |
|            11 |          6 |         5 |
|            12 |          6 |         2 |
|            13 |          7 |         1 |
|            14 |          8 |         3 |
|            15 |          9 |         4 |
|            16 |         10 |         5 |
+---------------+------------+-----------+
16 rows in set (0.00 sec)
```

Question 1)

Retrieve a list of all students along with the courses they are enrolled in, including students who are not enrolled in any course.

Question 2)

Find the number of courses each student is enrolled in, and include students who are not enrolled in any course.

Question 3)

List all courses along with the number of students enrolled in each course. Include courses that currently have no students enrolled.

Question 4)

Find the names of students who are enrolled in both 'Database Systems' and 'Web Development' courses.

Question 5)

Retrieve the first name, last name, and email of students who are enrolled in exactly two courses.
