Python Case Study:

Question 1)

a) Create a database in MySQL with a table of students. The table will contain the following fields:

1. PRN number #this will be a primary key
2. First Name
3. Middle name
4. Last name
5. Address
6. mobile number
7. email id
8. DOB

b) Insert 4-5 records in the table.

c) Write a python program that connects to this database and perform the following:

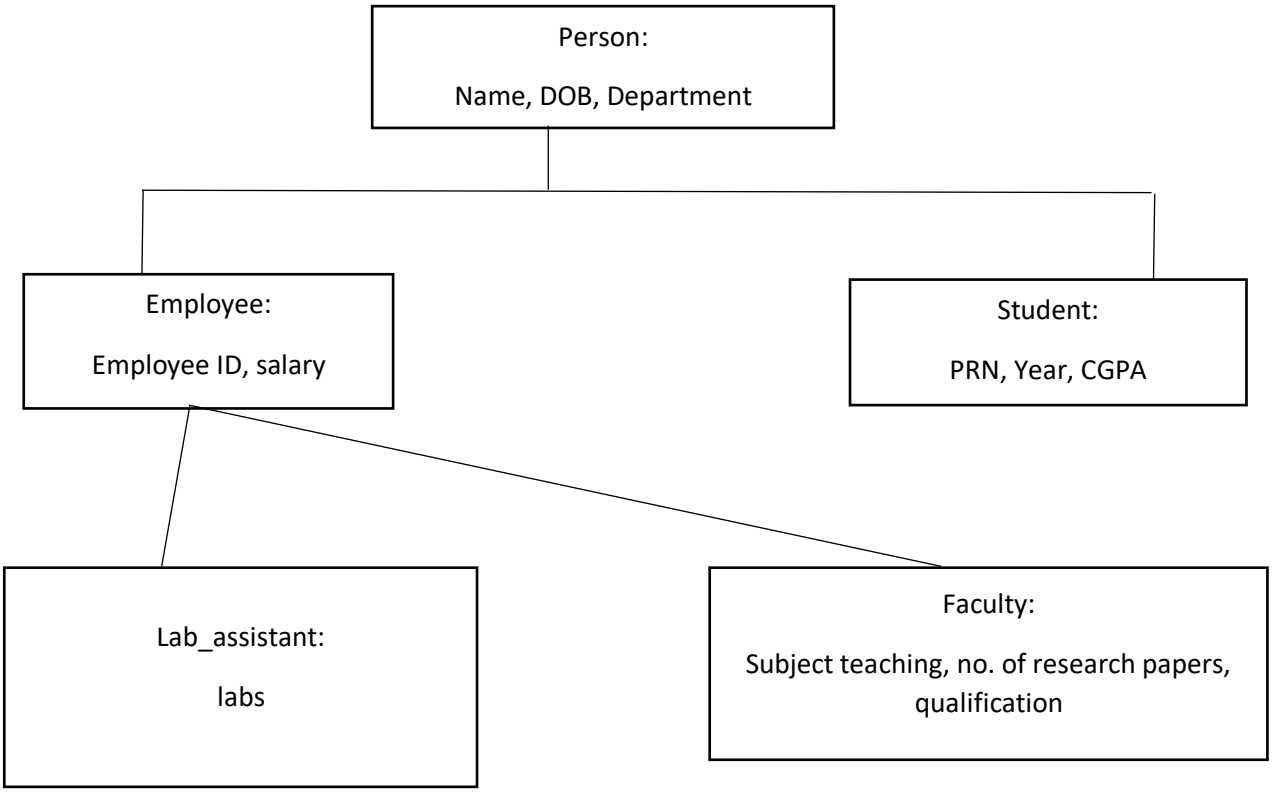
i. Display the name and ages of all the students
ii. Take input from the user and add it to the database
iii. Delete a user by taking the PRN number as input
iv. Update user details (Phone number and email id.)
v. Add a new column “CGPA” to the table and enter CGPA for all students.
vi. Display the final table.

Question 2)

A. Write a python program to perform the following operations on complex numbers by creating a class complex_number. Create two objects c1 and c2.
    a. Addition
    b. Subtraction
    c. Multiplication
    d. Check if two complex numbers are equal or not
    e. Check if c1>=c2
    f. Check if c1==c2

    Perform these operations using operator overloading in python.

B. Define a class person (attributes: name, department, date Of Birth). Derive two classes employee (attributes: employee id, salary) and student (attributes: PRN, year, CGPA) from person class. Derive two classes lab_assistant (attributes: labs) and faculty (attributes: subject, number of research papers, qualification).



i) Create objects for lab assistant, faculties, and students.
ii) Display the data.
iii) Delete a data
iv) Find the total salary of all employees.
v) Find average CGPA of students department wise.