Assignment - 1

Project: Sunbeam Online Student Portal

Given Database Schema

The following database `institute_management_db` contains the tables:

- `courses`
- `students`

The database is created using the provided SQL schema.

Q1. Database Connectivity

Using **Python** and **mysql-connector**, establish a connection with the MySQL database `institute_management_db`.

- Install and configure the required MySQL connector.
- Create a reusable database connection function.
- Verify the database connection using the terminal / console.

Q2. Retrieve Data from Tables (SELECT)

Using Python and mysql-connector, write programs to retrieve and display data from the following tables using the terminal:

- Retrieve all records from the `courses` table.
- Retrieve all records from the `students` table.

Q3. Insert Data into Tables (INSERT)

Using Python and mysql-connector, write programs to insert data into the database tables:

- Insert a new record into the `courses` table.
- Insert a new record into the `students` table.

Q4. Update Table Records (UPDATE)

Using Python and mysql-connector, write programs to update existing records in the database:

- Update the fees of a course in the `courses` table.
- Update the mobile number of a student in the `students` table.

Q5. Delete Records from Tables (DELETE)

Using Python and mysql-connector, write programs to delete records from the database:

- Delete a student record from the `students` table.
- Delete a course record from the `courses` table.

Terminal-Based Execution

Execute all database operations using **terminal / console only**. Display outputs directly in the console.